



Power Management

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General-purpose ICs

Linear Regulators

Linear Regulators

78 Series Regulators

▶ P.A33

Single-Output LDO Regulators

▶ P.A33

LDO Regulators with Voltage Detector and Watchdog Timer

▶ P.A46

LDO Regulators with Voltage Detector

▶ P.A46

Voltage Tracker

▶ P.A46

Multi-Output LDO Regulators

▶ P.A47

Linear Regulators for DDR SDRAM

▶ P.A47

Single-Output LDO Regulators - Product Table

Max. Output Current / Refring Input Voltage	0.1A	0.15A	0.2A	0.3A	0.5A	1.0A	1.5A	2.0A	3.0A	4.0A	External MOSFET
45 to 50V	BD42500G-C*2/3 BD42540FJ-C*2/3 ▶P.A46		BD7xxL2*2 BD4xxM2*1/2 ▶P.A34 BD3010AFV*2/3 BD4269FJ-C*2/3 BD42530EFJ-C*2 BD42530FP2-C*2 BD42530FPJ-C*2 ▶P.A46	BD4269EFJ-C*2/3 ▶P.A46	BD357XY*2 BD7xxL5FP-C*2 BD4xxM5*1/2 BD4xxM5W*1/2 ▶P.A33, A34 BD4271HFP-C*2/3 BD4271FP2-C*2/3 BD3021HFP*2/3 BD3020HFP*2/3 BD4275HFPJ-C*2/3 BD42754FP2-C*2/3 BD3925FP-C*2 BD3925HFP-C*2 ▶P.A46						
30 to 36V	BDxxFA1FP3*2 BD50FA1MG-M*2 BD00FA1WEFJ ▶P.A36			BD3650FP-M*2 BA3662CP-V5 ▶P.A34, A36	BA178Mxx*1 ▶P.A33	BA178xx*1 BAxxCC0*1 BDxxC0AFPS BDxxFC0FP BDxxC0A*1/2 BDxxFC0W*1 BAxxCC0W*1 BD00C0AWFP-M*2 BDxxC0AW*1/2 ▶P.A33, A35, A36		BAxxDD0T*1 BAxxDD0W*1 BDxxD0AWHFP BDxxFD0WHFP ▶P.A34			
18V						BAxxBC0*1 BAxxBC0W*1 ▶P.A36, A37	BAxxJC5T BA00JC5WT ▶P.A36				
15V				BDxxGA3*1/2/4 ▶P.A38, A39	BDxxGA5*2/4 ▶P.A38	BA1117FP BDxxGC0*2/4 ▶P.A33, A37					
10V				BDxxHA3*2/4 ▶P.A41	BDxxHA5*2/4 ▶P.A40	BDxxHC0*2/4 ▶P.A40	BDxxHC5*2/4 ▶P.A39				
6 to 7V	BHxxNB1WHFV BHxxRB1WGUT BHxxPB1WHFV BHxxSA3WGUT ▶P.A45	BUxxTD2WNVX*1 BUxxTD3WG*1 BUxxTA2W*1 BUxxSD2MG-M*2 BUxxJA2MNVX-C*2 BUxxJA2VG-C*2 BUxxJA2DG-C*2 BUxxSA4WGWL ▶P.A44, A45	BHxxM0AWHFV ▶P.A43	BDxxIA5*2/4 BDxxKA5FP BDxxKA5W*1 BUxxSD5WG BUxxSAS5WGZ ▶P.A42	BDxxIC0*1/2/4 ▶P.A41						
Ultra Low Voltage (Dual Supply)					BD3550HFN BD3507HFV BD3540NUV BD37201NUX ▶P.A46	BD3551HFN BD3541NUV BD37210MUU BD37215MUU ▶P.A46	BD3506F BD3552HFN ▶P.A46	BD3508MUU BD3512MUU ▶P.A46	BD3509MUU ▶P.A46	BD3504FVM BD3521FVM ▶P.A46	

*1 : Package Lineup *2 : Automotive Grade *3 : Multi Function Regulator (Ex. Voltage Detection) *4 : Industrial Grade

Linear Regulators

Please ensure that minimum Input Voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

78 Series Regulators

35V Resistance 1A Output 78 Series Regulators										
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Circuit Current (mA)	Thermal Shutdown Circuit	Area of Safety Operation Circuit	Over Current Protection Circuit	Package/Part No.	
									TO220CP-3	TO252-3
BA7805	7.5 to 25.0	5	±4	1	4.5	✓	✓	✓	BA7805CP	BA7805FP
BA7806	8.5 to 21.0	6							BA7806CP	BA7806FP
BA7807	9.5 to 22.0	7							BA7807CP	BA7807FP
BA7808	10.5 to 23.0	8							BA7808CP	BA7808FP
BA7809	11.5 to 26.0	9							BA7809CP	BA7809FP
BA7810	12.5 to 25.0	10							BA7810CP	BA7810FP
BA7812	15.0 to 27.0	12							BA7812CP	BA7812FP
BA7815	17.5 to 30.0	15							BA7815CP	BA7815FP
BA7818	21.0 to 33.0	18							BA7818CP	BA7818FP
BA7820	23.0 to 33.0	20							BA7820CP	BA7820FP
BA7824	27.0 to 33.0	24							BA7824CP	BA7824FP

35V Resistance 500mA Output 78 Series Regulators										
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Circuit Current (mA)	Thermal Shutdown Circuit	Area of Safety Operation Circuit	Over Current Protection Circuit	Package/Part No.	
									TO220CP-3	TO252-3
BA78M05	7.5 to 25.0	5	±4	0.5	4.5	✓	✓	✓	BA78M05CP	BA78M05FP
BA78M06	8.5 to 21.0	6							BA78M06CP	BA78M06FP
BA78M07	9.5 to 22.0	7							BA78M07CP	BA78M07FP
BA78M08	10.5 to 23.0	8							BA78M08CP	BA78M08FP
BA78M09	11.5 to 26.0	9							BA78M09CP	BA78M09FP
BA78M10	12.5 to 25.0	10							BA78M10CP	BA78M10FP
BA78M12	15.0 to 27.0	12							BA78M12CP	BA78M12FP
BA78M15	17.5 to 30.0	15							BA78M15CP	BA78M15FP
BA78M18	21.0 to 33.0	18							BA78M18CP	BA78M18FP
BA78M20	23.0 to 33.0	20							BA78M20CP	BA78M20FP
BA78M24	27.0 to 33.0	24							BA78M24CP	BA78M24FP

15V Resistance 1A Output 78 Series Regulator										
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Adjustment Pin Current (μA)	Reference Voltage (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package
BA1117FP	10	Variable	± 1	1	60	1.2 (I _o =1A)	75 (f=120Hz V _i -V _o =3V Ripple=1Vpp)	10	Over-Current/ Temperature	TO252-3

1A Output 78 Series Regulators : UNIVERSAL STANDARD SPECIFICATION
500mA Output 78 Series Regulators : UNIVERSAL STANDARD SPECIFICATION

Single-Output LDO Regulators

50V Resistance Output 500mA LDO Regulators																											
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Saturation Voltage: I _o =200mA(V)	Circuit Current (μA)	Operating Temperature (°C)	Shutdown Switch	Protection Circuit	Package	Automotive Grade AEC-Q100																
BD3570YFP-M	4.5 to 36.0	3.3	± 2 (T _a = - 40 to + 125°C)	0.5	—	30	- 40 to + 125	—	Over-Current/ Temperature	TO252-3	Preparing																
BD3570YHFP-M										HRP5	Preparing																
BD3571YFP-M	5.5 to 36.0	5.0								0.25	30	- 40 to + 125	—	—	TO252-3	Preparing											
BD3571YHFP-M															HRP5	Preparing											
BD3572YFP-M	4.5 to 36.0	Variable 2.8 to 12.0													0.25	30	- 40 to + 125	—	—	TO252-5	Preparing						
BD3572YHFP-M																				HRP5	Preparing						
BD3573YFP-M		3.3			—	0.25	30	- 40 to + 125												—	—	TO252-5	Preparing				
BD3573YHFP-M																						HRP5	Preparing				
BD3574YFP-M	5.5 to 36.0	5.0			0.25					30	- 40 to + 125	✓	—	TO252-5								Preparing					
BD3574YHFP-M														HRP5								Preparing					
BD3575YFP-M	4.5 to 36.0	Variable 2.8 to 12.0												0.25								30	- 40 to + 125	—	—	TO252-5	Preparing
BD3575YHFP-M																										HRP5	Preparing

A
Power Management

Single-Output LDO Regulators

Please ensure that minimum Input Voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

50V Resistance Output Low Quiescent Current 200mA LDO Regulators

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Saturation Voltage : I _o =200mA(V)	Circuit Current (μA)	Operating Temperature (°C)	Shutdown Switch	Protection Circuit	Package	Automotive Grade AEC-Q100
BD733L2EFJ-C	4.37 to 45.0	3.3	±2 (T _a = -40 to +125° C)	0.2	0.6	6.0	-40 to +125	—	Over-Current/ Temperature	HTSOP-J8	YES
BD750L2EFJ-C	5.8 to 45.0	5.0			0.4					HTSOP-J8	YES
BD733L2FP-C	4.37 to 45.0	3.3			0.6					TO252-3	YES
BD733L2FP3-C	4.37 to 45.0	3.3			0.6					SOT223-4	YES
BD750L2FP-C	5.8 to 45.0	5.0			0.4					TO252-3	YES
BD750L2FP3-C	5.8 to 45.0	5.0			0.4					SOT223-4	YES

50V Resistance Output Low Quiescent Current 500mA LDO Regulators

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Saturation Voltage : I _o =200mA(V)	Circuit Current (μA)	Operating Temperature (°C)	Shutdown Switch	Protection Circuit	Package	Automotive Grade AEC-Q100
BD733L5FP-C	4.17 to 45.0	3.3	±2 (T _a = -40 to +125° C)	0.5	0.4	6.0	-40 to +125	—	Over-Current/ Temperature	TO252-3	YES
BD750L5FP-C	5.6 to 45.0	5.0			0.25					TO252-3	YES

45V Resistance Output Low Quiescent Current 500mA LDO Regulators

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	I/O Voltage Difference (V)	Circuit Current (μA)	Operating Temperature (°C)	Shutdown Switch	Protection Circuit	Package/Part No.				Automotive Grade AEC-Q100
										TO252-3	TO263-3	TO263-5	TO252-J5	
BD433M5	4.0 to 42.0	3.3	±2 (T _j = -40 to +150° C)	0.5	0.25 (I _o =300mA)	38	-40 to +150° C	—	Over-Current/ Temperature	BD433M5FP-C	BD433M5FP2-C	—	—	YES
BD450M5	5.5 to 42.0	5.0			0.2 (I _o =300mA)					BD450M5FP-C	BD450M5FP2-C	—	—	YES
BD433M5W	4.0 to 42.0	3.3			0.25 (I _o =300mA)					—	—	BD433M5WFP2-C	BD433M5WFPJ-C	YES
BD450M5W	5.5 to 42.0	5.0			0.2 (I _o =300mA)					—	—	BD450M5WFP2-C	BD450M5WFPJ-C	YES

45V Resistance Output Low Quiescent Current 200mA LDO Regulators

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	I/O Voltage Difference (V)	Circuit Current (μA)	Operating Temperature (°C)	Shutdown Switch	Protection Circuit	Package/Part No.		Automotive Grade AEC-Q100
										HTSOP-J8	SOT223-4	
BD433M2	3.9 to 42.0	3.3	±2 (T _j = -40 to +150° C)	0.2	0.2(I _o =100mA)	40	T _j = -40 to +150	—	Over-Current/ Temperature	BD433M2EFJ-C	BD433M2FP3-C	YES
BD450M2	5.5 to 42.0	5.0			0.16(I _o =100mA)					BD450M2EFJ-C	BD450M2FP3-C	YES
BD433M2W	3.9 to 42.0	3.3			0.2(I _o =100mA)					BD433M2WEFJ-C	BD433M2WFP3-C	YES
BD450M2W	5.5 to 42.0	5.0			0.16(I _o =100mA)					BD450M2WEFJ-C	BD450M2WFP3-C	YES

36V Resistance Output 300mA LDO Regulator

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	I/O Voltage Difference (V)	Circuit Current (μA)	Operating Temperature (°C)	Protection Circuit	Package	Automotive Grade AEC-Q100
BD3650FP-M	5.6 to 30.0	5.0	±2 (T _a = -40 to +125° C)	0.3	0.2(I _o =200mA)	0.5	-40 to +125	Over-Current/ Temperature	TO252-3	YES

35V Resistance 2A LDO Regulators

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package
BA15DD0T	3 to 25	1.5	±1.0	2.0	0.9	0.45 (I _o =2A)	55	50 (I _o =0A to 2A)	Over-Voltage/ Over-Current/ Temperature	TO220FP-3
BA18DD0T		1.8								TO220FP-3
BA25DD0T		2.5								TO220FP-3
BA30DD0T		3.0								TO220FP-3
BA33DD0T		3.3								TO220FP-3
BA50DD0T		5.0								TO220FP-3
BA90DD0T		9.0								TO220FP-3
BAJ2DD0T		12.0								TO220FP-3
BAJ6DD0T		16.0								TO220FP-3

35V Resistance 2A LDO Regulators with Shutdown Switch

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package/Part No.	
										TO220FP-5	HRP5
BA00DD0W	3 to 25	Variable 1.5 to 16.0	±1.0	2.0	0.9	0.45 (I _o =2A)	55	50 (I _o =0A to 2A)	Over-Voltage/ Over-Current/ Temperature	BA00DD0WCP-V5 (TO220CP-V5)	BA00DD0WHFP
BA15DD0W		1.5								BA15DD0WT	BA15DD0WHFP
BA18DD0W		1.8								BA18DD0WT	BA18DD0WHFP
BA25DD0W		2.5								—	BA25DD0WHFP
BA30DD0W		3.0								BA30DD0WT	BA30DD0WHFP
BA33DD0W		3.3								BA33DD0WT	BA33DD0WHFP
BA50DD0W		5.0								BA50DD0WT	BA50DD0WHFP
BA90DD0W		9.0								BA90DD0WT	BA90DD0WHFP
BAJ2DD0W		12.0								BAJ2DD0WT	BAJ2DD0WHFP
BAJ6DD0W		16.0								BAJ6DD0WT	BAJ6DD0WHFP

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (V)	Protection Circuit	Package
BD00D0AWHFP	4.0 to 26.5	3.0 to 15.0	±1.0	2.0	0.5	0.4(I _o =1A)	55	V _o ×0.7% (I _o =5mA to 1A)	Over-Current/ Temperature	HRP5
BD00FD0WHFP	4.0 to 32.0	Variable 1.5 to 16.0	±1.0	2.0	0.5	0.4(I _o =1A)	55	V _o ×2.0% (I _o =5mA to 1A)		HRP5
BD15FD0WHFP		1.5								HRP5
BD18FD0WHFP		1.8								HRP5
BD25FD0WHFP		2.5								HRP5
BD30FD0WHFP		3.0								HRP5
BD33FD0WHFP		3.3								HRP5
BD50FD0WHFP	5.0	HRP5								
BD80FD0WHFP	8.0	HRP5								
BD90FD0WHFP	9.0	HRP5								
BDJ2FD0WHFP	12.0	HRP5								
BDJ5FD0WHFP	15.0	HRP5								
BDJ6FD0WHFP	16.0	HRP5								

Power Management

Please ensure that minimum input voltage always exceeds the sum of Output Voltage and drop out voltage for the device.

35V Resistance 1A LDO Regulators													
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package/Part No.			
										TO220FP-3	TO252-3		
BA03CC0	4 to 25	3.0	±2.0	1.0	2.5	0.30 (I _o =0.5A)	55	50 (I _o =5mA to 1A)	Over-Voltage/Over-Current/Temperature	BA03CC0T	BA03CC0FP		
BA033CC0		3.3								BA033CC0T	BA033CC0FP		
BA05CC0		5.0								BA05CC0T	BA05CC0FP		
BA06CC0		6.0								—	BA06CC0FP		
BA07CC0		7.0								BA07CC0T	BA07CC0FP		
BA08CC0		8.0								BA08CC0T	BA08CC0FP		
BA09CC0		9.0								BA09CC0T	BA09CC0FP		
BAJ0CC0		10.0								BAJ0CC0T	BAJ0CC0FP		
BAJ2CC0		12.0								BAJ2CC0T	BAJ2CC0FP		
BAJ5CC0		15.0								BAJ5CC0T	BAJ5CC0FP		
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package			
BD80C0AFPS	9.0 to 26.5	8.0	±1.0	1.0	0.6	0.30 (I _o =0.5A)	50	Vo × 0.01 (I _o =5mA to 1A)	Over-Current/Temperature	TO252S-3			
BD90C0AFPS	10.0 to 26.5	9.0											
BD33FC0FP	4.3 to 26.5	3.3	±1.0	1.0	0.6	—	55	Vo × 0.01 (I _o =5mA to 1A)	Over-Current/Temperature	TO252S-3			
BD50FC0FP	6.0 to 26.5	5.0									0.30(I _o =0.5A)		
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package/Part No.			
										TO252-3	HRP5	TO263-3	Automotive Grade AEC-Q100
BD33C0A	4.3 to 26.5	3.3	±3.0 (Ta= -40 to +125° C)	1.0	0.5	0.3 (I _o =500mA)	55	Vo × 0.01 (I _o =5mA to 1A)	Over-Current/Temperature	BD33C0AFP-C	BD33C0AHFP-C	BD33C0AFP2-C	YES
BD50C0A	6.0 to 26.5	5.0								BD50C0AFP-C	BD50C0AHFP-C	BD50C0AFP2-C	YES
BD80C0A	9.0 to 26.5	8.0								BD80C0AFP-C	BD80C0AHFP-C	BD80C0AFP2-C	YES
BD90C0A	10.0 to 26.5	9.0								BD90C0AFP-C	BD90C0AHFP-C	BD90C0AFP2-C	YES
35V Resistance 1A LDO Regulators with Shutdown Switch													
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package/Part No.			
										TO252-5	HTSOP-J8		
BD00FC0W	4.0 to 26.5	Variable	±1	1.0	0.5	0.30 (I _o =500mA)	55	Vo × 0.01 (I _o =5mA to 1A)	Over-Current/Temperature	BD00FC0WFP	BD00FC0WEFJ		
BD30FC0W		3								BD30FC0WFP	BD30FC0WEFJ		
BD33FC0W	4.3 to 26.5	3.3				BD33FC0WFP	BD33FC0WEFJ						
BD50FC0W	6.0 to 26.5	5				BD50FC0WFP	BD50FC0WEFJ						
BD60FC0W	7.0 to 26.5	6				BD60FC0WFP	BD60FC0WEFJ						
BD70FC0W	8.0 to 26.5	7				BD70FC0WFP	BD70FC0WEFJ						
BD80FC0W	9.0 to 26.5	8				BD80FC0WFP	BD80FC0WEFJ						
BD90FC0W	10.0 to 26.5	9				BD90FC0WFP	BD90FC0WEFJ						
BDJ0FC0W	11.0 to 26.5	10				BDJ0FC0WFP	BDJ0FC0WEFJ						
BDJ2FC0W	13.0 to 26.5	12				BDJ2FC0WFP	BDJ2FC0WEFJ						
BDJ5FC0W	16.0 to 26.5	15	BDJ5FC0WFP	BDJ5FC0WEFJ									
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package/Part No.			
										TO220FP-5	TO252-5		
BA00CC0W	4 to 25	Variable 3.0 to 15.0	±2.0	1.0	2.5	0.30 (I _o =0.5A)	55	50 (I _o =5mA to 1A)	Over-Voltage/Over-Current/Temperature	BA00CC0WT	BA00CC0WFP		
BA03CC0W		3.0								BA00CC0WCP-V5 (TO220CP-V5)			
BA033CC0W		3.3								—			
BA05CC0W		5.0								BA033CC0WT	BA033CC0WFP		
BA06CC0W		6.0								BA05CC0WT	BA05CC0WFP		
BA07CC0W		7.0								—	BA06CC0WFP		
BA08CC0W		8.0								BA07CC0WT	BA07CC0WFP		
BA09CC0W		9.0								BA08CC0WT	BA08CC0WFP		
BAJ0CC0W		10.0								BA09CC0WT	BA09CC0WFP		
BAJ2CC0W		12.0								BAJ0CC0WT	—		
										BAJ2CC0WT	BAJ2CC0WFP		
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package/Part No.			
										TO252-5	TO220CP-V5		
BD00C0AW	4.0 to 26.5	Variable 3.0 to 15.0	±1.0	1.0	0.5	0.30 (I _o =500mA)	55	Vo × 0.01 (I _o =5mA to 1A)	Over-Current/Temperature	BD00C0AWFP	BD00C0AWCP-V5		
BD33C0AW	4.3 to 26.5	3.3				—				BD33C0AWFP	—		
BD50C0AW	6.0 to 26.5	5.0				0.30 (I _o =500mA)				BD50C0AWFP	—		

35V Voltage Resistance 1A LDO Regulators : * Vo is Output voltage/Unit : V
 35V Voltage Resistance 1A LDO Regulators (Automotive grade) : * Vo is Output voltage/Unit : V

A Power Management

Single-Output LDO Regulators

Please ensure that minimum input voltage always exceeds the sum of output voltage and drop out voltage for the device.

35V Resistance 1A LDO Regulators with Shutdown Switch

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Saturation Voltage (V)	Circuit Current (mA)	Operating Temperature (°C)	Protection Circuit	Package	Automotive Grade AEC-Q100			
BD00C0AWFPS-M	4.0 to 26.5	Variable 3.0 to 15.0	±3.0 (T _{amb} = -40 to +105°C)	1.0	0.3 (I _o = 500mA)	0.5	-40 to +105	Over-Current/Temperature	TO252S-5	YES			
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (V)	Protection Circuit	Package/Part No.		Automotive Grade AEC-Q100	
BD00C0AW	4.0 to 26.5	Variable 1.0 to 15.0	±3.0 (T _{amb} = -40 to +125°C)	1.0	0.5	0.3 (I _o = 500mA)	55	* V _o × 0.01 (I _o = 5mA to 1A)	Over-Current/Temperature	TO252-5		YES	
BD33C0AW	4.3 to 26.5	3.3								HRP5			
BD50C0AW	6.0 to 26.5	5.0								TO263-5			
BD80C0AW	9.0 to 26.5	8.0								BD00C0AWFP-C			
BD90C0AW	10.0 to 26.5	9.0								BD00C0AWHFP-C			
									BD00C0AWFP2-C	BD33C0AWFP2-C	BD50C0AWFP2-C	BD80C0AWFP2-C	BD90C0AWFP2-C

35V Resistance 300mA LDO Regulator with Shutdown Switch

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation	Protection Circuit	Package
BA3662CP-V5	4 to 25	Variable 3.0 to 15.0	±2.0	0.3	2.5	0.3 (I _o = 0.2A)	55	40mV (I _o = 5mA to 200mA)	Over-Voltage/Over-Current/Temperature	TO220CP-V5

30V Resistance 100mA LDO Regulators

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Load Regulation (%)	Protection Circuit	Input Capacitor (μF)	Output Capacitor (μF)	Package
BD33FA1FP3	V _o + 3 to 25	3.3	±1	0.1	0.3	1 (I _o = 100mA)	±1.5	Over-Current/Temperature	1	1	SOT89-3
BD50FA1FP3		5.0									
BD54FA1FP3		5.4									
BDJ2FA1FP3		12.0									

30V Resistance 100mA LDO Regulators with Shutdown Switch

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Load Regulation (%)	Protection Circuit	Input Capacitor (μF)	Output Capacitor (μF)	Package	Automotive Grade AEC-Q100
BD50FA1MG-M	V _o + 3 to 25	5	±1	0.1	0.5	2 (I _o = 100mA)	±1.5	Over-Current/Temperature	1	1	SSOP5	YES
BD00FA1WEFJ	V _o + 3 to 25	Variable (3.0 to 12.0)	±1	0.1	0.3	2 (I _o = 100mA)	±1.5	Over-Current/Temperature	2.2	2.2	HTSOP-J8	

18V Resistance 1.5A LDO Regulators

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Protection Circuit	Package
BA15JC5T	3 to 16	1.5	±1.0	1.5	0.5	0.3 (I _o = 500mA)	55	5 (I _o = 5mA to 1.5A)	0.33	22	Over-Current/Temperature	TO220FP-3
BA18JC5T		1.8										TO220FP-3
BA25JC5T		2.5										TO220FP-3
BA30JC5T		3.0										TO220FP-3
BA33JC5T		3.3										TO220FP-3
BA50JC5T		5.0										TO220FP-3
BA60JC5T		6.0										TO220FP-3
BA80JC5T		8.0										TO220FP-3
BA90JC5T		9.0										TO220FP-3

18V Resistance 1.5A LDO Regulator with Shutdown Switch

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package
BA00JC5WT	3 to 16	Variable 1.5 to 12.0	±1.0	1.5	0.5	0.3 (I _o = 500mA)	55	5 (I _o = 5mA to 1.5A)	0.33	22	✓	Over-Current/Temperature	TO220FP-5

18V Resistance 1A LDO Regulators

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Protection Circuit	Package/Part No.	
BA15BC0	3 to 16	1.5	±2.0	1.0	0.5	0.3 (I _o = 200mA)	55	35 (I _o = 0 to 1A)	0.33	22	Over-Current/Temperature	TO252-3	TO220FP-3
BA18BC0		1.8										BA15BC0FP	BA15BC0T
BA25BC0		2.5										BA18BC0FP	BA18BC0T
BA30BC0		3.0										BA25BC0FP	BA25BC0T
BA33BC0		3.3										BA30BC0FP	BA30BC0T
BA50BC0		5.0			BA33BC0FP							BA33BC0T	
BA60BC0		6.0			BA50BC0FP							BA50BC0T	
BA70BC0		7.0			BA60BC0FP							BA60BC0T	
BA80BC0		8.0			BA70BC0FP							BA70BC0T	
BA90BC0		9.0			BA80BC0FP							BA80BC0T	
BAJ0BC0	10.0	BA90BC0FP	BA90BC0T										
					0.6							BAJ0BC0FP	BAJ0BC0T

 35V Voltage Resistance 1A LDO Regulators with Shutdown Switch (Automotive grade) : * V_o is Output Voltage/Unit : V

A Power Management

Please ensure that minimum input voltage always exceeds the sum of output voltage and drop out voltage for the device.

18V Resistance 1A LDO Regulators with Shutdown Switch														
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package/Part No.	
													TO252-5	TO220FP-5
BA00BC0W	3 to 16	Variable 1.5 to 12.0	±2.0	1.0	0.5 (Vo≦6.0)	0.3 (Io=200mA)	55	35 (Io=0 to 1A)	0.33	22	✓	Over-Current/ Temperature	BA00BC0WFP BA00BC0WCP-V5 (TO220CP-V5)	BA00BC0WT
BA15BC0W		1.5			BA15BC0WFP								BA15BC0WT	
BA18BC0W		1.8			BA18BC0WFP								BA18BC0WT	
BA25BC0W		2.5			BA25BC0WFP								BA25BC0WT	
BA30BC0W		3.0			BA30BC0WFP								BA30BC0WT	
BA33BC0W		3.3			BA33BC0WFP								BA33BC0WT	
BA50BC0W		5.0			BA50BC0WFP								BA50BC0WT	
BA60BC0W		6.0			BA60BC0WFP								BA60BC0WT	
BA70BC0W		7.0			BA70BC0WFP								BA70BC0WT	
BA80BC0W		8.0			BA80BC0WFP								BA80BC0WT	
BA90BC0W		9.0			BA90BC0WFP								BA90BC0WT	
BAJ0BC0W		10.0			BAJ0BC0WFP								BAJ0BC0WT	

15V Resistance 1A LDO Regulators with Shutdown Switch															
Part No.		Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	Automotive Grade AEC-Q100
Consumer / Automotive Grade															
BD00GC0WEFJ / BD00GC0MEFJ-M		4.5 to 14.0	Variable 1.5 to 13.0	±1.0 (Ta=25°C) / ±3.0 (Ta=-40 to +105°C) <Automotive Grade>	1.0	0.6	0.6 (Io=1A)	60 (f=100Hz, 50mVpp, Io=0A)	25 (Io=0 to 1A)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	— / YES
BD15GC0WEFJ / BD15GC0MEFJ-M			1.5											HTSOP-J8	— / YES
BD18GC0WEFJ / BD18GC0MEFJ-M			1.8											HTSOP-J8	— / YES
BD25GC0WEFJ / BD25GC0MEFJ-M			2.5											HTSOP-J8	— / YES
BD30GC0WEFJ / BD30GC0MEFJ-M			3.0											HTSOP-J8	— / YES
BD33GC0WEFJ / BD33GC0MEFJ-M			3.3											HTSOP-J8	— / YES
BD50GC0WEFJ / BD50GC0MEFJ-M			5.0											HTSOP-J8	— / YES
BD60GC0WEFJ / BD60GC0MEFJ-M			6.0											HTSOP-J8	— / YES
BD70GC0WEFJ / BD70GC0MEFJ-M			7.0											HTSOP-J8	— / YES
BD80GC0WEFJ / BD80GC0MEFJ-M			8.0											HTSOP-J8	— / YES
BD90GC0WEFJ / BD90GC0MEFJ-M			9.0											HTSOP-J8	— / YES
BDJ0GC0WEFJ / BDJ0GC0MEFJ-M			10.0											HTSOP-J8	— / YES
BDJ2GC0WEFJ / BDJ2GC0MEFJ-M		12.0	HTSOP-J8	— / YES											

15V Resistance 1A Variable/Fixed Output LDO Regulators(Industrial Equipment)														
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	
BD00GC0MEFJ-LB	4.5 to 14.0	Variable 1.5 to 13.0	±1.0 / ±3.0 (Ta=-40 to +105°C)	1.0	0.6	0.6 (Io=1A)	60 (f=100Hz, 50mVpp, Io=0A)	25 (Io=0 to 1A)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	
BD15GC0MEFJ-LB		1.5											HTSOP-J8	
BD18GC0MEFJ-LB		1.8											HTSOP-J8	
BD25GC0MEFJ-LB		2.5											HTSOP-J8	
BD30GC0MEFJ-LB		3.0											HTSOP-J8	
BD33GC0MEFJ-LB		3.3											HTSOP-J8	
BD50GC0MEFJ-LB		5.0											HTSOP-J8	
BD60GC0MEFJ-LB		6.0											HTSOP-J8	
BD70GC0MEFJ-LB		7.0											HTSOP-J8	
BD80GC0MEFJ-LB		8.0											HTSOP-J8	
BD90GC0MEFJ-LB		9.0											HTSOP-J8	
BDJ0GC0MEFJ-LB		10.0											HTSOP-J8	
BDJ2GC0MEFJ-LB	12.0	HTSOP-J8												

Single-Output LDO Regulators

Please ensure that minimum input voltage always exceeds the sum of output voltage and drop out voltage for the device.

15V Voltage Resistance 500mA LDO Regulators with Shutdown Switch

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	Automotive Grade AEC-Q100
Consumer / Automotive Grade														
BD00GA5WEFJ / BD00GA5MEFJ-M	4.5 to 14.0	Variable 1.5 to 13.0	±1.0 (Ta=25°C) / ±3.0 (Ta=-40 to +105°C) <Automotive Grade>	0.5	0.6	0.6 (Io=500mA)	60 (f=100Hz, 50mVpp, Io=0A)	25 (Io=0 to 500mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	— / YES
BD15GA5WEFJ / BD15GA5MEFJ-M		1.5											HTSOP-J8	— / YES
BD18GA5WEFJ / BD18GA5MEFJ-M		1.8											HTSOP-J8	— / YES
BD25GA5WEFJ / BD25GA5MEFJ-M		2.5											HTSOP-J8	— / YES
BD30GA5WEFJ / BD30GA5MEFJ-M		3.0											HTSOP-J8	— / YES
BD33GA5WEFJ / BD33GA5MEFJ-M		3.3											HTSOP-J8	— / YES
BD50GA5WEFJ / BD50GA5MEFJ-M		5.0											HTSOP-J8	— / YES
BD60GA5WEFJ / BD60GA5MEFJ-M		6.0											HTSOP-J8	— / YES
BD70GA5WEFJ / BD70GA5MEFJ-M		7.0											HTSOP-J8	— / YES
BD80GA5WEFJ / BD80GA5MEFJ-M		8.0											HTSOP-J8	— / YES
BD90GA5WEFJ / BD90GA5MEFJ-M		9.0											HTSOP-J8	— / YES
BDJ0GA5WEFJ / BDJ0GA5MEFJ-M		10.0											HTSOP-J8	— / YES
BDJ2GA5WEFJ / BDJ2GA5MEFJ-M		12.0											HTSOP-J8	— / YES

15V Resistance 500mA Variable/Fixed Output LDO Regulators(Industrial Equipment)

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	
Consumer / Automotive Grade														
BD00GA5MEFJ-LB	4.5 to 14.0	Variable 1.5 to 13.0	±1.0 / ±3.0 (Ta=-40 to +105°C)	0.5	0.6	0.6 (Io=500mA)	60 (f=100Hz, 50mVpp, Io=0A)	25 (Io=0 to 500mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	
BD15GA5MEFJ-LB		1.5											HTSOP-J8	
BD18GA5MEFJ-LB		1.8											HTSOP-J8	
BD25GA5MEFJ-LB		2.5											HTSOP-J8	
BD30GA5MEFJ-LB		3.0											HTSOP-J8	
BD33GA5MEFJ-LB		3.3											HTSOP-J8	
BD50GA5MEFJ-LB		5.0											HTSOP-J8	
BD60GA5MEFJ-LB		6.0											HTSOP-J8	
BD70GA5MEFJ-LB		7.0											HTSOP-J8	
BD80GA5MEFJ-LB		8.0											HTSOP-J8	
BD90GA5MEFJ-LB		9.0											HTSOP-J8	
BDJ0GA5MEFJ-LB		10.0											HTSOP-J8	
BDJ2GA5MEFJ-LB		12.0											HTSOP-J8	

15V Resistance 300mA LDO Regulators with Shutdown Switch

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package/Part No.	
													HTSOP-J8	VSON008X2030
BD00GA3W	4.5 to 14.0	Variable 1.5 to 13.0	±1.0	0.3	0.6	0.6 (Io=300mA)	60 (f=100Hz, 50mVpp, Io=0A)	25 (Io=0 to 300mA)	1.0	1.0	✓	Over-Current/ Temperature	BD00GA3WEFJ	BD00GA3WNNUX
BD15GA3W		1.5											BD15GA3WEFJ	☆BD15GA3WNNUX
BD18GA3W		1.8											BD18GA3WEFJ	☆BD18GA3WNNUX
BD25GA3W		2.5											BD25GA3WEFJ	☆BD25GA3WNNUX
BD30GA3W		3.0											BD30GA3WEFJ	☆BD30GA3WNNUX
BD33GA3W		3.3											BD33GA3WEFJ	☆BD33GA3WNNUX
BD50GA3W		5.0											BD50GA3WEFJ	BD50GA3WNNUX
BD60GA3W		6.0											BD60GA3WEFJ	BD60GA3WNNUX
BD70GA3W		7.0											BD70GA3WEFJ	☆BD70GA3WNNUX
BD80GA3W		8.0											BD80GA3WEFJ	☆BD80GA3WNNUX
BD90GA3W		9.0											BD90GA3WEFJ	☆BD90GA3WNNUX
BDJ0GA3W		10.0											BDJ0GA3WEFJ	☆BDJ0GA3WNNUX
BDJ2GA3W		12.0											BDJ2GA3WEFJ	☆BDJ2GA3WNNUX

☆ : Under Development

Please ensure that minimum input voltage always exceeds the sum of output voltage and drop out voltage for the device.

15V Resistance 300mA LDO Regulators with Shutdown Switch														
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	Automotive Grade AEC-Q100
BD00GA3MEFJ-M	4.5 to 14.0	Variable 1.5 to 13.0	±3.0 (Ta=-40 to +105°C) <Automotive Grade>	0.3	0.6	0.6 (Io=300mA)	60 (f=100Hz, 50mVpp, Io=0A)	25 (Io=0 to 300mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	YES
BD15GA3MEFJ-M		1.5											HTSOP-J8	YES
BD18GA3MEFJ-M		1.8											HTSOP-J8	YES
BD25GA3MEFJ-M		2.5											HTSOP-J8	YES
BD30GA3MEFJ-M		3.0											HTSOP-J8	YES
BD33GA3MEFJ-M		3.3											HTSOP-J8	YES
BD50GA3MEFJ-M		5.0											HTSOP-J8	YES
BD60GA3MEFJ-M		6.0											HTSOP-J8	YES
BD70GA3MEFJ-M		7.0											HTSOP-J8	YES
BD80GA3MEFJ-M		8.0											HTSOP-J8	YES
BD90GA3MEFJ-M		9.0											HTSOP-J8	YES
BDJ0GA3MEFJ-M		10.0											HTSOP-J8	YES
BDJ2GA3MEFJ-M	12.0	HTSOP-J8	YES											

15V Resistance 300mA Variable/Fixed Output LDO Regulators(Industrial Equipment)														
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	Automotive Grade AEC-Q100
BD00GA3MEFJ-LB	4.5 to 14.0	Variable 1.5 to 13.0	±3.0 (Ta=-40 to +105°C)	0.3	0.6	0.6 (Io=300mA)	60 (f=100Hz, 50mVpp, Io=0A)	25 (Io=0 to 300mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	
BD15GA3MEFJ-LB		1.5											HTSOP-J8	
BD18GA3MEFJ-LB		1.8											HTSOP-J8	
BD25GA3MEFJ-LB		2.5											HTSOP-J8	
BD30GA3MEFJ-LB		3.0											HTSOP-J8	
BD33GA3MEFJ-LB		3.3											HTSOP-J8	
BD50GA3MEFJ-LB		5.0											HTSOP-J8	
BD60GA3MEFJ-LB		6.0											HTSOP-J8	
BD70GA3MEFJ-LB		7.0											HTSOP-J8	
BD80GA3MEFJ-LB		8.0											HTSOP-J8	
BD90GA3MEFJ-LB		9.0											HTSOP-J8	
BDJ0GA3MEFJ-LB		10.0											HTSOP-J8	
BDJ2GA3MEFJ-LB	12.0	HTSOP-J8												

10V Resistance 1.5A LDO Regulators with Shutdown Switch														
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	Automotive Grade AEC-Q100
Consumer / Automotive Grade														
BD00HC5WEFJ / BD00HC5MEFJ-M	4.5 to 8.0	Variable 1.5 to 7.0	±1.0 (Ta=25°C) / ±3.0 (Ta=-40 to +105°C) <Automotive Grade>	1.5	0.6	0.6 (Io=1.5A)	60 (f=100Hz, 50mVpp, Io=0A)	25 (Io=0 to 1.5A)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	— / YES
BD15HC5WEFJ / BD15HC5MEFJ-M		1.5											HTSOP-J8	— / YES
BD18HC5WEFJ / BD18HC5MEFJ-M		1.8											HTSOP-J8	— / YES
BD25HC5WEFJ / BD25HC5MEFJ-M		2.5											HTSOP-J8	— / YES
BD30HC5WEFJ / BD30HC5MEFJ-M		3.0											HTSOP-J8	— / YES
BD33HC5WEFJ / BD33HC5MEFJ-M		3.3											HTSOP-J8	— / YES
BD50HC5WEFJ / BD50HC5MEFJ-M		5.0											HTSOP-J8	— / YES
BD60HC5WEFJ / BD60HC5MEFJ-M		6.0											HTSOP-J8	— / YES
BD70HC5WEFJ / BD70HC5MEFJ-M		7.0											HTSOP-J8	— / YES

10V Resistance 1.5A Variable/Fixed Output LDO Regulators(Industrial Equipment)														
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	Automotive Grade AEC-Q100
BD00HC5MEFJ-LB	4.5 to 8.0	Variable 1.5 to 7.0	±1.0 / ±3.0 (Ta=-40 to +105°C)	1.5	0.6	0.6 (Io=1.5A)	60 (f=100Hz, 50mVpp, Io=0A)	25 (Io=0 to 1.5A)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	
BD15HC5MEFJ-LB		1.5											HTSOP-J8	
BD18HC5MEFJ-LB		1.8											HTSOP-J8	
BD25HC5MEFJ-LB		2.5											HTSOP-J8	
BD30HC5MEFJ-LB		3.0											HTSOP-J8	
BD33HC5MEFJ-LB		3.3											HTSOP-J8	
BD50HC5MEFJ-LB		5.0											HTSOP-J8	
BD60HC5MEFJ-LB		6.0											HTSOP-J8	
BD70HC5MEFJ-LB		7.0											HTSOP-J8	

A Power Management

Single-Output LDO Regulators

Please ensure that minimum input voltage always exceeds the sum of output voltage and drop out voltage for the device.

10V Resistance 1A LDO Regulators with Shutdown Switch

Part No. Consumer / Automotive Grade	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	Automotive Grade AEC-Q100
BD00HC0WEFJ / BD00HC0MEFJ-M	4.5 to 8.0	Variable 0.8 to 7.0 (Automotive grade Variable 1.5 to 7.0)	±1.0 (Ta=25°C) / ±3.0 (Ta=-40 to +105°C) <Automotive Grade>	1.0	0.6	0.6 (Io=1A)	60 (f=100Hz, 50mVpp, Io=0A)	25 (Io=0 to 1A)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	— / YES
BD15HC0WEFJ / BD15HC0MEFJ-M		1.5											HTSOP-J8	— / YES
BD18HC0WEFJ / BD18HC0MEFJ-M		1.8											HTSOP-J8	— / YES
BD25HC0WEFJ / BD25HC0MEFJ-M		2.5											HTSOP-J8	— / YES
BD30HC0WEFJ / BD30HC0MEFJ-M		3.0											HTSOP-J8	— / YES
BD33HC0WEFJ / BD33HC0MEFJ-M		3.3											HTSOP-J8	— / YES
BD50HC0WEFJ / BD50HC0MEFJ-M		5.0											HTSOP-J8	— / YES
BD60HC0WEFJ / BD60HC0MEFJ-M		6.0											HTSOP-J8	— / YES
BD70HC0WEFJ / BD70HC0MEFJ-M		7.0											HTSOP-J8	— / YES

10V Resistance 1A Variable/Fixed Output LDO Regulators(Industrial Equipment)

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package
BD00HC0MEFJ-LB	4.5 to 8.0	Variable 0.8 to 7.0 (Variable 1.5 to 7.0)	±1.0 / ±3.0 (Ta=-40 to +105°C)	1.0	0.6	0.6 (Io=1A)	60 (f=100Hz, 50mVpp, Io=0A)	25 (Io=0 to 1A)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8
BD15HC0MEFJ-LB		1.5											HTSOP-J8
BD18HC0MEFJ-LB		1.8											HTSOP-J8
BD25HC0MEFJ-LB		2.5											HTSOP-J8
BD30HC0MEFJ-LB		3.0											HTSOP-J8
BD33HC0MEFJ-LB		3.3											HTSOP-J8
BD50HC0MEFJ-LB		5.0											HTSOP-J8
BD60HC0MEFJ-LB		6.0											HTSOP-J8
BD70HC0MEFJ-LB		7.0											HTSOP-J8

10V Resistance 500mA LDO Regulators with Shutdown Switch

Part No. Consumer / Automotive Grade	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	Automotive Grade AEC-Q100
BD00HA5WEFJ / BD00HA5MEFJ-M	4.5 to 8.0	Variable 1.5 to 7.0	±1.0 (Ta=25°C) / ±3.0 (Ta=-40 to +105°C) <Automotive Grade>	0.5	0.6	0.6 (Io=500mA)	60 (f=100Hz, 50mVpp, Io=0A)	25 (Io=0 to 500mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	— / YES
BD15HA5WEFJ / BD15HA5MEFJ-M		1.5											HTSOP-J8	— / YES
BD18HA5WEFJ / BD18HA5MEFJ-M		1.8											HTSOP-J8	— / YES
BD25HA5WEFJ / BD25HA5MEFJ-M		2.5											HTSOP-J8	— / YES
BD30HA5WEFJ / BD30HA5MEFJ-M		3.0											HTSOP-J8	— / YES
BD33HA5WEFJ / BD33HA5MEFJ-M		3.3											HTSOP-J8	— / YES
BD50HA5WEFJ / BD50HA5MEFJ-M		5.0											HTSOP-J8	— / YES
BD60HA5WEFJ / BD60HA5MEFJ-M		6.0											HTSOP-J8	— / YES
BD70HA5WEFJ / BD70HA5MEFJ-M		7.0											HTSOP-J8	— / YES

10V Resistance 500mA Variable/Fixed Output LDO Regulators(Industrial Equipment)

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package
BD00HA5MEFJ-LB	4.5 to 8.0	Variable 1.5 to 7.0	±1.0 / ±3.0 (Ta=-40 to +105°C)	0.5	0.6	0.6 (Io=500mA)	60 (f=100Hz, 50mVpp, Io=0A)	25 (Io=0 to 500mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8
BD15HA5MEFJ-LB		1.5											HTSOP-J8
BD18HA5MEFJ-LB		1.8											HTSOP-J8
BD25HA5MEFJ-LB		2.5											HTSOP-J8
BD30HA5MEFJ-LB		3.0											HTSOP-J8
BD33HA5MEFJ-LB		3.3											HTSOP-J8
BD50HA5MEFJ-LB		5.0											HTSOP-J8
BD60HA5MEFJ-LB		6.0											HTSOP-J8
BD70HA5MEFJ-LB		7.0											HTSOP-J8

Please ensure that minimum input voltage always exceeds the sum of output voltage and drop out voltage for the device.

10V Resistance 300mA LDO Regulators with Shutdown Switch														
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection circuit	Package	Automotive Grade AEC-Q100
Consumer / Automotive Grade														
BD00HA3WEFJ / BD00HA3MEFJ-M	4.5 to 8.0	Variable 1.5 to 7.0	±1.0 (Ta=25°C) / ±3.0 (Ta=-40 to +105°C) <Automotive Grade>	0.3	0.6	0.6 (Ic=300mA)	60 (f=100Hz, 50mVpp, Ic=0A)	25 (Ic=0 to 300mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	— / YES
BD15HA3WEFJ / BD15HA3MEFJ-M		1.5											HTSOP-J8	— / YES
BD18HA3WEFJ / BD18HA3MEFJ-M		1.8											HTSOP-J8	— / YES
BD25HA3WEFJ / BD25HA3MEFJ-M		2.5											HTSOP-J8	— / YES
BD30HA3WEFJ / BD30HA3MEFJ-M		3.0											HTSOP-J8	— / YES
BD33HA3WEFJ / BD33HA3MEFJ-M		3.3											HTSOP-J8	— / YES
BD50HA3WEFJ / BD50HA3MEFJ-M		5.0											HTSOP-J8	— / YES
BD60HA3WEFJ / BD60HA3MEFJ-M		6.0											HTSOP-J8	— / YES
BD70HA3WEFJ / BD70HA3MEFJ-M		7.0											HTSOP-J8	— / YES

10V Resistance 300mA Variable/Fixed Output LDO Regulators(Industrial Equipment)														
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection circuit	Package	
BD00HA3MEFJ-LB	4.5 to 8.0	Variable 1.5 to 7.0	±1.0 / ±3.0 (Ta=-40 to +105°C)	0.3	0.6	0.6 (Ic=300mA)	60 (f=100Hz, 50mVpp, Ic=0A)	25 (Ic=0 to 300mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	
BD15HA3MEFJ-LB		1.5											HTSOP-J8	
BD18HA3MEFJ-LB		1.8											HTSOP-J8	
BD25HA3MEFJ-LB		2.5											HTSOP-J8	
BD30HA3MEFJ-LB		3.0											HTSOP-J8	
BD33HA3MEFJ-LB		3.3											HTSOP-J8	
BD50HA3MEFJ-LB		5.0											HTSOP-J8	
BD60HA3MEFJ-LB		6.0											HTSOP-J8	
BD70HA3MEFJ-LB		7.0											HTSOP-J8	

7V Resistance 1A LDO Regulators with Shutdown Switch														
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection circuit	Package/Part No.	
													HTSOP-J8	HVSO6
BD00IC0W	2.4 to 5.5	Variable 0.8 to 4.5	±1.0	1.0	0.3	0.4 (Ic=1A)	60 (f=100Hz, 50mVpp, Ic=0A)	25 (Ic=0 to 1A)	1.0	1.0	✓	Over-Current/ Temperature	BD00IC0WEFJ	BD00IC0WHFV
BD10IC0W		1.0											BD10IC0WEFJ	BD10IC0WHFV
BD12IC0W		1.2											BD12IC0WEFJ	BD12IC0WHFV
BD1CIC0W		1.25											—	BD1CIC0WHFV
BD15IC0W		1.5											BD15IC0WEFJ	BD15IC0WHFV
BD18IC0W		1.8											BD18IC0WEFJ	BD18IC0WHFV
BD25IC0W		2.5											BD25IC0WEFJ	BD25IC0WHFV
BD26IC0W		2.6											—	BD26IC0WHFV
BD30IC0W		3.0											BD30IC0WEFJ	BD30IC0WHFV
BD33IC0W		3.3											BD33IC0WEFJ	BD33IC0WHFV

7V Resistance 1A LDO Regulators with Shutdown Switch														
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection circuit	Package	Automotive Grade AEC-Q100
BD00IC0MEFJ-M	2.4 to 5.5	Variable 0.8 to 4.5	±3.0 (Ta=-40 to +105°C)	1.0	0.3	0.4 (Ic=1A)	60 (f=100Hz, 50mVpp, Ic=0A)	25 (Ic=0 to 1A)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	YES
BD10IC0MEFJ-M		1.0											HTSOP-J8	YES
BD12IC0MEFJ-M		1.2											HTSOP-J8	YES
BD15IC0MEFJ-M		1.5											HTSOP-J8	YES
BD18IC0MEFJ-M		1.8											HTSOP-J8	YES
BD25IC0MEFJ-M		2.5											HTSOP-J8	YES
BD30IC0MEFJ-M		3.0											HTSOP-J8	YES
BD33IC0MEFJ-M		3.3											HTSOP-J8	YES

7V Resistance 1A Variable/Fixed Output LDO Regulators(Industrial Equipment)														
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection circuit	Package	
BD00IC0MEFJ-LB	2.4 to 5.5	Variable 0.8 to 4.5	±3.0 (Ta=-40 to +105°C)	1.0	0.3	0.4 (Ic=1A)	60 (f=100Hz, 50mVpp, Ic=0A)	25 (Ic=0 to 1A)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	
BD10IC0MEFJ-LB		1.0											HTSOP-J8	
BD12IC0MEFJ-LB		1.2											HTSOP-J8	
BD15IC0MEFJ-LB		1.5											HTSOP-J8	
BD18IC0MEFJ-LB		1.8											HTSOP-J8	
BD25IC0MEFJ-LB		2.5											HTSOP-J8	
BD30IC0MEFJ-LB		3.0											HTSOP-J8	
BD33IC0MEFJ-LB		3.3											HTSOP-J8	

A

Power Management

Single-Output LDO Regulators

Please ensure that minimum input voltage always exceeds the sum of output voltage and drop out voltage for the device.

7V Resistance 500mA LDO Regulators

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Protection Circuit	Package
BD10KA5FP	2.3 to 5.5	1.0	±1.0	0.5	0.35	0.12 (I _o =200mA)	50	25 (I _o =0 to 500mA)	1.0	1.0	Over-Current/ Temperature	TO252-3
BD12KA5FP		1.2										TO252-3
BD15KA5FP		1.5										TO252-3
BD18KA5FP		1.8										TO252-3
BD25KA5FP		2.5										TO252-3
BD30KA5FP		3.0										TO252-3
BD33KA5FP		3.3										TO252-3

7V Resistance 500mA LDO Regulators with Shutdown Switch

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package/Part No.	
													TO252-5	SOP8
BD00KA5W	2.3 to 5.5	Variable 1.0 to 4.0	±1.0	0.5	0.35	0.12 (I _o =200mA)	50	25 (I _o =0 to 500mA)	1.0	1.0	✓	Over-Current/ Temperature	BD00KA5WFP	BD00KA5WF
BD10KA5W		1.0											BD10KA5WFP	BD10KA5WF
BD12KA5W		1.2											BD12KA5WFP	BD12KA5WF
BD15KA5W		1.5											BD15KA5WFP	BD15KA5WF
BD18KA5W		1.8											BD18KA5WFP	BD18KA5WF
BD25KA5W		2.5											BD25KA5WFP	BD25KA5WF
BD30KA5W		3.0											BD30KA5WFP	BD30KA5WF
BD33KA5W		3.3											BD33KA5WFP	BD33KA5WF

Part No.		Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package	Automotive Grade AEC-Q100
Consumer / Automotive Grade															
BD00IA5WEFJ / BD00IA5MEFJ-M		2.4 to 5.5	Variable 0.8 to 4.5	±1.0 (T _a =25°C) / ±3.0 (T _a =-40 to +105°C) <Automotive Grade>	0.5	0.25	0.4 (I _o =500mA)	60 (f=100Hz, 50mVpp, I _o =0A)	25 (I _o =0 to 500mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8	— / YES
BD10IA5WEFJ / BD10IA5MEFJ-M			1.0											HTSOP-J8	— / YES
BD12IA5WEFJ / BD12IA5MEFJ-M			1.2											HTSOP-J8	— / YES
BD15IA5WEFJ / BD15IA5MEFJ-M			1.5											HTSOP-J8	— / YES
BD18IA5WEFJ / BD18IA5MEFJ-M			1.8											HTSOP-J8	— / YES
BD25IA5WEFJ / BD25IA5MEFJ-M			2.5											HTSOP-J8	— / YES
BD30IA5WEFJ / BD30IA5MEFJ-M			3.0											HTSOP-J8	— / YES
BD33IA5WEFJ / BD33IA5MEFJ-M			3.3											HTSOP-J8	— / YES

7V Resistance 500mA Variable/Fixed Output LDO Regulators(Industrial Equipment)

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Protection Circuit	Package
BD00IA5MEFJ-LB	2.4 to 5.5	Variable 0.8 to 4.5	±1.0 / ±3.0 (T _a =-40 to +105°C)	0.5	0.25	0.4 (I _o =500mA)	60 (f=100Hz, 50mVpp, I _o =0A)	25 (I _o =0 to 500mA)	1.0	1.0	✓	Over-Current/ Temperature	HTSOP-J8
BD10IA5MEFJ-LB		1.0											HTSOP-J8
BD12IA5MEFJ-LB		1.2											HTSOP-J8
BD15IA5MEFJ-LB		1.5											HTSOP-J8
BD18IA5MEFJ-LB		1.8											HTSOP-J8
BD25IA5MEFJ-LB		2.5											HTSOP-J8
BD30IA5MEFJ-LB		3.0											HTSOP-J8
BD33IA5MEFJ-LB		3.3											HTSOP-J8

6.5V Resistance 500mA Full CMOS LDO Regulators

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (μA)	I/O Voltage Difference (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package
New BU18SD5WG	1.7 to 6.0	1.8	±1	0.5	33.0	150 (I _o =100mA)	68	0.5	Over Current/ Temperature	SSOP5
New BU33SD5WG		3.3								

6.5V Resistance 500mA Full CMOS LDO Regulators with Shutdown Switch WL-CSP type

Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Bias Current (μA)	I/O Voltage Difference (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Protection Circuit	Package
BU30SA5GWZ	1.8 to 5.0	3	±1	0.5	0.033	0.08 (I _o =100mA)	70dB (f=1kHz)	6 (I _o out=0.01mA to 300mA)	Over Current/ Temperature	UCSP30L1
BU33SA5GWZ		3.3								

Please ensure that minimum input voltage always exceeds the sum of output voltage and drop out voltage for the device.

6.5V Resistance 300mA CMOS LDO Regulators with Shutdown Switch																	
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Vsat (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Over Current Protection	Temperature Protection	Discharge Function	Soft Start Function	Package
BH15M0AWHFV	2.5 to 5.5	1.5	±25mV	0.3	—	60	6 (I _o =1 to 100mA)	65	100	1.0	1.0	✓	✓	✓	—	—	HVSOF6
BH18M0AWHFV		1.8															HVSOF6
BH20M0AWHFV		2.0															HVSOF6
BH21M0AWHFV		2.1															HVSOF6
BH25M0AWHFV		2.5	±1		60 (I _o = 100mA)												HVSOF6
BH26M0AWHFV		2.6															HVSOF6
BH27M0AWHFV		2.7															HVSOF6
BH28M0AWHFV		2.8															HVSOF6
BH29M0AWHFV		2.9															HVSOF6
BH30M0AWHFV		3.0															HVSOF6
BH31M0AWHFV		3.1															HVSOF6
BH32M0AWHFV		3.2															HVSOF6
BH33M0AWHFV		3.3															HVSOF6
BH34M0AWHFV		3.4															HVSOF6

Single-Output LDO Regulators

Please ensure that minimum input voltage always exceeds the sum of output voltage and drop out voltage for the device.

6.5V Resistance 200mA CMOS LDO Regulators with Shutdown Switch

Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Vs _{sat} (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current (μA)	Output short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Over Current Protection	Temperature Protection	Discharge Function	Package/Part No.	
																SSON004X1010	SSOP5
BUxxTD2WNVX series BUxxTD3WG series	1.7 to 5.5	1.0	±25mV	0.2	—	70	10 (I _o =1 to 100mA)	35	70	0.47	0.47	✓	✓	✓	✓	BU10TD2WNVX	BU10TD3WG
		1.05														☆BU1ATD2WNVX	—
		1.1														—	BU11TD3WG
		1.15														BU1BD2WNVX	—
		1.2														BU12TD2WNVX	BU12TD3WG
		1.25														BU1CTD2WNVX	BU1CTD3WG
		1.3														—	BU13TD3WG
		1.5														BU15TD2WNVX	BU15TD3WG
		1.8														BU18TD2WNVX	BU18TD3WG
		1.85														BU1JTD2WNVX	BU1JTD3WG
		1.9	BU19TD2WNVX	BU19TD3WG													
		2.0	BU20TD2WNVX	BU20TD3WG													
		2.05	BU2ATD2WNVX	—													
		2.1	BU21TD2WNVX	BU21TD3WG													
		2.3	BU23TD2WNVX	—													
		2.5	BU25TD2WNVX	BU25TD3WG													
		2.6	BU26TD2WNVX	BU26TD3WG													
		2.7	BU27TD2WNVX	BU27TD3WG													
		2.75	BU2HTD2WNVX	—													
		2.8	BU28TD2WNVX	BU28TD3WG													
2.85	BU2JTD2WNVX	BU2JTD3WG															
2.9	BU29TD2WNVX	BU29TD3WG															
3.0	BU30TD2WNVX	BU30TD3WG															
3.1	BU31TD2WNVX	BU31TD3WG															
3.2	BU32TD2WNVX	BU32TD3WG															
3.3	BU33TD2WNVX	BU33TD3WG															
3.4	BU34TD2WNVX	BU34TD3WG															
2.5 to 5.5	±1	280 (I _o =200mA)	0.2	65	10 (I _o =0.01 to 100mA)	40	70	1.0	1.0	✓	✓	✓	✓	BU15TA2W	BU15TA2WNVX	BU15TA2WHFV	
BU18TA2W		BU18TA2WNVX												BU18TA2WHFV			
BU25TA2W		BU25TA2WNVX												BU25TA2WHFV			
BU26TA2W		BU26TA2WNVX												BU26TA2WHFV			
BU27TA2W		BU27TA2WNVX												BU27TA2WHFV			
BU28TA2W		BU28TA2WNVX												BU28TA2WHFV			
BU2JTA2W		BU2JTA2WNVX												BU2JTA2WHFV			
BU29TA2W		BU29TA2WNVX												BU29TA2WHFV			
BU30TA2W		BU30TA2WNVX												BU30TA2WHFV			
BU31TA2W		BU31TA2WNVX												BU31TA2WHFV			
BU32TA2W		BU32TA2WNVX												BU32TA2WHFV			
BU33TA2W		BU33TA2WNVX												BU33TA2WHFV			
BU34TA2W		BU34TA2WNVX												BU34TA2WHFV			
Part No.		Input Voltage (V)												Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Vs _{sat} (mV)
BU12SD2MG-M	1.7 to 6.0	1.20	±2 (T _a =-40 to +105°C)	0.2	400 (I _o =100mA)	68	1 (I _o =1mA to 200mA)	33	100	1.0	1.0	✓	✓	✓	—	SSOP5	YES
BU15SD2MG-M		1.50			280 (I _o =100mA)											SSOP5	YES
BU18SD2MG-M		1.80			150 (I _o =100mA)											SSOP5	YES
BU25SD2MG-M		2.50			100 (I _o =100mA)											SSOP5	YES
BU28SD2MG-M		2.80			85 (I _o =100mA)											SSOP5	YES
BU30SD2MG-M		3.00			SSOP5											YES	
BU33SD2MG-M		3.30			SSOP5											YES	

☆ : Under Development

Please ensure that minimum input voltage always exceeds the sum of output voltage and drop out voltage for the device.

6.5V Resistance 200mA CMOS LDO Regulators with Shutdown Switch																		
Type	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Vsat (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Over Current Protection	Temperature Protection	Discharge	Package	Automotive Grade AEC-Q100	
BU10JA2MNVX-C	1.7 to 6.0	1.0	±36mV	0.2	800	70	10	35	70	0.47	0.47	✓	✓	✓	✓	SSON004R1010	YES	
BU11JA2MNVX-C		1.1														SSON004R1010	YES	
BU12JA2MNVX-C		1.2														SSON004R1010	YES	
BU1CJA2MNVX-C		1.25														SSON004R1010	YES	
BU15JA2MNVX-C		1.5														SSON004R1010	YES	
BU18JA2MNVX-C		1.8														SSON004R1010	YES	
BU25JA2MNVX-C		2.5														SSON004R1010	YES	
BU28JA2MNVX-C		2.8														SSON004R1010	YES	
BU2JA2MNVX-C		2.85														SSON004R1010	YES	
BU30JA2MNVX-C		3.0														SSON004R1010	YES	
BU33JA2MNVX-C		3.3	SSON004R1010	YES														
BU10JA2VG-C		1.0	±2	0.2	85	68	0.5	33	100	1.0	1.0	✓	✓	✓	✓	✓	SSOP5	YES
BU12JA2VG-C		1.2															SSOP5	YES
BU1CJA2VG-C		1.25															SSOP5	YES
BU15JA2VG-C		1.5															SSOP5	YES
BU18JA2VG-C		1.8															SSOP5	YES
BU25JA2VG-C		2.5															SSOP5	YES
BU28JA2VG-C		2.8															SSOP5	YES
BU2JA2VG-C		2.85															SSOP5	YES
BU30JA2VG-C		3.0															SSOP5	YES
BU33JA2VG-C	3.3	SSOP5															YES	
BU18JA2DG-C	1.8	SSOP5	YES															
BU28JA2DG-C	2.8	SSOP5	YES															

6.5V Resistance 200mA CMOS LDO Regulators with Shutdown Switch WL-CSP type																
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Vsat (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Over Current Protection	Temperature Protection	Discharge Function	Package (mm)
BU18SA4WGWL	1.7 to 5.5	1.8	±2	0.2	100 (Io=150mA)	70	2 (Io=1 to 100mA)	40	100	0.47	0.47	✓	✓	✓	-	UCSP50L1 (0.8×0.8) H=0.55 Max.
BU25SA4WGWL		2.5			UCSP50L1 (0.8×0.8) H=0.55 Max.											
BU2FSA4WGWL		2.55			UCSP50L1 (0.8×0.8) H=0.55 Max.											
BU28SA4WGWL		2.8			UCSP50L1 (0.8×0.8) H=0.55 Max.											
BU30SA4WGWL		3.0			UCSP50L1 (0.8×0.8) H=0.55 Max.											
BU33SA4WGWL		3.3			UCSP50L1 (0.8×0.8) H=0.55 Max.											

6.5V Resistance 150mA CMOS LDO Regulators with Shutdown Switch																
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Vsat (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Over Current Protection	Temperature Protection	Discharge Function	Package (mm)
BH25NB1WHFV	2.5 to 5.5	2.5	±1	0.15	250 (Io=100mA)	80	6 (Io=1 to 100mA)	60	50	0.1	2.2	✓	✓	✓	-	HVSOF5
BH28NB1WHFV		2.8														HVSOF5
BH2JNB1WHFV		2.85														HVSOF5
BH29NB1WHFV		2.9														HVSOF5
BH30NB1WHFV		3.0														HVSOF5
BH31NB1WHFV		3.1														HVSOF5
BH33NB1WHFV		3.3														HVSOF5

6.5V Resistance 150mA CMOS LDO Regulators with Shutdown Switch																
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Vsat (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Over Current Protection	Temperature Protection	Discharge Function	Package (mm)
BH15RB1WGUT	2.5 to 5.5	1.5	±25mV	0.15	100 (Io=100mA)	63	2 (Io=1 to 100mA)	34	40	1.0	1.0	✓	✓	✓	-	VCSP60N1 (1.04×1.0) H=0.675 Max.
BH18RB1WGUT		1.8														VCSP60N1 (1.04×1.0) H=0.675 Max.
BH25RB1WGUT		2.5														VCSP60N1 (1.04×1.0) H=0.675 Max.
BH28RB1WGUT		2.8														VCSP60N1 (1.04×1.0) H=0.675 Max.
BH29RB1WGUT		2.9	VCSP60N1 (1.04×1.0) H=0.675 Max.													
BH30RB1WGUT		3.0	VCSP60N1 (1.04×1.0) H=0.675 Max.													
BH31RB1WGUT		3.1	VCSP60N1 (1.04×1.0) H=0.675 Max.													
BH33RB1WGUT		3.3	VCSP60N1 (1.04×1.0) H=0.675 Max.													

6.5V Resistance 150mA CMOS LDO Regulators with Shutdown Switch																		
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%) High speed mode	Output Voltage Precision(%) Low Icc mode	Output Current (A)	Vsat (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current High speed mode (μA)	Circuit Current Low Icc mode (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Over Current Protection	Temperature Protection	Discharge Function	Package
BH12PB1WHFV	1.7 to 5.5	1.2	±25mV	-3.3 to +4.3	0.15	210 (Io=100mA)	60 (High speed mode)	10 (Io=10 to 100mA)	20	2	50	0.47	0.47	✓	✓	✓	-	HVSOF5
BH15PB1WHFV		1.5																HVSOF5
BH18PB1WHFV		1.8																HVSOF5
BH25PB1WHFV		2.5																HVSOF5
BH28PB1WHFV		2.8	HVSOF5															
BH29PB1WHFV		2.9	HVSOF5															
BH30PB1WHFV		3.0	HVSOF5															
BH31PB1WHFV		3.1	HVSOF5															
BH33PB1WHFV	3.3	HVSOF5																

6.5V Resistance 150mA CMOS LDO Regulators with Shutdown Switch																
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision(%)	Output Current (A)	Vsat (mV)	Ripple Rejection (dB)	Load Regulation (mV)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shutdown Switch	Over Current Protection	Temperature Protection	Discharge Function	Package
BH18SA3WGUT	2.2 to 5.5	1.8	±25mV	0.15	100 (Io=100mA)	63	2 (Io=1 to 100mA)	40	50	1.0	1.0	✓	✓	✓	-	VCSP60N1
BH28SA3WGUT		2.8														VCSP60N1
BH30SA3WGUT		3.0														VCSP60N1

Power Management

Single-Output LDO Regulators

Please ensure that minimum input voltage always exceeds the sum of output voltage and drop out voltage for the device.

Ultra LDO Type, Fast Transient Response

Part No.	Output Current(A)	Input Voltage(V)		Output Voltage (V)	Voltage Accuracy(%)	Power Good	Adjustable Soft Start	UVLO	OCP	TSD	Package
		V _{CC}	V _{IN}								
BD3550HFN	0.5	4.3 to 5.5	0.95 to (V _{CC} -1)	0.65 to 2.7	±1	—	✓	✓	Recovery	Recovery	HSO8
BD3507HFV	0.55	4.5 to 5.5	1.2 to (V _{CC} -1)								HVSOF6
BD3551HFN	1.0	4.3 to 5.5	0.95 to (V _{CC} -1)	0.65 to 2.5	±1	—	✓	✓	Recovery	Recovery	HSO8
BD3506F	2.5		1.2 to (V _{CC} -1)								SOP8
BD3552HFN	2.0		0.95 to (V _{CC} -1)	0.65 to 2.7	±1	—	✓	✓	Recovery	Recovery	HSO8
BD3508MUV	3.0		0.75 to (V _{CC} -1)								VQFN020V4040
BD3540NUV	0.5	3.0 to 5.5	0.95 to (V _{CC} -1)	0.65 to 2.7	±1	✓	✓	✓	Recovery	Recovery	VSON010V3030
BD3541NUV	1.0		0.95 to (V _{CC} -1)								VSON010V3030
BD3512MUV	3.0	4.3 to 5.5	0.7 to (V _{CC} -1)	0.65 to 2.7	±1	✓	✓	✓	Recovery	Latch	VQFN020V4040
BD3509MUV	4.0									Recovery	VQFN020V4040
BD3504FVM	External FET	4.5 to 5.5	V _{O+} (I _O × R _{ON}) to (V _{CC} -1)	0.65 to 2.5	±1	—	✓	✓	Latch	Latch	MSOP8
BD3521FVM	External FET			1.5							MSOP8

Ultra Low Noise LDO for Audio

Part No.	Output Current(A)	Input Voltage(V)	Output Voltage (V)	Reference Voltage Accuracy(%)	Dropout Voltage (mV)	Noise Level (μVrms)	PSRR (dB)	Over Current Protection	Thermal Protection	Package
New BD37201NUX	0.5	2.7 to 5.5	Variable 1.0 to 4.5	±1	200	4.72	90 (f=1KHz) 55 (f=1MHz)	✓	✓	VSON008X2030
☆BD37210MUV	1.0	3.0 to 16.0	Variable 1.0 to 15.0	±1	300	4.6	78(f=1KHz) 53(f=1MHz)	✓	✓	VQFN020V4040
☆BD37215MUV	1.0	-16.0 to -3.0	Variable -15.0 to -1.0	±1	300	5.1	90(f=1KHz) 55(f=1MHz)	✓	✓	VQFN020V4040

UVLO: Under Voltage Lock Out, OCP: Over Current Protection, TSD: Thermal Shut Down ☆: Under Development

LDO Regulators with Voltage Detector and Watchdog Timer
550mA Output LDO Regulators with Voltage Detector and Watchdog Timer

Part No.	Input Voltage (V)	LDO				Voltage Detector			Circuit Current (μA)	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
		Output Voltage(V)	Output Voltage Precision(%)	Output Current(A)	I/O Voltage Difference(V)	Detection Voltage(V)	Voltage Detection Precision(%)	Function				
BD4271HFP-C	5.5 to 45.0	5	±2 (T _J =-40 to +150°C)	0.55	0.2 (I _O =300mA)	4.65	±2.6	4.65V Voltage Detector+WDT	75	T _J =-40 to +150	HRP7	YES
BD4271FP2-C											TO263-7	YES

500mA Output LDO Regulators with Voltage Detector and Watchdog Timer

BD3021HFP	5.6 to 36.0	5	±2 (T _a =-40 to +125°C)	0.5	0.3 (I _O =200mA)	4.5	±2	4.5V Voltage Detector+WDT(Active switch)	80	T _a =-40 to +125	HRP7	Preparing
BD3020HFP						Variable (at V _s open : 4.1V)		Adjustable Voltage Detector+WDT			HRP7	Preparing

200mA Output LDO Regulators with Voltage Detector and Watchdog Timer

BD3010AFV	5.6 to 36.0	5	±2 (T _a =-40 to +125°C)	0.2	0.25 (I _O =150mA)	Variable (RADJ open: 4.25V)	±3	Adjustable Voltage Detector+WDT	80	-40 to +125	SSOP-B20	Preparing
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LDO Regulators with Voltage Detector
500mA Output LDO Regulators with Voltage Detector

Part No.	Input Voltage (V)	LDO				Voltage Detector		Shutdown Switch	Circuit Current (μA)	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
		Output Voltage(V)	Output Voltage Precision(%)	Output Current(A)	I/O Voltage Difference(V)	Detection Voltage(V)	Voltage Detection Precision(%)					
BD42754FPJ-C	5.5 to 45.0	5	±2 (T _J =-40 to +150°C, V _{CC} =6.0 to 28V, I _O =5mA to 400mA)	0.5	0.25 (I _O =300mA)	4.62V	±2.8	—	75	T _J =-40 to +150	TO252-J5	YES
BD42754FP2-C											TO263-5	YES

200mA/300mA Output LDO Regulators with Voltage Detector

Part No.	Input Voltage (V)	LDO				Voltage Detector		Shutdown Switch	Circuit Current (μA)	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
		Output Voltage(V)	Output Voltage Precision(%)	Output Current(A)	I/O Voltage Difference(V)	Detection Voltage(V)	Voltage Detection Precision(%)					
BD4269FJ-C	5.5 to 45.0	5	±2 (T _J =-40 to +150°C, V _{CC} =6.0 to 16V, I _O =1mA to 100mA)	0.2	0.25 (I _O =100mA)	Variable (at not used RADJ : 4.62V)	±2.6	—	70	T _J =-40 to +150	SOP-J8	YES
BD4269EFJ-C				0.3							HTSOP-J8	YES

Voltage Tracker
500mA Voltage Tracker

Part No.	Input Voltage (V)	Output Current (A)	Offset Voltage (mV)	Circuit Current (μA)	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
BD3925FP-C	4.5 to 36.0	0.5	±10(T _a =-40 to +125°C, V _{CC} =6 to 36V, I _O =5 to 200mA)	45	T _a =-40 to +125	TO252-5	Preparing
BD3925HFP-C						HRP5	Preparing

50mA/70mA Voltage Tracker

BD42500G-C	5.3* to 42.0	0.05	±15(T _J =-40 to +150°C, V _{CC} =6 to 40V, I _O =1 to 50mA)	40	T _J =-40 to +150	SSOP5	YES
BD42540FJ-C	5.4* to 42.0	0.07	±10(T _J =-40 to +150°C, V _{CC} =5.5 to 26V, I _O =0.1 to 60mA)	40	T _J =-40 to +150	SOP-J8	YES

250mA Voltage Tracker

BD42530EFJ-C	5.6* to 42.0	0.25	±10(T _J =-40 to +150°C, V _{CC} =6 to 32V, I _O =0.1 to 250mA)	40	T _J =-40 to +150	HTSOP-J8	YES
BD42530FP2-C	5.6* to 42.0	0.25	±10(T _J =-40 to +150°C, V _{CC} =6 to 32V, I _O =0.1 to 250mA)	40	T _J =-40 to +150	TO263-5	YES
BD42530FPJ-C	5.6* to 42.0	0.25	±10(T _J =-40 to +150°C, V _{CC} =6 to 32V, I _O =0.1 to 250mA)	40	T _J =-40 to +150	TO252-J5	YES

*5V setting

Multi-Output LDO Regulators

Please ensure that minimum input voltage always exceeds the sum of output voltage and drop out voltage for the device.

2ch LDO Regulators															
Part No.	Input Voltage (V)	Output Voltage1 (V)	Output Voltage2 (V)	Output voltage Precision (%)	Output Current (A)	Bias Current (mA)	I/O Voltage Difference (V)	Ripple Rejection (dB)	Load Regulation (mV)	Input Capacitor (μF)	Output Capacitor (μF)	Shut Down Switch	Protection Circuit	Package	
BA30E00WHFP	4.1 to 16.0	3.3	Variable 0.8 to 3.3	±2.0	0.6/0.6	0.7	0.3 (I _o =300mA)	68 (3.3V output)	30 (I _o =0 to 0.6A)	1.0	47	✓	Over-Current/ Temperature	HRP7	
BA3259HFP	4.75 to 14.0				1.0/1.0	3.0	1.1 (I _o =1A)	52	5 (I _o =5mA to 1A)	3.3	1.0	—		—	HRP5
BA33D15HFP	4.1 to 16.0	3.3	1.5		0.5/0.5	0.7	0.25 (I _o =250mA)	58 (1.5V output)	30 (I _o =0 to 500mA)	1.0	1.0	—		—	HRP5
BA33D18HFP			1.8		—	—	—	—	—	—	—	—		HRP5	

2ch High Efficiency CMOS Regulator													
Part No.	Output Voltage (V)	Output Voltage Precision (%)	Output Current (A)	Ripple Rejection (dB)	Load Regulation (%)	Output Short Current (mA)	Output Capacitor (μF)	Shut Down Switch	Over Current Protection	Temperature Protection	Discharge Function		
BD70511GWL	LDO1	1.2	1.5	0.15	60	10	1.0	✓	✓	✓	✓	✓	✓
	LDO2			0.3									

2ch Variable Step CMOS LDO Regulators																									
Part No.	Input Voltage (V)	Selectable Output Voltage (V)										Output Voltage Precision (%)	Output Current (A)	V _{sat} (mV) (I _o =100mA)	Ripple Rejection (dB)	Load Regulation (%)	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shut Down Switch	Over Current Protection	Temperature Protection	Low Voltage Protection	
		1ch	1.5	1.8	1.8	1.8	1.8	2.6	2.8	2.9	2.8														
BD7003NUX	2.5 to 5.5	2ch	2.8	2.6	2.7	2.8	2.9	2.8	2.8	2.9	3.3	1.8	0.3	90	66	0.2 (I _o =1 to 300mA)	55	150	1.0	1.0	✓	✓	✓	✓	✓
		1ch	1.2	1.2	1.8	1.8	1.8	1.8	2.8	3.0	3.3														
BD7602GUL	2.7 to 5.5	1ch	3.0										2.0	0.1	—	45	0.7	10	—	1.0	4.7	✓	✓	✓	✓
		2ch	2.8	2.9	2.95	3.0	3.05	3.1	3.2	3.3	—	0.15													

3ch CMOS LDO Regulators																			
Part No.	Input Voltage (V)	Output Voltage (V)	Output Voltage Precision	Output Current (A)	V _{sat} (mV) (I _o =200mA)	Ripple Rejection (dB)	Load Regulation (%)	ch	Circuit Current (μA)	Output Short Current (mA)	Input Capacitor (μF)	Output Capacitor (μF)	Shut Down Switch	Over Current Protection	Temperature Protection	Discharge Function	Package		
																		2.8	±1%
BU6650NUX	2.5 to 5.5	2.8	±1%	0.2	360	65	10 (I _o =1 to 100mA)	1	120	70	2.2	1.0	✓	✓	✓	✓	VSON008X2030		
		2.8	±1%					360										65	2
		1.8	±25mV					—										70	3
BU6651NUX		2.8	±1%					360	65								1	120	VSON008X2030
		1.8	±25mV					—	70								2		
		1.5	±25mV					—	70								3		
BU6652NUX		2.8	±1%					360	65								1	120	VSON008X2030
		2.8	±1%					360	65								2		
		1.5	±25mV					—	70								3		
BU6653NUX	2.8	±1%	360	65	1	120	VSON008X2030												
	1.8	±25mV	—	70	2														
	1.8	±25mV	—	70	3														
BU6654NUX	3.3	±1%	300	65	1	120	VSON008X2030												
	1.8	±25mV	—	70	2														
	1.5	±25mV	—	70	3														
BU6655NUX	3.3	±1%	300	65	1	120	VSON008X2030												
	2.8	±1%	360	65	2														
	1.8	±25mV	—	70	3														

Linear Regulators for DDR SDRAM

Termination Regulators for DDR SDRAM																							
Part No.	V _{CC} Input Voltage (V)	V _{TT,IN} Termination Input Voltage (V)	V _{DDO} Reference Input Voltage (V)	V _{TT} Output Voltage (V)	V _{TT} Voltage Precision (mV)	V _{TT} Output Current (A)	V _{REF} Output Current (mA)	Features														Package	
								Enable	Soft Start	Power Good	UVLO	Output Ceramic Capacitors	Thermal Protection	DDR(VDDQ)									
								DDR1 (2.5V/2.6V)	DDR2 (1.8V)	DDR2L (1.5V)	LPDDR2 (1.2V)	DDR3 (1.5V)	DDR3L (1.35V)	DDR3U (1.25V)	LPDDR3 (1.2V)	DDR4 (1.2V)							
BD3533F	2.7 to 5.5	1.0 to 5.5	1.0 to 2.75	0.75 to 1.25	±30	±1.0	±20	✓	✓	—	✓	—	Recovery	✓	✓	—	—	—	—	—	SOP8		
BD3533FVM								MSOP8															
BD3533HFN								HSOP8															
BD3539FVM								MSOP8															
BD3539NUX								VSON008X2030															
BD35390FJ	2.7 to 5.5	1.0 to 5.5	1.0 to 2.75	0.75 to 1.25	±15	±1.0	—	✓	✓	✓	✓	✓	Recovery	✓	✓	✓	—	✓	—	—	SOP-J8		
Part No.	V _{CC} Input Voltage (V)	V _{TT,IN} Termination Input Voltage (V)	V _{DDO} Reference Input Voltage (V)	V _{TT} Output Voltage (V)	V _{TT} Voltage Precision (mV)	V _{TT} Output Current (A)	V _{REF} Output Current (mA)	Features														Package	Automotive Grade AEC-Q100
								Enable	Soft Start	Power Good	UVLO	Output Ceramic Capacitors	Thermal Protection	DDR(VDDQ)									
								DDR1 (2.5V/2.6V)	DDR2 (1.8V)	DDR2L (1.5V)	LPDDR2 (1.2V)	DDR3 (1.5V)	DDR3L (1.35V)	DDR3U (1.25V)	LPDDR3 (1.2V)	DDR4 (1.2V)							
BD35395FJ-M	2.7 to 5.5	1.0 to 5.5	1.0 to 2.75	0.5 to 1.375	±13.5	±1.0	—	✓	✓	✓	✓	✓	Recovery	✓	✓	✓	—	✓	✓	—	SOP-J8	YES	

A Power Management

Switching Regulators

Switching Regulators

Integrated MOSFET Switching Regulators

- Single Output Buck Converters $V_{IN} \leq 6V$ ▶ P.A49
- Single Output Buck Converters $V_{IN} \leq 20V$ ▶ P.A50
- Single Output Buck Converters $V_{IN} \geq 20V$ ▶ P.A50
- Dual Output Buck Converters ▶ P.A51
- Boost and Buck-Boost Converters ▶ P.A51

External Switch Switching Regulators

- Buck Controllers ▶ P.A51
- Boost and Buck-Boost Converters ▶ P.A51

For Automotive Switching Regulators

- Switching Regulators (Integrated Switch) Single Output ▶ P.A52
- Switching Regulators (Integrated Switch) Ultra Low Quiescent Current / Synchronous Rectification ▶ P.A52
- Switching Regulators (Integrated Switch) High Voltage/Synchronous Rectification ▶ P.A52
- Secondary Switching Regulators (Integrated Switch) Single Output ▶ P.A52
- Switching Controllers (External Switch) Dual Output Buck / Boost Converters ▶ P.A52
- Switching Controllers (External Switch) Single Output Buck / Boost Converters ▶ P.A52

A
Power Management

Switching Regulators

Integrated MOSFET Switching Regulators

Single Output Buck Converters $V_{IN} \leq 6V$													
Part No.	Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Control Mode	Features						Package (mm)
							Power Good	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection	
BD9122GUL	7	0.3	2.5 to 5.5	1.0 to 2.0	1	Current	—	—	✓	✓	Latch	Latch	VCSP50L2 (2.5×1.1, h:0.55)
New BD70522GUL	6	0.5	2.7 to 5.5	1.2 to 3.3*	1	On-time	✓	—	✓	✓	Recovery	Recovery	VCSP50L1C (1.76×1.56, h:0.57)
BD9161FVM	7	0.6	2.5 to 4.5	1.0 to 3.3	1	Current	—	—	✓	✓	Latch	Latch	MSOP8
BD9161FVM-LB	7	0.6	2.5 to 4.5	1.0 to 3.3	1	Current	—	—	✓	✓	Latch	Latch	MSOP8
BU9006GUZ	7	0.75	2.5 to 4.5	1.0 to V_{IN}	2	Current	—	—	✓	—	Recovery	Recovery	VCSP35L1 (1.6×1.6, h:0.4)
BD9109FVM	7	0.8	4.5 to 5.5	3.3	1	Current	—	—	✓	✓	Latch	Latch	MSOP8
BD9109FVM-LB	7	0.8	4.5 to 5.5	3.3	1	Current	—	—	✓	✓	Latch	Latch	MSOP8
BD9102FVM	7	0.8	4.0 to 5.5	1.24	1	Current	—	—	✓	✓	Latch	Latch	MSOP8
BD8966FVM	7	0.8	4.0 to 5.5	1.0 to 2.5	1	Current	—	—	✓	—	Latch	Latch	MSOP8
BD9106FVM	7	0.8	4.0 to 5.5	1.0 to 2.5	1	Current	—	—	✓	✓	Latch	Latch	MSOP8
BD9106FVM-LB	7	0.8	4.0 to 5.5	1.0 to 2.5	1	Current	—	—	✓	✓	Latch	Latch	MSOP8
BD9120HFN	7	0.8	2.7 to 4.5	1.0 to 1.5	1	Current	—	—	✓	✓	Latch	Latch	HSOP8
BD8967FVM	7	0.8	4.5 to 5.5	3.3	1	Current	—	—	✓	—	Latch	Latch	MSOP8
BD9104FVM	7	0.8	4.5 to 5.5	3.3	1	Current	—	—	✓	✓	Latch	Latch	MSOP8
BU90008GWZ	7	1	2.3 to 5.5	1.0	3.6	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 (1.3×0.9, h:0.4)
BU90003GWZ	7	1	2.3 to 5.5	1.2	4	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 (1.3×0.9, h:0.4)
BU90007GWZ	7	1	2.3 to 5.5	1.25	4	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 (1.3×0.9, h:0.4)
BU90009GWZ	7	1	2.3 to 5.5	1.3	4.2	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 (1.3×0.9, h:0.4)
BU90004GWZ	7	1	2.3 to 5.5	1.8	5.4	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 (1.3×0.9, h:0.4)
BU90054GWZ	7	1	2.3 to 5.5	1.8	5.4	On-time	—	—	✓	✓	Recovery	Recovery	UCSP30L1 (1.3×0.9, h:0.33)
BU90104GWZ	7	1	2.3 to 5.5	1.8	5.4	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 (1.3×0.9, h:0.4)
BU90090GWZ	7	1	2.3 to 5.5	1.83	5.4	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 (1.3×0.9, h:0.4)
BU90005GWZ	7	1	2.3 to 5.5	2.5	6	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 (1.3×0.9, h:0.4)
BU90006GWZ	7	1	2.3 to 5.5	3.0	6	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 (1.3×0.9, h:0.4)
BU90002GWZ	7	1	4.0 to 5.5	3.3	6	On-time	—	—	✓	✓	Recovery	Recovery	UCSP35L1 (1.3×0.9, h:0.4)
BD9A100MUV	7	1	2.7 to 5.5	0.8 to ($V_{IN} \times 0.7$)	1	Current	✓	✓	✓	✓	Recovery	Recovery	VQFN016V3030
BD9A101MUV-LB	7	1	2.7 to 5.5	0.8 to ($V_{IN} \times 0.7$)	1	Current	✓	✓	✓	✓	Recovery	Recovery	VQFN016V3030
BD9B100MUV	7	1	2.7 to 5.5	0.8 to ($V_{IN} \times 0.8$)	2/1	On-time	✓	✓	✓	✓	Deep	Recovery	VQFN016V3030
BD8964FVM	7	1.2	4.0 to 5.5	1.0 to 1.8	1	Current	—	—	✓	—	Latch	Latch	MSOP8
BD9107FVM	7	1.2	4.0 to 5.5	1.0 to 1.8	1	Current	—	—	✓	✓	Latch	Latch	MSOP8
BD9123MUV	7	1.2	2.7 to 5.5	0.85 to 1.2	1	Current	✓	—	✓	✓	Latch	Latch	VQFN016V3030
BU90023NUX	7	1.5	2.3 to 5.5	1.23	1	On-time	—	—	✓	✓	Recovery	Recovery	VSON008X2030
BU90028NUX	7	1.5	2.3 to 5.5	1.18	1	On-time	—	—	✓	✓	Recovery	Recovery	VSON008X2030
BD8961NV	7	2	4.5 to 5.5	3.3	1	Current	—	—	✓	—	Latch	Latch	SON008V5060
BD9111NV	7	2	4.5 to 5.5	3.3	1	Current	—	—	✓	✓	Latch	Latch	SON008V5060
BD9110NV	7	2	4.5 to 5.5	1.0 to 2.5	1	Current	—	—	✓	✓	Latch	Latch	SON008V5060
BD89630EFJ	7	2	2.7 to 5.5	1.0 to 2.5*	1	Current	—	—	✓	—	Latch	Latch	HTSOP-J8
BD8960NV	7	2	2.7 to 5.5	1.0 to 2.5*	1	Current	—	—	✓	—	Latch	Latch	SON008V5060
BD9130NV	7	2	2.7 to 5.5	1.0 to 2.5*	1	Current	—	—	✓	✓	Latch	Latch	SON008V5060
BD9B200MUV	7	2	2.7 to 5.5	0.8 to ($V_{IN} \times 0.8$)	2/1	On-time	✓	✓	✓	✓	Deep	Recovery	VQFN016V3030
BD8962MUV	7	3	2.7 to 5.5	0.8 to 2.5*	1	Current	—	—	✓	—	Latch	Latch	VQFN020V4040
BD9132MUV	7	3	2.7 to 5.5	0.8 to 3.3*	1	Current	—	—	✓	✓	Latch	Latch	VQFN020V4040
BD8963EFJ	7	3	2.7 to 5.5	1.0 to 2.5*	1	Current	—	—	✓	—	Latch	Latch	HTSOP-J8
BD9134MUV	7	3	4.5 to 5.5	3.3	1	Current	—	—	✓	✓	Latch	Latch	VQFN020V4040
BD9139MUV	7	3	2.7 to 5.5	0.8 to 3.3*	1	Current	—	—	✓	✓	Latch	Latch	VQFN016V3030
BD9A300MUV	7	3	2.7 to 5.5	0.8 to ($V_{IN} \times 0.7$)	1	Current	✓	✓	✓	✓	Recovery	Recovery	VQFN016V3030
BD9A301MUV-LB	7	3	2.7 to 5.5	0.8 to ($V_{IN} \times 0.7$)	1	Current	✓	✓	✓	✓	Recovery	Recovery	VQFN016V3030
BD9B300MUV	7	3	2.7 to 5.5	0.8 to ($V_{IN} \times 0.8$)	2/1	On-time	✓	✓	✓	✓	Deep	Recovery	VQFN016V3030
BD9B301MUV-LB	7	3	2.7 to 5.5	0.8 to ($V_{IN} \times 0.8$)	2/1	On-time	✓	✓	✓	✓	Deep	Recovery	VQFN016V3030
New BD9A302QWZ	7	3	2.7 to 5.5	0.8 to ($V_{IN} \times 0.7$)	1	Current	—	—	✓	✓	Recovery	Recovery	UMMP008AZ020 (2.0×2.0, h:0.4)
New BD9B304QWZ	7	3	2.7 to 5.5	0.8 to ($V_{IN} \times 0.8$)	2/1	On-time	—	—	✓	✓	Deep	Recovery	UMMP008AZ020 (2.0×2.0, h:0.4)
New BD9B331GWZ	7	3	2.7 to 5.5	0.6 to ($V_{IN} \times 0.8$)	1.3	On-time	✓	✓	✓	✓	Latch	Recovery	UCSP30L1 (1.98×1.8, h:0.33)
New BD9B333GWZ	7	3	2.7 to 5.5	0.6 to ($V_{IN} \times 0.8$)	1.3	On-time	✓	✓	✓	✓	Deep	Recovery	UCSP35L1 (1.98×1.8, h:0.4)
BD9137MUV	7	4	2.7 to 5.5	0.8 to 3.3*	1	Current	—	—	✓	✓	Recovery	Recovery	VQFN020V4040
BD91361MUV	7	4	2.7 to 5.5	0.8 to 3.3*	1	Current	—	—	✓	✓	Latch	Latch	VQFN020V4040
BD9A400MUV	7	4	2.7 to 5.5	0.8 to ($V_{IN} \times 0.7$)	1	Current	✓	✓	✓	✓	Recovery	Recovery	VQFN016V3030
BD9B400MUV	7	4	2.7 to 5.5	0.8 to ($V_{IN} \times 0.8$)	2/1	On-time	✓	✓	✓	✓	Deep	Recovery	VQFN016V3030
BD91364BMUU	7	5	2.9 to 5.5	0.8 to ($V_{IN} \times 0.8$)	1.7	On-time	✓	✓	✓	✓	Latch	Recovery	VQFN20U4040M
BD9B500MUV	7	5	2.7 to 5.5	0.8 to ($V_{IN} \times 0.8$)	2/1	On-time	✓	✓	✓	✓	Deep	Recovery	VQFN016V3030
BD9A600MUV	7	6	2.7 to 5.5	0.8 to ($V_{IN} \times 0.7$)	1	Current	✓	✓	✓	✓	Recovery	Recovery	VQFN016V3030
BD9B600MUV	7	6	2.7 to 5.5	0.8 to ($V_{IN} \times 0.8$)	2/1	On-time	✓	✓	✓	✓	Deep	Recovery	VQFN016V3030

*:Restrictions depend on input/output voltage conditions.

Integrated MOSFET Switching Regulators
Single Output Buck Converters $V_{IN} \leq 20V$

Part No.	Input Voltage Maximum Rating(V)	Output Current (A)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Control Mode	Features						Package (mm)	
							Power Good	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection		Over-Voltage Protection
BD8312HFN	15	0.8	3.5 to 14	1.2 to 12*	1.5	Current	—	—	✓	—	—	Recovery	—	HS0N8
BD9227F	22	1	6 to 20	$(V_{IN} \times 0.252)$ to V_{IN} $(V_{IN} \times 0.252) \geq 1.0$	1	Current	—	—	—	—	Recovery	Recovery	—	SOP8
BD8313HFN	15	1	3.5 to 14	1.2 to 12*	1	Current	—	—	✓	—	—	Recovery	—	HS0N8
BD9328EFJ	20	2	4.2 to 18	0.9 to $(V_{IN} \times 0.7)$	0.4	Current	—	✓	✓	—	Recovery	Recovery	—	HTSOP-J8
BD9328EFJ-LB	20	2	4.2 to 18	0.9 to $(V_{IN} \times 0.7)$	0.4	Current	—	✓	✓	—	Recovery	Recovery	—	HTSOP-J8
BD9141MUV	15	2	4.5 to 13.2	2.5 to 6.0*	0.5	Current	—	—	✓	✓	Latch	Latch	—	VQFN020V4040
BD95821MUV	15.2	2	7.5 to 15	0.8 to $(V_{IN} \times 0.5)$ $(V_{IN} \times 0.5) \leq 5.5$	0.5 to 0.8	H ³ Reg	✓	—	✓	—	Latch	Recovery	✓	VQFN016V3030
BD9325FJ	20	2	4.75 to 18	0.9 to $(V_{IN} \times 0.9)$	0.4	Current	—	✓	—	—	Recovery	Recovery	—	SOP-J8
BD9325FJ-LB	20	2	4.75 to 18	0.9 to $(V_{IN} \times 0.9)$	0.4	Current	—	✓	—	—	Recovery	Recovery	—	SOP-J8
BD9329AEFJ	20	3	4.2 to 18	0.9 to $(V_{IN} \times 0.7)$	0.4	Current	—	✓	✓	—	Recovery	Recovery	—	HTSOP-J8
BD9329AEFJ-LB	20	3	4.2 to 18	0.9 to $(V_{IN} \times 0.7)$	0.4	Current	—	✓	✓	—	Recovery	Recovery	—	HTSOP-J8
BD9C301FJ	20	3	4.5 to 18	$(V_{IN} \times 0.125)$ to $(V_{IN} \times 0.7)$	0.5	Current	—	—	✓	—	Latch	Recovery	—	SOP-J8
BD9C301FJ-LB	20	3	4.5 to 18	$(V_{IN} \times 0.125)$ to $(V_{IN} \times 0.7)$	0.5	Current	—	—	✓	—	Latch	Recovery	—	SOP-J8
BD95831MUV	15.2	3	7.5 to 15	0.8 to $(V_{IN} \times 0.5)$ $(V_{IN} \times 0.5) \leq 5.5$	0.5 to 0.8	H ³ Reg	✓	—	✓	—	Latch	Recovery	✓	VQFN016V3030
BD9D320EFJ	20	3	4.5 to 18	0.765 to 7.0 $(V_{IN} \times 0.07)$ to $(V_{IN} \times 0.65)$	0.7	On-time	—	✓	✓	—	Recovery	Recovery	—	HTSOP-J8
BD9D321EFJ	20	3	4.5 to 18	0.765 to 7.0 $(V_{IN} \times 0.07)$ to $(V_{IN} \times 0.65)$	0.7	On-time	—	✓	✓	✓	Recovery	Recovery	—	HTSOP-J8
New BD9D322QWZ	20	3	4.5 to 18	0.765 to 7.0 $(V_{IN} \times 0.07)$ to $(V_{IN} \times 0.65)$	0.7	On-time	—	✓	✓	✓	Recovery	Recovery	—	UMMP008Z2020 (2.0 × 2.0, h:0.4)
New BD9D323QWZ	20	3	4.5 to 18	0.765 to 7.0 $(V_{IN} \times 0.07)$ to $(V_{IN} \times 0.65)$	0.7	On-time	—	✓	✓	—	Recovery	Recovery	—	UMMP008Z2020 (2.0 × 2.0, h:0.4)
BD9859EFJ	15	3	5.0 to 14	1.0 to $(V_{IN} \times 0.7)$	0.8	Current	—	—	—	—	Recovery	Recovery	—	HTSOP-J8
BD9326EFJ	20	3	4.75 to 18	0.9 to $(V_{IN} \times 0.9)$	0.4	Current	—	✓	—	—	Recovery	Recovery	—	HTSOP-J8
BD9326EFJ-LB	20	3	4.75 to 18	0.9 to $(V_{IN} \times 0.9)$	0.4	Current	—	✓	—	—	Recovery	Recovery	—	HTSOP-J8
BD9C401EFJ	20	4	4.5 to 18	$(V_{IN} \times 0.125)$ to $(V_{IN} \times 0.7)$ $(V_{IN} \times 0.125) \geq 0.8$	0.5	Current	—	—	✓	—	Latch	Recovery	—	HTSOP-J8
BD95841MUV	15.2	4	7.5 to 15	0.8 to $(V_{IN} \times 0.5)$ $(V_{IN} \times 0.5) \leq 5.5$	0.5 to 0.8	H ³ Reg	✓	—	✓	—	Latch	Recovery	✓	VQFN016V3030
BD9327EFJ	20	4	4.75 to 18	0.9 to $(V_{IN} \times 0.9)$	0.4	Current	—	✓	—	—	Recovery	Recovery	—	HTSOP-J8
BD9327EFJ-LB	20	4	4.75 to 18	0.9 to $(V_{IN} \times 0.9)$	0.4	Current	—	✓	—	—	Recovery	Recovery	—	HTSOP-J8
BD9C501EFJ	20	5	4.5 to 18	$(V_{IN} \times 0.075)$ to $(V_{IN} \times 0.7)$ $(V_{IN} \times 0.075) \geq 0.8$	0.5	Current	—	—	✓	—	Latch	Recovery	—	HTSOP-J8
BD95861MUV	20	6	7.5 to 18	0.8 to $(V_{IN} \times 0.5)$ $(V_{IN} \times 0.5) \leq 5.5$	0.35 to 0.8	H ³ Reg	✓	—	✓	—	Latch	Recovery	✓	VQFN024V4040
BD9C601EFJ	20	6	4.5 to 18	$(V_{IN} \times 0.075)$ to $(V_{IN} \times 0.7)$ $(V_{IN} \times 0.075) \geq 0.8$	0.5	Current	—	—	✓	—	Latch	Recovery	—	HTSOP-J8
BD95500MUV	24	6	3.0 to 20	0.7 to 5	0.2 to 1	H ³ Reg	✓	✓	✓	✓	Latch	Recovery	✓	VQFN040V6060

Single Output Buck Converters $V_{IN} \geq 20V$

BD9G101G	45	0.5	6.0 to 42	$(V_{IN} \times 0.15)$ to $(V_{IN} \times 0.7)$ $(V_{IN} \times 0.15) \geq 1.0$	1.5	Current	—	—	—	—	Recovery	Recovery	—	SSOP6
BD9E100FJ-LB	40	1	7.0 to 36	$(V_{IN} \times 0.15)$ to $(V_{IN} \times 0.7)$ $(V_{IN} \times 0.15) \geq 1.0$	1	Current	—	—	✓	—	Recovery	Recovery	✓	SOP-J8
BD9E101FJ-LB	40	1	7.0 to 36	$(V_{IN} \times 0.0855)$ to $(V_{IN} \times 0.7)$ $(V_{IN} \times 0.0855) \geq 1.0$	0.6	Current	—	—	✓	—	Recovery	Recovery	✓	SOP-J8
BD9E102FJ	30	1	7.0 to 26	$(V_{IN} \times 0.143)$ to $(V_{IN} \times 0.7)$ $(V_{IN} \times 0.143) \geq 1.0$	0.6	Current	—	—	✓	✓	Recovery	Recovery	✓	SOP-J8
New BD9V101MUF-LB	70	1	16 to 60	0.8 to 5.5	1.9 to 2.3	Current	✓	—	✓	—	Recovery	Recovery	✓	VQFN24FV4040
BD9E151NUX	30	1.2	6.0 to 28	$(V_{IN} \times 0.06)$ to $(V_{IN} \times 0.7)$ $(V_{IN} \times 0.06) \geq 1.0$ *	0.6	Current	—	✓	—	—	Recovery	Recovery	✓	VSON008X2030
BD9701CP-V5	36	1.5	8.0 to 35	1.0 to $(V_{IN}-3.0)$	0.1	Voltage	—	—	—	—	Recovery	Recovery	—	TO220CP-V5
BD9701FP	36	1.5	8.0 to 35	1.0 to $(V_{IN}-3.0)$	0.1	Voltage	—	—	—	—	Recovery	Recovery	—	TO252-5
BD9703CP-V5	36	1.5	8.0 to 35	1.0 to $(V_{IN}-3.0)$	0.3	Voltage	—	—	—	—	Recovery	Recovery	—	TO220CP-V5
BD9703FP	36	1.5	8.0 to 35	1.0 to $(V_{IN}-3.0)$	0.3	Voltage	—	—	—	—	Recovery	Recovery	—	TO252-5
BD9870FPS	36	1.5	8.0 to 35	1.0 to $(0.8 \times (V_{IN}-I_{OL} \times R_{OL}))$	0.9	Voltage	—	—	—	—	Recovery	Recovery	—	TO252S-5
BD9873CP-V5	36	1.5	8.0 to 35	1.0 to $(0.8 \times (V_{IN}-I_{OL} \times R_{OL}))$	0.1	Voltage	—	—	—	—	Recovery	Recovery	—	TO220CP-V5
BD9778HFP	36	2	7.0 to 35	$(V_{IN} \times 0.06)$ to V_{IN} $(V_{IN} \times 0.06) \geq 1.0$	0.05 to 0.5	Voltage	—	—	—	—	Recovery	Recovery	—	HRP7
BD9E300EFJ-LB	40	2.5	7.0 to 36	$(V_{IN} \times 0.15)$ to $(V_{IN} \times 0.7)$ $(V_{IN} \times 0.15) \geq 1.0$	1	Current	—	—	✓	—	Recovery	Recovery	✓	HTSOP-J8
BD9E301EFJ-LB	40	2.5	7.0 to 36	$(V_{IN} \times 0.0855)$ to $(V_{IN} \times 0.7)$ $(V_{IN} \times 0.0855) \geq 1.0$	0.6	Current	—	—	✓	—	Recovery	Recovery	✓	HTSOP-J8
BD9E303EFJ-LB	40	3	7.0 to 36	$(V_{IN} \times 0.06)$ to $(V_{IN} \times 0.8)$ $(V_{IN} \times 0.06) \geq 1.0$	0.3	Current	—	—	✓	—	Recovery	Recovery	✓	HTSOP-J8
BD9702CP-V5	36	3	8.0 to 35	1.0 to $(V_{IN}-3.0)$	0.1	Voltage	—	—	—	—	Recovery	Recovery	—	TO220CP-V5
BD9874CP-V5	36	3	8.0 to 35	1.0 to $(0.8 \times (V_{IN}-I_{OL} \times R_{OL}))$	0.1	Voltage	—	—	—	—	Recovery	Recovery	—	TO220CP-V5
BD9E302EFJ	30	3	7.0 to 28	$(V_{IN} \times 0.11)$ to $(V_{IN} \times 0.7)$ $(V_{IN} \times 0.11) \geq 1.0$	0.6	Current	—	—	✓	✓	Recovery	Recovery	✓	HTSOP-J8
BD95513MUV	30	3	4.5 to 28	0.7 to 5.0	0.2 to 1	H ³ Reg	✓	✓	✓	✓	Latch	Recovery	✓	VQFN032V5050
BD9G341AEFJ	80	3	12 to 76	1.0 to $(V_{IN} \times 0.7)$ *	0.05 to 0.75	Current	—	—	—	—	Recovery	Recovery	✓	HTSOP-J8
BD9G341AEFJ-LB	80	3	12 to 76	1.0 to $(V_{IN} \times 0.7)$ *	0.05 to 0.75	Current	—	—	—	—	Recovery	Recovery	✓	HTSOP-J8
BD95514MUV	30	4	4.5 to 28	0.7 to 5.0	0.2 to 1	H ³ Reg	✓	✓	✓	✓	Latch	Recovery	✓	VQFN032V5050

*:Restrictions depend on input/output voltage conditions.

Dual Output Buck Converters														
Part No.	Number of Channels	Input Voltage Maximum Rating (V)	Output Current (A)	Input Voltage Range (V)	Output Voltage (V)	Switching Frequency (MHz)	Control Mode	Features					Description	Package
								Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection	Thermal Protection	Over-Voltage Protection		
BD91501MUV	2	7	Io1 : 0.4 Io2 : 0.3	2.55 to 5.5	Vo1 : 2.55 Vo2 : 1.80	1.65	Current	✓	✓	Latch	Recovery	—	100% Duty	VQFN016V3030
BD9151MUV	2	7	Io1 : 0.4 Io2 : 0.8	2.8 to 5.5	Vo1 : 1.8 Vo2 : 1.2	1	Current	✓	✓	Latch	Latch	—	Voltage Detector, High-side gate controller	VQFN020V4040
BD9152MUV	2	7	Io1 : 1.5 Io2 : 1.5	4.5 to 5.5	Vo1 : 3.3 Vo2 : 0.8 to 2.5	1	Current	✓	✓	Latch	Latch	—	—	VQFN020V4040
BD93291EFJ	2	30	Io1 : 2.5 Io2 : 1.5	8.0 to 26	Vo1 : 5.0 Vo2 : 0.8 to 4.0	1.5 to 2.5	H ³ Reg	✓	✓	Recovery	Recovery	—	—	HTSOP-J8
BD95830MUV	2	15.1	Io1 : 3.0 Io2 : 3.0	7.5 to 15	Vo1 : 0.8 to 5.5 Vo2 : 0.8 to 5.5	0.4 to 0.8	H ³ Reg	✓	—	Latch	Recovery	Latch	—	VQFN032V5050

Boost and Buck-Boost Converters																		
Part No.	Number of Channels	Switch Current Limit (mA)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (kHz)	Control Mode	Features										Package	
							Boost	Buck-Boost	SEPIC	Inverting	Synchronous Rectifier	Light-Load Efficiency	Soft Start	Input Pass through	UVLO	Over-Current Protection		Thermal Protection
BU33DV5G	1	10	1.75 to 4.5	3.3	100	Current	✓	—	—	—	✓	—	—	—	✓	Recovery	✓	SSOP5
BU33DV7NUX	1	300	1.8 to 5.5	3.3	600	Current	✓	—	—	—	✓	✓	✓	✓	✓	Recovery	✓	VSON010V3030
BU34DV7NUX	1	300	1.8 to 5.5	3.4	600	Current	✓	—	—	—	✓	✓	✓	✓	✓	Recovery	✓	VSON010V3030
New BU33UV7NUX	1	500	0.6 to 4.5	3.3	800	Current	✓	—	—	—	✓	✓	✓	✓	✓	Recovery	✓	VSON010X3020
BD8316GWL	2	1,000	2.5 to 5.5	Vo1 : -9.0 to -1.0 Vo2 : V _{IN} to 18	1,600	Current	✓	—	—	✓	—	—	—	—	✓	Latch	✓	UCSP50L1
BD8317GWL	2	1,000	2.5 to 5.5	Vo1 : -9.0 to -1.0 Vo2 : V _{IN} to 18	800	Current	✓	—	—	✓	—	—	—	—	✓	Latch	✓	UCSP50L1
BD8152FVM	1	1,400	2.5 to 5.5	V _{IN} to 14	600/1,200	Current	✓	✓	✓	—	—	—	Adj.	—	✓	Recovery	✓	MSOP8
BD8158FVM	1	1,400	2.1 to 4.0	V _{IN} to 14	600/1,200	Current	✓	✓	✓	—	—	—	Adj.	—	✓	Recovery	✓	MSOP8
BD8306MUV	1	2,000	1.8 to 5.5	1.8 to 5.2	300 to 2,000	Voltage	✓	✓	—	—	✓	—	✓	—	✓	Latch	✓	VQFN016V3030
BD8311NUV	1	2,500	3.5 to 11	4.0 to 11	1,200	Voltage	✓	—	—	—	—	—	✓	—	✓	Latch	✓	VSON010V3030
BD8314NUV	1	2,500	3.0 to 12	4.0 to 12	1,200	Voltage	✓	—	—	—	—	—	✓	—	✓	Latch	✓	VSON010V3030

External Switch Switching Regulators

Buck Controllers																	
Part No.	Number of Channels	Input Voltage Maximum Rating (V)	Input Voltage (V)	Supply Voltage (V)	Output Voltage (V)	Switching Frequency (MHz)	Control Mode	Features							Package		
								Power Good	Enable	Externally Synchronizable	Adjustable Soft Start	Synchronous Rectifier	Light-Load Efficiency	Over-Current Protection		Thermal Protection	
BD9305AFVM	1	20.00	4.2 to 18	—	1.25 to V _{IN} *	0.1 to 0.8	Voltage	—	✓	—	—	—	—	—	—	Recovery	MSOP8
BD95601MUV-LB	1	28.00	4.5 to 25	—	0.75 to 2.0	0.2 to 0.5	H ³ Reg	✓	✓	—	✓	✓	✓	—	Latch	Recovery	VQFN020V4040
BD63536FJ	1	32.00	3.0 to 30	—	1.25 to V _{IN} *	0.01 to 0.3	Voltage	—	—	—	—	—	—	—	Recovery	Recovery	SOP-J8
BD9845FV	1	36.00	3.6 to 35	—	1.0 to V _{IN} *	0.1 to 1.5	Voltage	—	✓	—	✓	—	—	—	Recovery	Recovery	SSOP-B14
BD9611MUV	1	60.00	10 to 56	—	(V _{IN} × 0.02) to (V _{IN} × 0.97) (V _{IN} × 0.02) ≥ 0.8*	0.05 to 0.5	Voltage	—	✓	✓	✓	✓	—	—	Recovery	Recovery	VQFN020V4040
BD9536FV	2	16.00	7.5 to 15	—	0.7 to 5.5	0.2 to 0.6	H ³ Reg	—	✓	—	✓	✓	—	—	Latch	Recovery	SSOP-B28
BD9535MUV	2	30.00	3.0 to 28	4.5 to 5.5	0.7 to 2.0	0.2 to 0.6	H ³ Reg	✓	✓	—	✓	✓	✓	—	Latch	Recovery	VQFN032V5050
BD95602MUV-LB	2	30.00	5.5 to 28	—	1.0 to 5.5	0.15 to 0.5	H ³ Reg	✓	✓	—	✓	✓	✓	—	Latch	Recovery	VQFN032V5050
BD9528AMUV	2	30.00	5.5 to 28	—	1.0 to 5.5	0.15 to 0.5	H ³ Reg	✓	✓	—	✓	✓	✓	—	Latch	Recovery	VQFN032V5050
BD9848FV	2	36.00	3.6 to 35	—	1.0 to V _{IN} *	0.1 to 1.5	Voltage	—	✓	—	✓	—	—	—	Recovery	Recovery	SSOP-B20

Boost and Buck-Boost Converters																		
Part No.	Number of Channels	Input Voltage Maximum Rating (V)	Input Voltage (V)	Output Voltage (V)	Switching Frequency (kHz)	Control Mode	Features							Package				
							Boost	Buck-Boost	Inverting	Buck	Enable	Externally Synchronizable	Adjustable Soft Start		Synchronous Rectifier	Over-Current Protection	Thermal Protection	
BD8303MUV	1	15	2.7 to 14	1.0 to 12	200 to 1,000	Voltage	—	✓	—	—	✓	—	—	—	✓	Latch	Recovery	VQFN016V3030
BD9306AFVM	1	20	4.2 to 18	V _{IN} to (V _{IN} /0.3)	100 to 800	Voltage	✓	—	—	—	✓	—	—	—	—	Latch	Recovery	MSOP8
BD9851EFV	2	20	4.0 to 18	1.0 or more*	10 to 300	Voltage	✓	—	✓	✓	—	—	—	✓	—	Latch	Recovery	HTSSOP-B20
BA9743AFV	2	36	3.6 to 35	2.505 or more*	10 to 800	Voltage	✓	—	✓	✓	—	—	—	✓	—	Latch	Recovery	SSOP-B16
BA9744FV	2	36	2.5 to 35	1.222 or more*	10 to 800	Voltage	✓	—	✓	✓	—	—	—	✓	—	Latch	Recovery	SSOP-B16
BA9741F	2	36	3.6 to 35	2.5 or more*	10 to 800	Voltage	✓	—	✓	✓	—	—	—	✓	—	Latch	Recovery	SOP16
BA9741FS	2	36	3.6 to 35	2.5 or more*	10 to 800	Voltage	✓	—	✓	✓	—	—	—	✓	—	Latch	Recovery	SSOP-A16

*:Restrictions depend on input/output voltage conditions.

For Automotive Switching Regulators

Switching Regulator(Integrated Switch) Single Output 1A Output												
Part No.	Input Voltage Maximum Rating (V)	Supply Voltage (V)	Output Current (A)	Output Voltage (V)	Output Voltage Accuracy (%)	Operating Temperature (°C)	Switching Frequency (MHz)	Frequency Accuracy (%)	Oscillation Circuit	Control Mode	Package	Automotive Grade AEC-Q100
BD90610EFJ-C	42	3.5 to 36	1.25	0.8 to V _{IN}	±2.0	-40 to +125	0.05 to 0.6	±10	Self-oscillation/External synchronization	PWM	HTSOP-J8	YES
Switching Regulators(Integrated Switch) Single Output 2A Output												
BD90620EFJ-C	42	3.5 to 36	2.5	0.8 to V _{IN}	±2.0	-40 to +125	0.05 to 0.6	±10	Self-oscillation/External synchronization	PWM	HTSOP-J8	YES
BD90620HFP-C	42	3.5 to 36	2.5	0.8 to V _{IN}	±2.0	-40 to +125	0.05 to 0.6	±10	Self-oscillation/External synchronization	PWM	HRP7	YES
BD9060F-C	36	5 to 35	2.0	0.8 to V _{IN}	±2.0	-40 to +125	0.05 to 0.5	±5	Self-oscillation/External synchronization	PWM	SOP8	YES
BD9060HFP-C	36	5 to 35	2.0	0.8 to V _{IN}	±2.0	-40 to +125	0.05 to 0.5	±5	Self-oscillation/External synchronization	PWM	HRP7	YES
New BD9G201EFJ-M	45	4.5 to 42	1.5	0.8 to V _{IN}	±2.0	-40 to +105	0.3	±10	Self-oscillation/External synchronization	PWM	HTSOP-J8ES	YES
Switching Regulators(Integrated Switch) Single Output 4A Output												
BD90640EFJ-C	42	3.5 to 36	4.0	0.8 to V _{IN}	±2.0	-40 to +125	0.05 to 0.6	±10	Self-oscillation/External synchronization	PWM	HTSOP-J8	YES
BD90640HFP-C	42	3.5 to 36	4.0	0.8 to V _{IN}	±2.0	-40 to +125	0.05 to 0.6	±10	Self-oscillation/External synchronization	PWM	HRP7	YES
New BD9G401EFJ-M	45	4.5 to 42	3.5	0.8 to V _{IN}	±2.0	-40 to +105	0.3	±10	Self-oscillation/External synchronization	PWM	HTSOP-J8ES	YES
Switching Regulators(Integrated Switch) Ultra Low Quiescent Current/Synchronous Rectification												
BD99010EFV-M	42	3.6 to 35	2.0	3.3	±2.0	-40 to +105	0.2 to 0.5	±20	Self-oscillation	Light load mode/PWM	HTSSOP-B24	YES
BD99011EFV-M	42	3.6 to 35	2.0	5.0	±2.0	-40 to +105	0.2 to 0.5	±20	Self-oscillation	Light load mode/PWM	HTSSOP-B24	YES
Switching Regulator(Integrated Switch) High Voltage/Synchronous Rectification												
New BD9V100MUF-C	70	16 to 60	1.0	0.8 to 5.5	±2.0	-40 to +125	1.9 to 2.3	±10	Self-oscillation	PWM	VQFN24FV4040	YES
Secondary Switching Regulator(Integrated Switch) Single Output 0.6A Output												
☆BD9S000NUX-C	7	2.7 to 5.5	0.6	0.8 to 5.0	±1.5	-40 to +125	2.2	±10	Self-oscillation	PWM	VSON008X2020	YES
Secondary Switching Regulator(Integrated Switch) Single Output 1A Output												
☆BD9S100NUX-C	7	2.7 to 5.5	1.0	0.8 to 5.0	±1.5	-40 to +125	2.2	±10	Self-oscillation	PWM	VSON008X2020	YES
Secondary Switching Regulator(Integrated Switch) Single Output 2A Output												
New BD9S200MUF-C	7	2.7 to 5.5	2.0	0.8 to 4.4	±1.5	-40 to +125	2.2	±10	Self-oscillation/External synchronization	Light load mode/PWM	VQFN16FV3030	YES
Secondary Switching Regulators(Integrated Switch) Single Output 3A Output												
New BD9S300MUF-C	7	2.7 to 5.5	3.0	0.8 to 4.4	±1.5	-40 to +125	2.2	±10	Self-oscillation/External synchronization	Light load mode/PWM	VQFN16FV3030	YES
New BD9S301MUF-C	7	2.7 to 5.5	3.0	0.8 to 4.4	±2.0	-40 to +125	1.0	±20	Self-oscillation	Light load mode/PWM	VQFN16FV3030	YES
Secondary Switching Regulator(Integrated Switch) Single Output 4A Output												
New BD9S400MUF-C	7	2.7 to 5.5	4.0	0.8 to 4.4	±1.5	-40 to +125	2.2	±10	Self-oscillation/External synchronization	Light load mode/PWM	VQFN16FV3030	YES
Switching Controllers(External Switch) Dual Output Buck/Boost Converters												
Part No.	Input Voltage Maximum Rating (V)	Supply Voltage (V)	Output Type	Output Voltage Accuracy (%)	Operating Temperature (°C)	Switching Frequency (MHz)	OverVoltage Protection is Detected	Package	Automotive Grade AEC-Q100			
BD9015KV-M	35	3.9 to 30	Push Pull	±1.5(-40 to +105°C)	-40 to +105	0.25 to 0.55	L-side FET OFF	VQFP48C	YES			
BD9016KV-M	35	3.9 to 30	Push Pull	±1.5(-40 to +105°C)	-40 to +105	0.25 to 0.55	L-side FET ON	VQFP48C	YES			
Switching Controller(External Switch) Single Output Buck/Boost Converters												
BD9035AEFV-C	35	3.8 to 30	Push Pull	±1.5(-40 to +125°C)	-40 to +125	0.1 to 0.6	Automatic switchover	HTSSOP-B24	YES			

☆ : Under Development

General-purpose ICs

Digital Controllers(Powervation) Series

Digital Controllers(Powervation) Series

Digital Controllers for Servers/Base Stations

Single-Phase Controllers ▶ P.A53

Dual-Phase Controllers ▶ P.A53

A

Power Management

Digital Controllers(Powervation) Series

Digital Controllers for Servers/Base Stations(Powervation)

Single-Phase Controllers

Part No.	Phase Count	Supply Voltage (V)	Interfaces				Auto-Tuning	Features										Fault Response				Package (mm)
			SMBus	VR12/12.5 SVID	VR13 SVID	3-Bit Parallel VID		Programmable fsw	Phase Add/ Drop	DSS®	Sensors & Precision Telemetry	Programmable Load-Line	Single Pin CONFIG™	ADDR	VSET/ VTRAC K/System Good	TSENSE Supported	OVP/ OCP	SCP/ OTP	LOS	Phase Loss		
PV3114	1	0.6 to 5.5	PMBUS™ Compliant	—	—	✓	Auto-Control®: Real-Time Adaptive Auto-Tuning	375kHz to 1MHz	—	—	Vout, Iout, Vin, Eout, Temperature, Duty Cycle, fsw	8 Tables	✓	—	Internal Die Sense & External	Restart/Latching	Restart/Latching	Retry or Disable	—	QFN28 (4×4)		
PV3101		0.6 to 5.5		—	—	—		375kHz to 1MHz	—	✓			✓	Restart/Latching		Retry	Retry	—	QFN32 (5×5)			
PV3102		0.6 to 5.5		—	—	—		375kHz to 1MHz	—	✓			✓	Restart/Latching		Retry	Retry	—	QFN28 (4×4)			
PV3104		0.6 to 1.52		✓	—	—		375kHz to 1MHz	—	—			—	—		Latch	Latch	—	—	QFN32 (5×5)		
PV3103		0.6 to 1.52		✓	—	—		375kHz to 1MHz	—	—			—	—		Latch	Latch	—	—	QFN28 (4×4)		
PV3105		0.6 to 5.5		—	—	—		375kHz to 1.25MHz	—	✓			✓	Restart/Latching		Restart/Latching	—	—	—	QFN28 (4×4)		
New PV4110		0.25 to 3.04		✓	✓	—		375kHz to 1MHz	Automatic	—			✓	23 Tables		—	—	Restart/Latching	Restart/Latching	—	—	—

Dual-Phase Controllers

PV3204	2	0.6 to 5.5	PMBUS™ Compliant	—	—	✓	Auto-Control®: Real-Time Adaptive Auto-Tuning	375kHz to 1MHz	Automatic	—	Vout, Iout, Vin, Eout, Temperature, Duty Cycle, fsw	8 Tables	✓	—	Internal Die Sense & External	Restart/Latching	Restart/Latching	Retry or Disable	Restart	QFN32 (5×5)
PV3012		0.6 to 5.5		—	—	—		375kHz to 1MHz	Automatic	✓			✓	Restart/Latching		Retry	Retry	—	QFN32 (5×5)	
PV3201		0.6 to 1.52		✓	—	—		375kHz to 1MHz	SVID	—			—	Latch		Latch	—	—	QFN32 (5×5)	
PV3203		0.6 to 5.5		—	—	—		375kHz to 1.25MHz	Automatic	✓			✓	Restart/Latching		Restart/Latching	Retry	Restart	QFN32 (5×5)	
PV3205		0.6 to 5.5		—	—	—		375kHz to 1.25MHz	Automatic	✓			✓	Restart/Latching		Restart/Latching	Retry	Restart	QFN32 (5×5)	
PV3202		0.6 to 1.52		✓	—	—		375kHz to 1MHz	Automatic/SVID	—			—	Latch		Latch	—	—	QFN32 (5×5)	
PV3207		0.6 to 5.5		—	—	—		375kHz to 1MHz	Automatic	✓			✓	Restart/Latching		Latch	Retry	—	QFN32 (5×5)	
New PV4210		0.25 to 3.04		✓	✓	—		375kHz to 1MHz	Automatic	—			✓	23 Tables		—	—	Restart/Latching	Restart/Latching	—

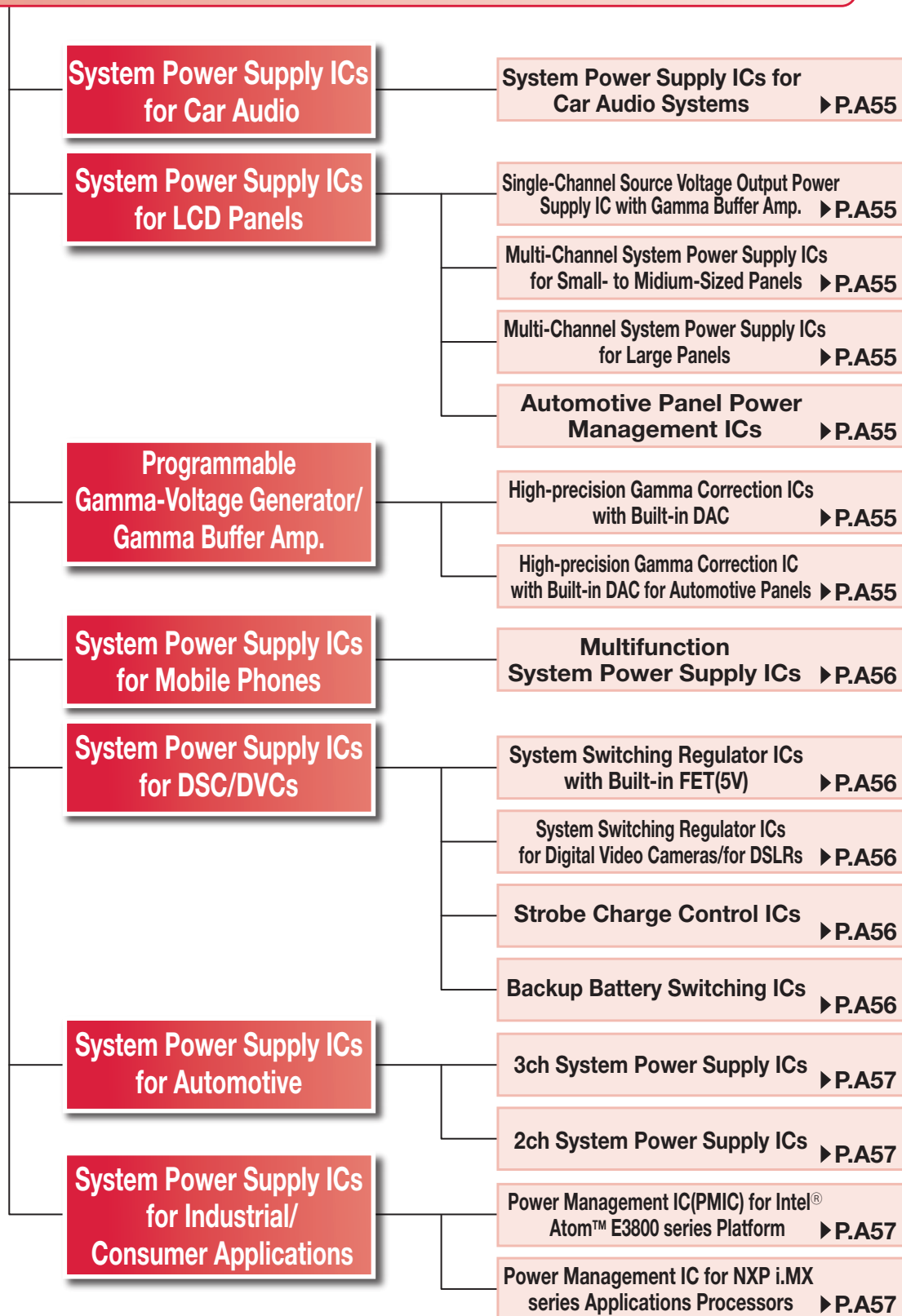
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General-purpose ICs

Switching Regulators (System Power Supplies)

Switching Regulators(System Power Supplies)

A
Power Management



Switching Regulators(System Power Supplies)

System Power Supply ICs for Car Audio

System Power Supply ICs for Car Audio Systems											
Part No.	Supply Voltage (V)	Function		Reference Voltage (V)	Output Current (A)	Protection Circuit		Input I/F	Package	Automotive Grade AEC-Q100	
						Over Current	Temperature				
BD49101AEFS-M / BD49101ARFS-M	5.5 to 25.0	Buck DC/DC1	Controller	0.8	—	Current Limit with Short Current Protection Circuit	Foldback	✓	I ² C	HTSSOP-A44 / HTSSOP-A44R	YES
		Buck DC/DC2	Low Power Standby REG	0.8	1.0						
		REG1	Secondary	0.6	0.5						
		REG2	—	0.8	0.1						
		REG3	Secondary	0.8	0.3						
		REG4	Secondary, Voltage Calibration	0.8	1.5 (Variable)						
		REG5	—	0.8	0.1						
		High Side Switch	—	—	0.5						
+B Detection Circuit	Over/Under Current Detection	—	—	—	—						

System Power Supply ICs for LCD Panels

Single-Channel Source Voltage Output Power Supply IC with Gamma Buffer Amp.							
Part No.	Supply Voltage (V)	Operating Temperature (°C)	Operating Frequency (MHz)	Output for Source Voltage (V)	V COM (ch)	Buffer for Gamma (ch)	Package
BD8157EFV	2.1 to 4.0	-40 to +125	0.6/1.2	up to 14	1	4	HTSSOP-B20

Multi-Channel System Power Supply ICs for Small- to Midium-Sized Panels									
Part No.	Supply Voltage (V)	Operating Temperature (°C)	Operating Frequency (MHz)	Output for Source Voltage (V)	Output for Logic Voltage (V)	Output for Gate Voltage (V)	Start up Sequence Circuit	V COM (ch)	Package
BD8153EFV	2.1 to 6.0	-40 to +125	1.1	up to 18.0	3.3	Variable	✓	—	HTSSOP-B24
BD8163EFV	2.1 to 6.0	-40 to +125	1.1	up to 18.0	2.5	Variable	✓	—	HTSSOP-B24
BD8179MUV	2.6 to 5.5	-40 to +85	1.2	up to 19.0	—	Variable	✓	1 (Buffer 4ch)	VQFN032V5050
BD9862MUV	1.8 to 5.5	-40 to +85	0.7 to 1.4	up to 15.0	—	Variable	✓	—	VQFN024V4040
BM81028AMWV	2.5 to 5.5	-40 to +85	0.6/1.2	8.0 to 14.5 0.1V step	1.1 to 1.3 50mV step 1.7 to 1.9/2.4 to 2.6 50mV step	13 to 26 0.2V step/ -4 to -9.3 0.1V step	✓	1	UQFN28V4040P

Multi-Channel System Power Supply ICs for Large Panels										
Part No.	Supply Voltage (V)	Operating Temperature (°C)	Operating Frequency (MHz)	Output for Source Voltage (V)	Output for Logic Voltage1 (V)	Output for Logic Voltage2 (V)	Output for Gate Voltage (V)	Start up Sequence Circuit	V COM (ch)	Package
BD8166EFV	6.0 to 18.0	-40 to +85	0.5	up to 18.0	Variable	—	Variable	✓	1	HTSSOP-B40
BD8160AEFV	8.0 to 18.0	-40 to +85	0.5/0.75	up to 18.0	Variable	—	Variable	✓	—	HTSSOP-B28
BD8165MUV	4.2 to 14.0	-40 to +105	0.65	up to 18.0	Variable	Variable	Variable	✓	1	VQFN048V7070
BD8162AEKV	4.2 to 14.0	-40 to +105	0.2 to 0.8	up to 18.0	Variable	Variable	Variable	✓	1 (Buffer 4ch)	HTQFP64V
☆ BM81100MUW	7.6 to 14.0	-40 to +85	0.75	up to 19.8	Variable	—	Variable	✓	1	VQFN40W6060A
BM81110MUW	8.6 to 14.7	-40 to +85	0.75/1.0	up to 19.8	Variable	Variable	Variable	✓	—	VQFN40W6060A
BM81004MUV	8.6 to 14.0	-40 to +105	0.75/1.0	up to 18.0	Variable	Variable	Variable	✓	1	VQFN48V7070A

Automotive Panel Power Management ICs											
Part No.	Supply Voltage (V)	Operating Temperature (°C)	Operating Frequency (MHz)	Output for Source Voltage1 (V)	Output for Source Voltage2 (V)	Output for Logic Voltage (V)	Output for Gate Voltage (V)	Start up Sequence Circuit	V COM (ch)	Package	Automotive Grade AEC-Q100
BD81842MUV-M	2.0 to 5.5	-40 to +105	2.1	up to 18.0	—	—	Variable	✓	1	VQFN24SV4040	YES
BM81810MUV-M	2.6 to 5.5	-40 to +105	0.525/1.05/2.1	5.0 to 17.0 0.1V step	—	0.9 to 3.4 50mV step	8.0 to 35.0 0.2V step/ -14.0 to -4.0 0.1V step	✓	1	VQFN32SV5050	YES
BD81870EFV-M	2.5 to 5.5	-40 to +105	2.1	up to 18.0	V _{DD} -13.0 to -1.0	—	—	✓	—	HTSSOP-B20	YES

☆ : Under Development

Programmable Gamma-Voltage Generator/Gamma Buffer Amp.

High-precision Gamma Correction ICs with Built-in DAC										
Part No.	Supply Voltage(V)		Operating Temperature (°C)	Clock Frequency (MHz)	DAC (bit)	Serial I/F	Auto Data Read	V COM (ch)	Buffer for Gamma (ch)	Package
	Gamma Collection Input	Logic								
BD8132FV	6 to 18	2.3 to 4	-30 to +85	5.0	10	3-wire	✓	1	18	SSOP-B40
BD8139AEFV	6 to 18	2.3 to 4	-30 to +85	0.4	10	I ² C BUS	✓	1	10	HTSSOP-B40
BD8143MUV	8 to 18	2.3 to 5.5	-40 to +105	2.0	10	3-wire	—	—	12	VQFN032V5050
BD81010MUV	8 to 18	2.1 to 3.6	-40 to +85	0.4	10	I ² C BUS	—	1	12	VQFN032V5050
BD8149MUV	10 to 18	2.1 to 3.6	-25 to +85	0.4	10	I ² C BUS	✓	—	12	VQFN032V5050
BD81026MUV	8 to 18	2.1 to 3.6	-25 to +85	0.4	10	I ² C BUS	—	—	12	VQFN024V4040

High-precision Gamma Correction IC with Built-in DAC for Automotive Panels											
Part No.	Supply Voltage(V)		Operating Temperature (°C)	Clock Frequency (MHz)	DAC (bit)	Serial I/F	Auto Data Read	V COM (ch)	Buffer for Gamma (ch)	Package	Automotive Grade AEC-Q100
	Gamma Collection Input	Logic									
BD81849MUV-C	10 to 18	2.1 to 3.6	-40 to +105	0.4	10	I ² C BUS	✓	—	12	VQFN32SV5050	YES

System Power Supply ICs for Mobile Phones
Multifunction System Power Supply ICs

Part No.	Supply Voltage (V)	Item	DC/DC		LDO						Input I/F	Protection Circuit			Package (mm)
			DC/DC1	DC/DC2	LDO1	LDO2	LDO3	LDO4	LDO5	LDO6		Over Current	Temperature	Low Voltage	
BH6173GUL	2.2 to 5.2	Output Voltage(V)	0.8 to 2.4	—	1.0 to 3.3	1.0 to 3.3	1.2 to 3.3	—	—	—	i ² C	LDO1 to 3 is fold back DC/DC is dropping type	✓	✓	VCSP50L2 (2.05×2.05) H=0.55 Max.
		Output Current(mA)	500	—	300	300	300	—	—	—					
		Ripple Rejection(dB)(at 120Hz)	—	—	60	60	60	—	—	—					
BH6172GU	2.2 to 5.5	Output Voltage(V)	0.8 to 2.4	—	1.0 to 3.3	1.0 to 3.3	1.2 to 3.3	1.2 to 3.3	1.2 to 3.3	—	i ² C/Parallel	LDO1 to 5 is fold back DC/DC is dropping type	✓	✓	VCSP85H2 (2.6×2.6) H=1.0 Max.
		Output Current(mA)	500	—	150	150	300	300	150	—					
		Ripple Rejection(dB)(at 120Hz)	—	—	60	60	60	60	60	—					
BH6174GUL	2.6 to 5.5	Output Voltage(V)	0.8 to 2.4	0.8 to 2.4	1.0 to 3.3	1.0 to 3.3	1.2 to 3.3	1.2 to 3.3	1.2 to 3.3	—	i ² C/Parallel	LDO1 to 5 is fold back DC/DC is dropping type	✓	✓	VCSP50L2 (2.6×2.6) H=0.55 Max.
		Output Current(mA)	600	600	300	300	300	300	300	—					
		Ripple Rejection(dB)(at 120Hz)	—	—	60	60	60	60	60	—					
BH6178GUL	2.7 to 4.5	Output Voltage(V)	1.8	1.235	1.8	1.8	1.215	1.2	2.7	—	Parallel	LDO1 to 5 is fold back DC/DC is dropping type	✓	✓	VCSP50L2 (2.6×2.6) H=0.55 Max.
		Output Current(mA)	400	650	50	50	50	50	50	—					
		Ripple Rejection(dB)(at 120Hz)	—	—	60	60	60	60	60	—					
BH6176GU	2.2 to 5.5	Output Voltage(V)	0.8 to 2.35	—	1.0 to 3.3	1.0 to 3.3	1.2 to 3.3	1.2 to 3.3	1.2 to 3.3	1.2 to 3.3	i ² C/Parallel	LDO1 to 6 is fold back DC/DC is dropping type	✓	✓	VCSP85H2 (2.6×2.6) H=1.0 Max.
		Output Current(mA)	500	—	150	150	300	300	150	300					
		Ripple Rejection(dB)(at 120Hz)	—	—	60	60	60	60	60	60					
BH6179GU	2.2 to 5.5	Output Voltage(V)	0.8 to 2.35	—	1.0 to 3.3	1.0 to 3.3	1.2 to 3.3	1.2 to 3.3	1.2 to 3.3	1.2 to 3.3	i ² C/Parallel	LDO1 to 6 is fold back DC/DC is dropping type	✓	✓	VCSP85H2 (2.6×2.6) H=1.0 Max.
		Output Current(mA)	600	—	150	150	300	300	150	300					
		Ripple Rejection(dB)(at 120Hz)	—	—	50	50	50	50	50	50					

Part No.	Supply Voltage (V)	Item	DC/DC Output			LDO Output										Buffer for TCXO	Lithium Ion Charging Control	USB Transceiver	Protection Circuice	Protection Circuit			Package
			DC/DC1	DC/DC2	DC/DC6	LDO1	LDO1-2	LDO2	LDO3	LDO4-5	LDO6-7	LDO8	LDO9	LDO10	Over Current					Temperature	Low Voltage		
BH6062GW	2.9 to 4.6	Output Voltage(V)	1.175	1.825	1.920	2.8	—	1.175	1.835	—	—	—	—	—	—	—	—	—	LDO is fold back DC/DC is dropping type	✓	✓	UCSP75M3	
		Output Current(mA)	900	800	400	40	—	50	30	—	—	—	—	—	—	—	—	—					

Part No.	Supply Voltage (V)	Item	DC/DC Output					LDO Output										Buffer for TCXO	SIM I/F	Protection Circuice	Protection Circuit			Package
			SWREG1	SWREG2	SWREG3	SWREG4	SWREG5	LDO1	LDO2	LDO3	LDO4	LDO5	LDO6	LDO7	LDO8	LDO9	LDO10				LDO11	LDO12	Over Current	
BD71801AGWL	2.6 to 5.5	Output Voltage(V)	1.1	1.8	1.2	1.4	3.2	2.6/1.8	3.3	1.8	2.8	1.2	2.8	2.8	2.5	2.8	2.8	1.2	1.2	LDO is fold back DC/DC is dropping type	✓	✓	UCSP50L3C	
		Output Current(mA)	1,000	500	1,000	500	1,400	300	50	50	300	150	150	150	150	150	150	150						

LDOs, detectors and charge control in a single chip

System Power Supply ICs for DSC/DVCs
System Switching Regulator ICs with Built-in FET(5V)

Part No.	Ch	Operating Frequency (MHz)	Supply Voltage (V)	Reference Voltage (V)	Reference Voltage Precision (%)	Topology					Built-in FET (ch)	Synchronous Rectifier (ch)	Load Switch (ch)	Package (mm)
						Step up (ch)	Step down (ch)	Step up/down (ch)	Inverting (ch)	Buck-Boost (ch)				
BD9639MWW	6	0.5 to 2.0	2.5 to 5.5	0.4	±2.5	2	2	—	—	2	6	5	1	UQFN056V7070
BD9361GUL	6	2.0/1.0	2.5 to 5.5	0.8	±1.25	2	3	—	—	1	6	5	—	VCSP50L3 (3.14×3.14) H=0.55 Max.
BD9355MWW	7	2.0/1.0	1.5 to 5.5	0.8	±1.25	3	2	—	1	1	7	3	1	UQFN036V5050
				1.0	±1.0									
BD9757MWW	8	1.2	1.5 to 5.5	1.0	±1.0	3	4	—	1	—	7	5	2	UQFN044V6060
				0.8	±1.25									
BD9634GU	7	0.5 to 1.5	2.5 to 5.5	0.8	±2.5	3	1	1	1	1	5	3	1	VCSP85H4 (4.26×4.26) H=1.0 Max.

System Switching Regulator ICs for Digital Video Cameras/for DSLRs

Part No.	Ch	Operating Frequency (MHz)	Supply Voltage (V)	Reference Voltage (V)	Reference Voltage Precision (%)	Step up (ch)	Step down (ch)	Buck-Boost (ch)	Inverting/Stepdown (ch)	Built-in FET (ch)	Synchronous Rectifier (ch)	Load Switch (ch)	Package (mm)
				0.8	±1.25								
BD9866GUL	4	0.6 to 1.5	4 to 14	0.6	±1.66	—	3	1	—	4	4	—	VCSP50L3 (3.75×3.75) H=0.55 Max.
				0.8	±1.25								
BD8355MWW	7	0.5 to 1.8	4 to 10	0.8	±1.25	1	6	—	—	7	6	—	UQFN056V7070
				1.0	±1.0								

Strobe Charge Control ICs

Part No.	Supply Voltage (V _{CC})(V)	Peak Current (A)	Full Charge Detection Voltage(V)	100nsec pulse AC Full Charge Detection Voltage(V)	Full Terminal Output	Power Tr Saturation Voltage I _{sw} =1A(V)	IGBTOUTN (mA)	IGBTOUTP (mA)	Package
BD4233NUX	2.5 to 5.5	0.5 to 2.0	1±1.1%	1.0-1.1% to ±1.6%	Nch Open drain	0.4	60	140	VSON010X3020
BD4234NUX	2.5 to 5.5	0.5 to 2.0	1±1.1%	1.0-1.1% to ±1.6%	Nch Open drain	0.4	30	140	VSON010X3020

Backup Battery Switching ICs

Part No.	Input Voltage Range(V)		Output Voltage(V)		Input Detection Voltage(V)		Output Detection Voltage(V)		Switching Voltage(V)	Unreg Reset Voltage(V)		Package
	V _{IN}	V _{RO}	V _{OUT}	V _{OUT}	-V _{det1}	+V _{det1}	-V _{det2}	+V _{det2}	V _{sw1}	-V _{det3} (V _{DETSSEL=L})	-V _{det4} (V _{DETSSEL=H})	
BD7212MUV	3.50 to 6.00	3.2	3.2	3.2	3.5	3.6	2.10	2.23	3.06	1.5	2.5	VQFN016V3030
BD7213MUV	3.50 to 8.00	3.2	3.2	3.2	3.3	3.4	2.05	2.14	2.89	1.5	2.5	VQFN016V3030
BD7214MUV	3.50 to 8.00	3.2	3.2	3.2	3.3	3.4	2.05	2.14	2.89	—	—	VQFN016V3030

System Power Supply ICs for Automotive

3ch System Power Supply ICs														
Part No.	Power Supply Voltage (V)	Operating Frequency (kHz)	Operating Temperature (°C)	Sequence	Initial Accuracy	Output		Function				Package	Automotive Grade AEC-Q100	
						Channel	Vout/Max. Iout	Over Current Protection	TSD	Under/Over Voltage Detection	Reset			WDT
New BD39000EKV-C	4 to 30 (Rating 40V)	200 to 550	-40 to +125	✓	±2	CH1 (DC/DC)	Buck-Boost DC/DC Controller (Vout/Iout variable)	✓	✓	✓	—	WINDOW WDT	HTQFP48V	YES
						CH2 (DC/DC)	Synchronous Buck DC/DC Converter (1.23V, 0.9A)							
						CH3 (LDO)	LDO(5V, 0.6A)							
BD39001EKV-C	4 to 30 (Rating 40V)	200 to 550	-40 to +125	✓	±2	CH1 (DC/DC)	Buck-Boost DC/DC Controller (Vout/Iout variable)	✓	✓	✓	—	WINDOW WDT	HTQFP48V	YES
						CH2 (DC/DC)	Synchronous Buck DC/DC Converter (3.3V, 0.9A)							
						CH3 (LDO)	LDO(5V, 0.6A)							

2ch System Power Supply ICs														
Part No.	Supply Voltage (V)	Operating Frequency (kHz)	Operating Temperature (°C)	Control	Initial Accuracy	Output		Function				Package	Automotive Grade AEC-Q100	
						Channel	Vout/Max. Iout	Over Current Protection	TSD	Under/Over Voltage Detection	Reset			WDT
BD39002EFV-C	4 to 30 (Rating 40V)	200 to 550	-40 to +125	✓	±2	CH1 (DC/DC)	Buck-Boost DC/DC Controller (Vout/Iout variable)	✓	✓	✓	—	WINDOW WDT	HTSSOP-B30	YES
						CH2 (DC/DC)	LDO(5V, 0.6A)							
BD39012EFV-C	4 to 36 (Rating 45V)	200 to 600	-40 to +125	External Control EN1:DC/DC EN2:LDO	±2	CH1 (DC/DC)	Synchronous Buck DC/DC Converter (Vout variable, 1A)	✓	✓	✓	—	WINDOW WDT	HTSSOP-B24	YES
						CH2 (LDO)	LDO(5V, 0.4A)							

System Power Supply ICs for Industrial/Consumer Applications

Power Management IC(PMIC) for Intel® Atom™ E3800 series Platform																					
Part No.	Supply Voltage(V)	Item	DC/DC Output							SW V1P8S	LDO output							I/F	Protection Circuit	Package (mm)	
			DC/DC1 V1P0A	DC/DC2 V1P0S	DC/DC3 V1P8A	DC/DC4 VDDQ	DC/DC5 V1P0S5	DC/DC6 VCC	DC/DC7 VNN		0.5 to 1.2	0.5 to 1.2	1.8	3.3	3.3	3.3	1.24				LD05 VSDIO 1.8 or 3.3
BD9596BMWV	3.5 to 5.5	Output Voltage(V)	1.0	1.0	1.8	1.2 to 1.6	1.05	0.5 to 1.2	0.5 to 1.2	1.8	3.3	3.3	3.3	1.24	1.8 or 3.3	1.24	VDDQ/2	1.35	IMVP7	UVLO, TSD, SCP, OVP	UQFN88MV0100 (10×10×1.0)
		Output Current(mA)	700	2,600	1,800	4,500	1,300	13,000	13,000	800	120	100	500	50	20	50	530	500			

Power Management ICs for NXP i.MX series Applications Processors																						
Part No.	Correspondance	Item	DC/DC Output					LDO Output							White LED Driver	Lithium Charging Control	Coulomb Counter	RTC	GPO (ch)	I²C I/F	Package	
			BUCK1	BUCK2	BUCK3	BUCK4	BUCK5	LD01	LD02	LD03	LD04	LD05	LD05NVS	LD0LPSR								LD0DREF
BD71805MWV	i.MX 6 SoloLite	Output Voltage(V)	0.8 to 2.0	0.8 to 2.0	2.6 to 3.35	1.0 to 2.7	—	0.8 to 3.3	0.8 to 3.3	0.8 to 3.3	—	—	3	—	0.5× DVREFIN	—	✓	✓	✓	3	✓	UQFN064MV8080
		Output Current(mA)	2,000	1,000	1,000	1,000	—	300	300	300	—	—	25	—	10	—	—	—	—	—	—	—
BD71815AGW	i.MX 7 Dual i.MX 7 Solo	Output Voltage(V)	0.8 to 2.0	0.8 to 2.0	1.2 to 2.7	1.1 to 1.85	1.8 to 3.3	0.8 to 3.3	0.8 to 3.3	0.8 to 3.3	0.8 to 3.3	0.8 to 3.3	3	1.8	0.5× DVREFIN	✓	✓	✓	✓	1	✓	UCSP55M4C
		Output Current(mA)	800	1,000	500	1,000	1,000	100	100	50	400	250	25	100	10	—	—	—	—	—	—	—

Isolated/No Isolated Power Supply

AC/DC Converter ICs

Non-isolated AC/DC Converter ICs(PWM Driver Built-in MOSFET and Sense Resistor)									
Part No.	Output Voltage (V)	MOSFET Tolerate (V)	Control Method	Switching Frequency(kHz)	ON Resistance (Ω)	OCP Current (A)	Frequency Reduction	Max. Duty (%)	Package
New BM2P109TF	10.0	650	PWM	100	9.0	0.45	—	75	SOP8
New BM2P129TF	12.0	650	PWM	100	9.0	0.45	—	75	SOP8
New BM2P135TF	13.0	650	PWM	100	4.5	0.45	—	75	SOP8
New BM2P137TKF	13.0	800	PWM	100	7.5	0.45	—	75	SOP8
New BM2P139TF	13.0	650	PWM	100	9.0	0.45	—	75	SOP8
New BM2P159PF	14.2	650	PWM	100	9.0	0.30	—	75	SOP8
New BM2P159T1F	15.0	650	PWM	100	9.0	0.45	—	75	SOP8
New BM2P161W	16.8	650	PWM	65	1.9	1.46	✓	40	DIP7K
New BM2P163W	16.8	650	PWM	65	3.0	1.46	✓	40	DIP7K
New BM2P249Q	24.8	650	PWM	65	9.0	0.80	✓	40	DIP7K
New BM2P249TF	24.8	650	PWM	100	9.0	0.45	—	75	SOP8

AC/DC Converter ICs(PWM Driver Built-in MOSFET)

Part No.	Supply Voltage (V)	MOSFET Tolerate (V)	Control Method	Switching Frequency(kHz)	ON Resistance (Ω)	Peak Current (A)	Brown Out	V _{CC} OVP	Package
New BM2P0391	8.9 to 26.0	650	PWM	100	4.0	5.2	✓(adjustable)	Self-restart	DIP7K
New BM2P095F	8.9 to 26.0	650	PWM	65	8.5	1.3	—	Latch	SOP8
New BM2PA96F	8.9 to 26.0	650	PWM	65	8.5	1.3	—	Self-restart	SOP8
New BM2P015	8.9 to 26.0	650	PWM	65	1.4	10.4	—	Latch	DIP7K
New BM2P016	8.9 to 26.0	650	PWM	65	1.4	10.4	—	Self-restart	DIP7K
New BM2P016T	8.9 to 26.0	650	PWM	65	1.4	10.4	—	Self-restart	TO220
BM2P011	8.9 to 26.0	650	PWM	65	1.4	10.4	✓(adjustable)	Latch	DIP7K
BM2P012	8.9 to 26.0	650	PWM	65	1.4	10.4	✓(adjustable)	Self-restart	DIP7K
BM2P013	8.9 to 26.0	650	PWM	65	1.4	10.4	—	Latch	DIP7K
BM2P014	8.9 to 26.0	650	PWM	65	1.4	10.4	—	Self-restart	DIP7K
BM2P031	8.9 to 26.0	650	PWM	65	2.4	5.2	✓(adjustable)	Latch	DIP7K
BM2P032	8.9 to 26.0	650	PWM	65	2.4	5.2	✓(adjustable)	Self-restart	DIP7K
BM2P033	8.9 to 26.0	650	PWM	65	2.4	5.2	—	Latch	DIP7K
BM2P034	8.9 to 26.0	650	PWM	65	2.4	5.2	—	Self-restart	DIP7K
BM2P051	8.9 to 26.0	650	PWM	65	4.0	2.6	✓(adjustable)	Latch	DIP7K
BM2P051F	8.9 to 26.0	650	PWM	65	4.0	2.6	✓(adjustable)	Latch	SOP8
BM2P052	8.9 to 26.0	650	PWM	65	4.0	2.6	✓(adjustable)	Self-restart	DIP7K
BM2P052F	8.9 to 26.0	650	PWM	65	4.0	2.6	✓(adjustable)	Self-restart	SOP8
BM2P053	8.9 to 26.0	650	PWM	65	4.0	2.6	—	Latch	DIP7K
BM2P053F	8.9 to 26.0	650	PWM	65	4.0	2.6	—	Latch	SOP8
BM2P054	8.9 to 26.0	650	PWM	65	4.0	2.6	—	Self-restart	DIP7K
BM2P054F	8.9 to 26.0	650	PWM	65	4.0	2.6	—	Self-restart	SOP8
BM2P091	8.9 to 26.0	650	PWM	65	8.5	1.3	✓(adjustable)	Latch	DIP7K
BM2P091F	8.9 to 26.0	650	PWM	65	8.5	1.3	✓(adjustable)	Latch	SOP8
BM2P092	8.9 to 26.0	650	PWM	65	8.5	1.3	✓(adjustable)	Self-restart	DIP7K
BM2P092F	8.9 to 26.0	650	PWM	65	8.5	1.3	✓(adjustable)	Self-restart	SOP8
BM2P093	8.9 to 26.0	650	PWM	65	8.5	1.3	—	Latch	DIP7K
BM2P093F	8.9 to 26.0	650	PWM	65	8.5	1.3	—	Latch	SOP8
BM2P094	8.9 to 26.0	650	PWM	65	8.5	1.3	—	Self-restart	DIP7K
BM2P094F	8.9 to 26.0	650	PWM	65	8.5	1.3	—	Self-restart	SOP8
BM2P074KF	10.2 to 26.0	800	PWM	65	6.7	2.0	—	Self-restart	SOP8

AC/DC Converter ICs(PWM Driver Built-in MOSFET and Sense Resistor)

Part No.	Supply Voltage (V)	MOSFET Tolerate	Control Method	Switching Frequency(kHz)	ON Resistance (Ω)	OCP Current (A)	Brown Out (V)	V _{CC} OVP	Package
New BM2P01A	11.9 to 26.0	650	PWM	100	2.0	0.43	100	Latch	DIP8
New BM2P01B	11.9 to 26.0	650	PWM	100	2.0	0.54	100	Latch	DIP8

AC/DC Converter ICs(PWM Controller)

Part No.	Supply Voltage (V)	Control Method	START-UP Circuit	Switching Frequency(kHz)	AC line Voltage Correction	V _{CC} Recharge	Brown Out	V _{CC} OVP	Package
BM1P061FJ	8.9 to 26.0	PWM	✓	65	✓	✓	✓(adjustable)	Self-restart	SOP-J8
BM1P062FJ	8.9 to 26.0	PWM	✓	65	✓	✓	✓(adjustable)	Latch	SOP-J8
BM1P065FJ	8.9 to 26.0	PWM	✓	65	✓	—	✓(adjustable)	Self-restart	SOP-J8
BM1P066FJ	8.9 to 26.0	PWM	✓	65	✓	—	✓(adjustable)	Latch	SOP-J8
BM1P067FJ	8.9 to 26.0	PWM	✓	65	✓	—	—	Self-restart	SOP-J8
BM1P068FJ	8.9 to 26.0	PWM	✓	65	✓	—	—	Latch	SOP-J8
BM1P101FJ	8.9 to 26.0	PWM	✓	100	✓	✓	✓(adjustable)	Self-restart	SOP-J8
BM1P102FJ	8.9 to 26.0	PWM	✓	100	✓	✓	✓(adjustable)	Latch	SOP-J8
BM1P105FJ	8.9 to 26.0	PWM	✓	100	✓	—	✓(adjustable)	Self-restart	SOP-J8
BM1P107FJ	8.9 to 26.0	PWM	✓	100	✓	—	—	Self-restart	SOP-J8
BD7672BG	8.5 to 25.0	PWM	—	65	—	—	—	Latch	SSOP6
BD7673AG	8.5 to 25.0	PWM	—	65	—	—	—	Latch	SSOP6
BD7679G	8.5 to 25.0	PWM	—	65	—	—	—	Self-restart	SSOP6
BD7678FJ	8.5 to 25.5	PWM	—	65	✓	—	✓(adjustable)	Latch	SOP-J8

AC/DC Converter ICs(Quasi-Resonant Controller)

Part No.	Supply Voltage (V)	Control Method	START-UP Circuit	Maximum Frequency(kHz)	AC line Voltage Correction	FBOLP	V _{CC} OVP	ZT OVP	Package
BM1Q002FJ	8.9 to 26.0	QR	✓	120	✓	Self-restart	Latch	Latch	SOP-J8
New BM1Q021FJ	8.9 to 26.0	QR	✓	120	✓	Self-restart	Self-restart	Self-restart	SOP-J8
New BM1Q041FJ	8.9 to 26.0	QR	✓	120	✓	Self-restart	Self-restart	none	SOP-J8

AC/DC Converter ICs(PFC, PFC+Quasi-Resonant Controller)

Part No.	Supply Voltage (V)	Control Method	START-UP Circuit	X-cap Discharge	QR Maximum Frequency(kHz)	PFC Maximum Frequency(kHz)	PFC Output Voltage Conversion	V _{CC} OVP/ZT OVP	Package
New BD7690FJ	10.0 to 26.0	PFC	—	—	—	220	—	—	SOP-J8
New BD7691FJ	10.0 to 26.0	PFC	—	—	—	220	—	—	SOP-J8
BM1050AF	8.9 to 26.0	PFC+QR	✓	—	120	65	—	Selectable Externally	SOP24
BM1051F	8.9 to 26.0	PFC+QR	✓	—	120	65	—	Selectable Externally	SOP24
BM1C101F	8.9 to 26.0	PFC+QR	✓	✓	120	400	✓	✓	SOP18
BM1C102F	8.9 to 26.0	PFC+QR	✓	✓	120	400	—	✓	SOP18

AC/DC Converter ICs(For SiC MOSFET Driving)									
Part No.	Supply Voltage (V)	Control Method	MOSFET	MOSFET Performance	Maximum Frequency(kHz)	FBOLP	Brown Out	V _{CC} OVP	Package
BD7682FJ-LB	15 to 27.5	QR	External	—	120	Self-restart	✓ (adjustable)	Latch	SOP-J8
BD7683FJ-LB	15 to 27.5	QR	External	—	120	Latch	✓ (adjustable)	Latch	SOP-J8
BD7684FJ-LB	15 to 27.5	QR	External	—	120	Self-restart	✓ (adjustable)	Self-restart	SOP-J8
BD7685FJ-LB	15 to 27.5	QR	External	—	120	Latch	✓ (adjustable)	Self-restart	SOP-J8

AC/DC Converter ICs(Secondary Side Synchronous Rectification with Shunt Regulator)									
Part No.	Supply Voltage (V)	Control Method	Shunt Regulator Accuracy(%)	Drain Terminal Maximum Voltage(V)	Compulsion OFF Time(μs)	V _{CC} OVP	Auto Sleep Function	CCM Mode	Package
New BM1R00146F	2.7 to 32.0	SR	± 0.5	120	1.3	Self-restart	✓	✓	SOP8
New BM1R00147F	2.7 to 32.0	SR	± 0.5	120	2.0	Self-restart	✓	✓	SOP8
New BM1R00148F	2.7 to 32.0	SR	± 0.5	120	3.0	Self-restart	✓	✓	SOP8
New BM1R00149F	2.7 to 32.0	SR	± 0.5	120	3.6	Self-restart	✓	✓	SOP8
New BM1R00150F	2.7 to 32.0	SR	± 0.5	120	4.6	Self-restart	✓	✓	SOP8

Isolated DC/DC Converter ICs

Isolated DC/DC Converter ICs													
Part No.	Output Power (W)	Input Voltage Maximum Rating(V)	Switch Current Limit(A)	Input Voltage Range (V)	Switching Frequency (kHz)	Control Mode	Features						Package
							Enable	Soft Start	Light-Load Efficiency	UVLO	Over-Current Protection	Thermal Protection	
BD7F100HFN-LB	1W at V _{IN} 5.0V	45	1.25	3.0 to 40	400	Adaptive on-time	✓	✓	✓	✓	Recovery	Recovery	HSO8
BD7F100EFJ-LB	5W at V _{IN} 24V						✓	✓	✓	✓	Recovery	Recovery	HTSOP-J8
BD7F200HFN-LB	5W at V _{IN} 12V	45	2.75	8.0 to 40	400	Adaptive on-time	✓	✓	✓	✓	Recovery	Recovery	HSO8
BD7F200EFJ-LB	10W at V _{IN} 24V						✓	✓	✓	✓	Recovery	Recovery	HTSOP-J8
☆BD7J200HFN-LA	10W at V _{IN} 48V	80	1.38	8.0 to 80	400	Adaptive on-time	✓	✓	✓	✓	Recovery	Recovery	HSO8
☆BD7J200EFJ-LA							✓	✓	✓	✓	Recovery	Recovery	HTSOP-J8

☆ : Under Development

Isolated DC/DC Controller

Isolated DC/DC Controller									
Part No.	Topology	Primary/Secondary	Supply Voltage (V)	Switching Frequency(kHz)	Frequency Synchronization	I/F	Package	Automotive Grade AEC-Q100	
BD8325FVT-M	Active Clamp Forward	Primary IC	9 to 18	50 to 500	✓	—	TSSOP-B30	YES	

Gate Drivers

Isolated Gate Drivers

Isolated Gate Drivers												
Part No.	Input-side Supply Voltage(V)	Output-side Positive Supply Voltage(V)	Output-side Negative Supply Voltage(V)	Isolation Voltage (Vrms)	I/O Delay Time (ns)	Minimum Input Pulse Width(ns)	Maximum Output Current (A)	Operating Temperature (°C)	Function	Package	Automotive Grade AEC-Q100	
BM6101FV-C	4.5 to 5.5	14 to 24	-12 to 0	2,500	350	180	3	-40 to +125	Miller Clamp/Fail Output/Built-in under voltage lock out circuit/Thermal protection/Short current protection/DESAT/Soft turn-off function for short current protection	SSOP-B20W	YES	
BM6102FV-C	4.5 to 5.5	14 to 20	—	2,500	200	100	3	-40 to +125	Miller Clamp/Fail Output/Built-in under voltage lock out circuit/Thermal protection/Short current protection/DESAT/Soft turn-off function for short current protection	SSOP-B20W	YES	
BM6104FV-C	4.5 to 5.5	10 to 24	-12 to 0	2,500	150	90	3	-40 to +125	Miller Clamp/Fail Output/Built-in under voltage lock out circuit/Short current protection/DESAT/Soft turn-off function for short current protection	SSOP-B20W	YES	
BM60014FV-C	4.5 to 5.5	10 to 24	—	2,500	120	70	3	-40 to +125	Miller Clamp/Fail Output/Built-in under voltage lock out circuit	SSOP-B20W	YES	

Isolated Gate Driver(Industrial Equipment)

Part No.	Input-side Supply Voltage(V)	Output-side Positive Supply Voltage(V)	Output-side Negative Supply Voltage(V)	Isolation Voltage (Vrms)	I/O Delay Time (ns)	Minimum Input Pulse Width(ns)	Maximum Output Current (A)	Operating Temperature (°C)	Function	Package
BM6108FV-LB	4.5 to 5.5	10 to 24	-12 to 0	2,500	150	90	3	-40 to +105	Miller Clamp/Fail Output/Built-in under voltage lock out circuit/Short current protection/DESAT/Soft turn-off function for short current protection	SSOP-B20W

Isolated Gate Drivers with Flyback Controller

Part No.	Input-side Supply Voltage(V)	Output-side Positive Supply Voltage(V)	Output-side Negative Supply Voltage(V)	Isolation Voltage (Vrms)	I/O Delay Time (ns)	Minimum Input Pulse Width(ns)	Maximum Output Current (A)	Operating Temperature (°C)	Function	Package	Automotive Grade AEC-Q100
BM60051FV-C	4.5 to 24 4.5 to 5.5	9 to 24	—	2,500	260	180	5	-40 to +125	Miller Clamp/Fail Output/Built-in under voltage lock out circuit/Temperature Monitor/Short current protection/Soft turn-off function for short current protection	SSOP-B28W	YES
BM60055FV-C	4.5 to 30	9 to 24	—	2,500	250	170	5	-40 to +125	Miller Clamp/Fail Output/Built-in under voltage lock out circuit/Thermal protection/Short current protection/Soft turn-off function for short current protection/Over current protection/2 level turn off	SSOP-B28W	YES

Others

IGBT/MOSFET High-side Low-side Gate Drivers(Industrial Equipment)									
Part No	Input-side Supply Voltage(V)	High side Floating Supply Voltage(V)	I/O Delay Time (ns)	minimum Output Current(A)	Dead Time (ns)	Number of Channel	Operating Temperature (°C)	Package	
BS2101F	10 to 18	600	220	0.06/-0.13	—	2	-40 to +125	SOP8	
BS2103F	10 to 18	600	220	0.06/-0.13	160	2	-40 to +125	SOP8	
New BS2114F	10 to 20	600	250	0.5/-0.5	160	2	-40 to +125	SOP8	

IGBT/MOSFET High-side Low-side 3 Phase Bridge Driver(Industrial Equipment)									
Part No	Input-side Supply Voltage(V)	High side Floating Supply Voltage(V)	I/O Delay Time (ns)	Output Current (A)	Dead Time (ns)	Number of Channel	Operating Temperature (°C)	Package	
BS2130F-G	11.5 to 20	600	630/580	0.2/-0.35	300	6	-40 to +125	SOP28	

High Voltage Monitor

Isolated High Voltage Monitor

Part No.	Supply Voltage 1 (V)	Supply Voltage 2 (V)	Isolation Voltage (Vrms)	Circuit Current 1 (mA)	Circuit Current 2 (mA)	Output Duty Accuracy (%)	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
BM67290FV-C	8.0 to 24.0	3.0 to 5.5	2,500	4.6	0.2	±3.5	-40 to +125	SSOP-B20W	YES

Temperature Monitor

Isolated Temperature Monitor

Part No.	Supply Voltage 1 (V)	Supply Voltage 2 (V)	Isolation Voltage (Vrms)	Circuit Current 1 (mA)	Circuit Current 2 (mA)	Input Voltage Range (V)	Output Current Accuracy (%)	Output Duty Accuracy (%)	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
BM66002FV-C	9.0 to 24.0	3.0 to 5.5	2,500	3.75	0.2	1.4 to 4.0	±2.0	±2.0	-40 to +125	SSOP-B20W	YES

Power Management Switch

1 Channel Compact High Side Switch ICs

Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection(A) Min./Typ./Max.	Output Turn on Time (ms)	OCP	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package
BD6538G	2.7 to 5.5	150	H Active	0.5	0.5/-/1.0	1.0	Latch	Recovery	15	—	SSOP5
BD2220G	2.7 to 5.5	160	H Active	0.5	0.5/-/1.0	1.0	Latch	Recovery	15	—	SSOP5
BD2221G	2.7 to 5.5	160	L Active	0.5	0.5/-/1.0	1.0	Latch	Recovery	15	—	SSOP5
BD2224G	2.7 to 5.5	150	H Active	0.5	0.55/0.78/1.0	1.0	Recovery	Recovery	15	—	SSOP5
BD2225G	2.7 to 5.5	150	L Active	0.5	0.55/0.78/1.0	1.0	Recovery	Recovery	15	—	SSOP5
BD2226G	2.7 to 5.5	150	H Active	0.65	0.75/1.0/1.35	1.0	Recovery	Recovery	15	—	SSOP5
BD2227G	2.7 to 5.5	150	L Active	0.65	0.75/1.0/1.35	1.0	Recovery	Recovery	15	—	SSOP5
BD2232G	2.7 to 5.5	100	H Active	1.0	1.15/1.275/1.4	1.0	Recovery	Recovery	15	60	SSOP5
BD2233G	2.7 to 5.5	100	L Active	1.0	1.15/1.275/1.4	1.0	Recovery	Recovery	15	60	SSOP5
BD2240G	2.7 to 5.5	110	H Active	0.75	0.82/0.97/1.12	1.0	Recovery	Recovery	15	60	SSOP5
BD2241G	2.7 to 5.5	110	L Active	0.75	0.82/0.97/1.12	1.0	Recovery	Recovery	15	60	SSOP5
BD2246G	2.7 to 5.5	110	H Active	0.5	0.63/0.765/0.9	1.0	Recovery	Recovery	15	60	SSOP5
BD2247G	2.7 to 5.5	110	L Active	0.5	0.63/0.765/0.9	1.0	Recovery	Recovery	15	60	SSOP5
BD2248G	2.7 to 5.5	110	H Active	0.2	0.2/0.3/0.4	1.0	Recovery	Recovery	15	60	SSOP5
BD2222G*	2.8 to 5.5	90	H Active	1.5	0.2 to 1.7(adjustable)	0.6	Recovery	Recovery	7	—	SSOP6
BD2242G*	2.8 to 5.5	90	H Active	1.5	0.2 to 1.7(adjustable)	0.6	Recovery	Recovery	7	60	SSOP6
BD2243G*	2.8 to 5.5	90	L Active	1.5	0.2 to 1.7(adjustable)	0.6	Recovery	Recovery	7	60	SSOP6

New
New

Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection(A) Min./Typ./Max.	Output Turn on Time (ms)	OCP	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package	Automotive Grade AEC-Q100
BD22621G-M	2.7 to 5.5	120	H Active	0.15	0.18/0.30/0.42	1.0	Recovery	Recovery	15	60	SSOP5	YES
BD2262G-M	2.7 to 5.5	120	H Active	0.2	0.2/0.3/0.4	1.0	Recovery	Recovery	15	60	SSOP5	YES
BD22641G-M	2.7 to 5.5	120	H Active	0.5	0.57/0.76/0.96	1.0	Recovery	Recovery	15	60	SSOP5	YES
BD2264G-M	2.7 to 5.5	120	H Active	0.5	0.63/0.765/0.9	1.0	Recovery	Recovery	15	60	SSOP5	YES
BD2265G-M	2.7 to 5.5	120	L Active	0.5	0.63/0.765/0.9	1.0	Recovery	Recovery	15	60	SSOP5	YES
BD2266G-M	2.7 to 5.5	120	H Active	0.75	0.82/0.97/1.12	1.0	Recovery	Recovery	15	60	SSOP5	YES
BD2267G-M	2.7 to 5.5	120	L Active	0.75	0.82/0.97/1.12	1.0	Recovery	Recovery	15	60	SSOP5	YES
BD2268G-M	2.7 to 5.5	110	H Active	1.0	1.15/1.275/1.4	1.0	Recovery	Recovery	15	60	SSOP5	YES
BD2269G-M	2.7 to 5.5	110	L Active	1.0	1.15/1.275/1.4	1.0	Recovery	Recovery	15	60	SSOP5	YES
BD2244G-M*	2.8 to 5.5	100	H Active	1.5	0.2 to 1.7(adjustable)	0.6	Recovery	Recovery	7	60	SSOP6	YES
BD2245G-M*	2.8 to 5.5	100	L Active	1.5	0.2 to 1.7(adjustable)	0.6	Recovery	Recovery	7	60	SSOP6	YES

1 Channel Compact High Side Switch ICs(Industrial Equipment)

Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection(A) Min./Typ./Max.	Output Turn on Time (ms)	OCP	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package
BD6538G-LB	2.7 to 5.5	150	H Active	0.5	0.5/-/1.0	1.0	Latch	Recovery	15	—	SSOP5
BD2220G-LB	2.7 to 5.5	160	H Active	0.5	0.5/-/1.0	1.0	Latch	Recovery	15	—	SSOP5
BD2221G-LB	2.7 to 5.5	160	L Active	0.5	0.5/-/1.0	1.0	Latch	Recovery	15	—	SSOP5
BD2224G-LB	2.7 to 5.5	150	H Active	0.5	0.55/0.78/1.0	1.0	Recovery	Recovery	15	—	SSOP5
BD2225G-LB	2.7 to 5.5	150	L Active	0.5	0.55/0.78/1.0	1.0	Recovery	Recovery	15	—	SSOP5
BD2226G-LB	2.7 to 5.5	150	H Active	0.65	0.75/1.0/1.35	1.0	Recovery	Recovery	15	—	SSOP5
BD2227G-LB	2.7 to 5.5	150	L Active	0.65	0.75/1.0/1.35	1.0	Recovery	Recovery	15	—	SSOP5

*UL approved File No. E243261

1 Channel High Side Switch ICs												
Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection(A) Min./Typ./Max.	Output Turn on Time (ms)	OCP	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package	
BD2055AFJ	2.7 to 5.5	80	H Active	0.25	0.3/0.5/0.8	1.2	Recovery	Recovery	1.3	—	SOP-J8	
BD2045AFJ	2.7 to 5.5	80	L Active	0.25	0.3/0.5/0.8	1.2	Recovery	Recovery	1.3	—	SOP-J8	
BD6519FJ	3.0 to 5.5	100	L Active	0.5	0.7/1.1/1.6	1.0	Recovery	Recovery	2.5	—	SOP-J8	
BD2051AFJ	2.7 to 5.5	80	H Active	0.5	0.7/1.0/1.6	1.2	Recovery	Recovery	1.3	—	SOP-J8	
BD2041AFJ	2.7 to 5.5	80	L Active	0.5	0.7/1.0/1.6	1.2	Recovery	Recovery	1.3	—	SOP-J8	
BD82001FVJ	2.7 to 5.5	70	H Active	0.9	1.0/1.5/2.0	0.8	Recovery	Recovery	15	—	TSSOP-B8J	
BD82000FVJ	2.7 to 5.5	70	L Active	0.9	1.0/1.5/2.0	0.8	Recovery	Recovery	15	—	TSSOP-B8J	
BD2065AFJ	2.7 to 5.5	80	H Active	1.0	1.1/1.5/2.3	1.2	Recovery	Recovery	2.5	—	SOP-J8	
BD2061AFJ	2.7 to 5.5	80	L Active	1.0	1.1/1.5/2.3	1.2	Recovery	Recovery	2.5	—	SOP-J8	
BD82065FVJ	2.7 to 5.5	70	H Active	1.1	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	TSSOP-B8J	
BD82061FVJ	2.7 to 5.5	70	L Active	1.1	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	TSSOP-B8J	
BD82020FVJ*	2.8 to 5.5	90	H Active	1.1	1.1/1.5/2.0	0.4	Recovery	Recovery	12	75	TSSOP-B8J	
BD82021FVJ*	2.8 to 5.5	90	L Active	1.1	1.1/1.5/2.0	0.4	Recovery	Recovery	12	75	TSSOP-B8J	
BD82022FVJ*	2.8 to 5.5	90	H Active	1.5	1.5/2.0/2.6	0.4	Recovery	Recovery	12	75	TSSOP-B8J	
BD82023FVJ*	2.8 to 5.5	90	L Active	1.5	1.5/2.0/2.6	0.4	Recovery	Recovery	12	75	TSSOP-B8J	
BD82024FVJ*	2.8 to 5.5	90	H Active	2.1	2.1/2.5/3.3	0.4	Recovery	Recovery	12	75	TSSOP-B8J	
BD82025FVJ*	2.8 to 5.5	90	L Active	2.1	2.1/2.5/3.3	0.4	Recovery	Recovery	12	75	TSSOP-B8J	
BD82028FVJ*	4.5 to 5.5	72	H Active	0.5	0.6/1.0/1.2	0.3	Recovery	Recovery	13	75	TSSOP-B8J	
BD82029FVJ*	4.5 to 5.5	72	L Active	0.5	0.6/1.0/1.2	0.3	Recovery	Recovery	13	55	TSSOP-B8J	
BD82030FVJ*	4.5 to 5.5	72	H Active	1.0	1.05/1.5/1.8	0.3	Recovery	Recovery	13	55	TSSOP-B8J	
BD82031FVJ*	4.5 to 5.5	72	L Active	1.0	1.05/1.5/1.8	0.3	Recovery	Recovery	13	55	TSSOP-B8J	
BD82032FVJ*	4.5 to 5.5	72	H Active	1.5	1.55/2.0/2.3	0.3	Recovery	Recovery	13	55	TSSOP-B8J	
BD82033FVJ*	4.5 to 5.5	72	L Active	1.5	1.55/2.0/2.3	0.3	Recovery	Recovery	13	55	TSSOP-B8J	
BD82034FVJ*	4.5 to 5.5	72	H Active	2.0	2.05/2.5/2.8	0.3	Recovery	Recovery	13	55	TSSOP-B8J	
BD82035FVJ*	4.5 to 5.5	72	L Active	2.0	2.05/2.5/2.8	0.3	Recovery	Recovery	13	55	TSSOP-B8J	
Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection(A) Min./Typ./Max.	Output Turn on Time (ms)	OCP	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package	Automotive Grade AEC-Q100
BD82004FVJ-M	2.7 to 5.5	70	H Active	0.9	1.0/1.5/2.0	0.8	Recovery	Recovery	15	—	TSSOP-B8J	YES
BD82005FVJ-M	2.7 to 5.5	70	L Active	0.9	1.0/1.5/2.0	0.8	Recovery	Recovery	15	—	TSSOP-B8J	YES
BD82006FVJ-M	2.7 to 5.5	70	H Active	1.1	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	TSSOP-B8J	YES
BD82007FVJ-M	2.7 to 5.5	70	L Active	1.1	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	TSSOP-B8J	YES
1 Channel High Side Switch ICs(Industrial Equipment)												
Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection(A) Min./Typ./Max.	Output Turn on Time (ms)	OCP	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package	
BD82001FVJ-LB	2.7 to 5.5	70	H Active	0.9	1.0/1.5/2.0	0.8	Recovery	Recovery	15	—	TSSOP-B8J	
BD82000FVJ-LB	2.7 to 5.5	70	L Active	0.9	1.0/1.5/2.0	0.8	Recovery	Recovery	15	—	TSSOP-B8J	
BD82065FVJ-LB	2.7 to 5.5	70	H Active	1.1	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	TSSOP-B8J	
BD82061FVJ-LB	2.7 to 5.5	70	L Active	1.1	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	TSSOP-B8J	
2 Channel High Side Switch ICs												
Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection(A) Min./Typ./Max.	Output Turn on Time (ms)	OCP	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package	
BD2056AFJ	2.7 to 5.5	100	H Active	0.3	0.3/0.5/0.9	1.8	Recovery	Recovery	1.3	—	SOP-J8	
BD2046AFJ	2.7 to 5.5	100	L Active	0.3	0.3/0.5/0.9	1.8	Recovery	Recovery	1.3	—	SOP-J8	
BD6516F*	3.0 to 5.5	110	H Active	1.1	1.2/1.65/2.5	1.3	Recovery	Recovery	1.0	—	SOP8	
BD6517F*	3.0 to 5.5	110	L Active	1.1	1.2/1.65/2.5	1.3	Recovery	Recovery	1.0	—	SOP8	
BD2052AFJ	2.7 to 5.5	100	H Active	0.6	0.7/1.0/1.8	1.8	Recovery	Recovery	1.3	—	SOP-J8	
BD2042AFJ	2.7 to 5.5	100	L Active	0.6	0.7/1.0/1.8	1.8	Recovery	Recovery	1.3	—	SOP-J8	
BD2066FJ*	2.7 to 5.5	80	H Active	1.0	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	SOP-J8	
BD2062FJ*	2.7 to 5.5	80	L Active	1.0	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	SOP-J8	
Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection(A) Min./Typ./Max.	Output Turn on Time (ms)	OCP	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package	Automotive Grade AEC-Q100
BD2068FJ-M	2.7 to 5.5	80	H Active	1.0	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	SOP-J8	YES
BD2069FJ-M	2.7 to 5.5	80	L Active	1.0	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	SOP-J8	YES
2 Channel High Side Switch ICs(Industrial Equipment)												
Part No.	Input Voltage (V)	ON Resistance (mΩ)	Control Input Logic	Output Current (A)	Over Current Detection(A) Min./Typ./Max.	Output Turn on Time (ms)	OCP	Thermal Shut Down	Flag Output Delay/ at Over Current (ms)	Discharge Resistance (Ω)	Package	
BD2066FJ-LB*	2.7 to 5.5	80	H Active	1.0	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	SOP-J8	
BD2062FJ-LB*	2.7 to 5.5	80	L Active	1.0	1.5/2.4/3.0	0.8	Recovery	Recovery	15	—	SOP-J8	

*UL approved File No. E243261

Load Switch ICs											
Part No.	Input Voltage (V)	Current Consumption (μA)	ON Resistance (mΩ)	Number of Output channel (ch)	Control Input Logic	Output Current (A)	Over Current Detection(A) Min./Typ./Max.	Output Turn on Time (ms)	Thermal Shut Down	Discharge Resistance (Ω)	Package (mm)
BD6524HFV	3.0 to 5.5	50	200	1	H Active	0.5	—	0.4	—	200	HVSO6
BD6528HFV	V _{DD} =2.7 to 4.5 V _{IN} =0.0 to 2.7	20	110	1	H Active	0.5	—	0.5	—	70	HVSO6
BD6529GUL	V _{DD} =2.7 to 4.5 V _{IN} =0.0 to 2.7	20	100	1	H Active	0.5	—	0.5	—	70	VCSP50L1 (1.0×1.5) H=0.55
BD2200GUL	2.7 to 5.5	20	100	1	H Active	0.5	—	1.0	—	70	VCSP50L1 (1.0×1.5) H=0.55
BD2201GUL	2.7 to 5.5	20	100	1	H Active	1.0	—	1.0	—	70	VCSP50L1 (1.0×1.5) H=0.55
BD2204GUL	V _{IN1} =2.7 to 4.5 V _{IN2} =1.2 to 2.4	30	120	1	H Active	0.5	—	0.06	Recovery	80	VCSP50L1 (1.0×1.5) H=0.55
BD2202G	2.7 to 3.6	70	150	1	H Active	0.2	0.25/—/1.0	1.2	Recovery	—	SSOP5
BD2206G	2.7 to 3.6	70	150	1	H Active	0.5	0.8/—/1.6	1.2	Recovery	—	SSOP5
BD6520F	3 to 5.5	110	50	1	H Active	2.0	—	2.0	Latch	350	SOP8
BD6522F	3 to 5.5	110	50	1	H Active	2.0	—	1.0	Latch	350	SOP8
Load Switch ICs(Industrial Equipment)											
BD2202G-LB	2.7 to 3.6	70	150	1	H Active	0.2	0.25/—/1.0	1.2	Recovery	—	SSOP5
BD2206G-LB	2.7 to 3.6	70	150	1	H Active	0.5	0.8/—/1.6	1.2	Recovery	—	SSOP5
1 Channel Compact High Side Load Switch ICs											
Part No.	Input Voltage (V)	Current Consumption (μA)	ON Resistance (mΩ)	Number of Output channel (ch)	Control Input Logic	Output Current (A)	Over Current Detection(A) Min.	Output Turn on Time (ms)	Thermal Shut Down	Discharge Resistance (Ω)	Package (mm)
BUS1DJC0GWZ	1.1 to 5	0.35	63	1	H Active	2	—	0.012	—	80	UCSP30L1 (0.8×0.8) H=0.35
BUS1DJC3GWZ	1.1 to 5	0.35	63	1	H Active	2	—	0.19	—	80	UCSP30L1 (0.8×0.8) H=0.35
2 Channel Compact High Side Load Switch IC											
BDS2EJAAGUL	3 to 3.6	0.2	45	2	H Active	1	1.0	— (Soft Start)	Recovery	30	VCSP50L1 (1.95×1.0) H=0.55
Controller IC for High Side NMOSFET											
Part No.	Input Voltage (V)	Current Consumption (μA)	Output Voltage(V)		Number of Output channel (ch)	Control Input Logic	Output Turn on Time (ms)	Discharge Resistance (Ω)	Package		
			V _{CC} =3.3V	V _{CC} =5.0V							
BD2270HFV	2.7 to 5.5	50	9.5	13.5	1	H Active	0.13	200	HVSO5		
Controller IC for High Side NMOSFET(Industrial Equipment)											
BD2270HFV-LB	2.7 to 5.5	50	9.5	13.5	1	H Active	0.13	200	HVSO5		

Wireless Power

Receiver ICs(WPC(Qi) v1.2 and AirFuel Inductive)								
Part No.	Wireless Power Standard	Output Power (W)	Output Voltage (V)	Input Voltage (V)	Operating Frequency (A)	Operating Frequency (KHz)	Operating Temperature (°C)	Package (mm)
New BD57011AGWL	WPC(Qi) v1.2	5	4.3 to 5.3	20	1.1	210	-20 to +85	UCSP50L3C (3.36x2.62) H=0.57Max.
BD57015GWL	WPC(Qi) v1.2 and AirFuel Inductive	15	5.0 to 12	20	1.5	480	-30 to +85	UCSP50L4C (4.10x3.2) H=0.57Max.
Transmitter ICs(WPC(Qi) v1.2)								
Part No.	Wireless Power Standard	Tx Type	Output Power (W)	Operating Temperature (°C)	Recommendation MCU	Package (mm)		
BD57021MWV	WPC(Qi) v1.2	LP-A11	5	-20 to +85	ML610Q772	UQFN040V5050 (5.0x5.0) H=1.0Max.		
BD57020MWV	WPC(Qi) v1.2	MP-A7	15	-20 to +85	ML610Q772	UQFN040V5050 (5.0x5.0) H=1.0Max.		

(LAPIS Semiconductor products)

Power Receiver LSI(13.56MHz Wireless Charge)											
Part No.	Functions	Supply Voltage	Frequency Band (MHz)	Data Flash	Charging Control	I/F	ADC (method)	Clock Source	Operating Temperature (°C)	Package	Halogen Free Support
New ML7630	Power Receiving Control	Generated from magnetic field	0.2	2K	Charging Output Voltage/Current setting	iFC slave×1ch iFC master×1ch UART×1ch	10bit (SA type) ×1ch	—	-40 to +85	WL-CSP34	✓
Power Transmitter LSI(13.56MHz Wireless Charge)											
Part No.	Functions	Supply Voltage (V)	Frequency Band (MHz)	Data Flash	Charging Control	I/F	ADC (method)	Clock Source	Operating Temperature (°C)	Package	Halogen Free Support
New ML7631	Power Transmission Control	5	6.78	2K	—	iFC slave×1ch iFC master×1ch UART×1ch	10bit (SA type) ×1ch	—	-40 to +85	WQFN32	✓

Battery Management

Battery Charger ICs							
Part No.	Supply Voltage (V)	ON Resistance (mΩ)	Charge Voltage (V)	Charge Current Accuracy(%)	Switching Frequency (kHz)	Operating Temperature (°C)	Package
BD8664GW	4.1 to 5.5	70	8.3±0.5%	± 2	1,000	-30 to +85	UCSP75M2
BD8665GW	4.1 to 5.5	70	8.4±0.5%	± 3	1,000	-30 to +85	UCSP75M2
BD8668GW	4.1 to 5.5	70	8.4±0.5%	± 3	1,000	-30 to +85	UCSP75M2
BD99950MUV	6 to 24	—	8.4/12.6±0.5%	± 3	600 to 1,200	-10 to +85	VQFN020PV3535

Solar Charge Management IC						
Part No.	Supply Voltage (V)	Charge Current (mA)	Switching Frequency (kHz)	Over Current Detection Level(A)	MPPT	Package (mm)
BU1840AMUV	0.625 to 1.98	400	160, 320	Min. 3.0	✓	VQFN024V4040 (4.1×4.1) H=1.0 Max.

Charge Protection ICs

Standard Protection type									
Part No.	Absolute Maximum Ratings(V)	Over Voltage Detection Level(V)	Under Voltage Detection Level(V)	Over Current Detection Level(A)	Ron (mΩ)	OK/FLGB PIN Logic			Package (mm)
						<UVLO	Normal	>OVLO	
BD6040GUL	+30	6.4 ± 0.2	2.65 ± 0.12	Min. 1.2	125(Typ.)	H	L	H	VCSP50L1 (1.6×1.6) H=0.55 Max.
BD6041GUL	+30	5.85 ± 0.15	2.65 ± 0.12	Min. 1.2	125(Typ.)	H	L	H	VCSP50L1 (1.6×1.6) H=0.55 Max.
BD6042GUL	+30	6.2 ± 0.2	2.65 ± 0.12	Min. 1.2	125(Typ.)	H	L	H	VCSP50L1 (1.6×1.6) H=0.55 Max.
BD6044GUL	+36	6.4 ± 0.2	2.65 ± 0.12	Min. 1.2	125(Typ.)	H	H	L	VCSP50L1 (1.6×1.6) H=0.55 Max.
BD6049GUL	+30	6.8 ± 0.17	2.65 ± 0.12	Min. 1.2	125(Typ.)	H	H	L	VCSP50L1 (1.6×1.6) H=0.55 Max.
BD91409GW	+30	6.25 ± 0.15	3.125 ± 0.1	Min. 2.0	75(Typ.)	—	—	—	UCSP75M2 (2.8×2.8) H=0.85 Max.

Negative Voltage Protection type									
Part No.	Absolute Maximum Ratings(V)	Over Voltage Detection Level(V)	Under Voltage Detection Level(V)	Over Current Detection Level(A)	Ron (mΩ)	<UVLO	Normal	>OVLO	Package (mm)
BD6046GUL	± 30	6.7 ± 0.2	3.6 ± 0.18	Min. 1.2	250(Typ.)	H	H	L	VCSP50L2 (2.5×2.5) H=0.55 Max.
BD6047AGUL	± 30	5.85 ± 0.15	3.6 ± 0.18	Min. 1.7	125(Typ.)	H	H	L	VCSP50L1 (1.95×1.95) H=0.55 Max.

Standard Protection Type : Charger protection IC provides over voltage protection for charger IC. Built-in circuits include overvoltage lockout, overcurrent limit, undervoltage protection, internal start up delay, and status flag.

Negative Voltage Protection Type : Addition to the conventional standard charge protection IC, it prevents the negative voltage happened by the USB reverse insertion without any additional components.

Cell Balance IC of Power Storage Element Cells

EDLC Cell Balance IC(4 to 6 series)									
Part No.	Absolute Maximum Ratings(V)	Cell Voltage Detection RangeVCB(V)	Over-voltage Detection Voltage1(V)	Over-voltage Detection Voltage2(V)	Shunt SW Ron (Ω)	Function			Package (mm)
						EN	OVLO	Stack IC	
BD14000EFV-C	+28	2.4 to 3.1V ± (1%) (0.1V/step usable)	VCB+0.15 or 0.25 (OVLOSEL = L or H)	VCB+0.3 or 0.5 (OVLOSEL = L or H)	1 (Typ.)	✓	✓	✓	HTSSOP-B30 (10.0×7.6) H=1.0 Max.

Li-ion Battery Monitoring LSIs

(LAPIS Semiconductor products)

Stand-alone type														
Part No.	Description	Supply Voltage (V)	Overvoltage Detection/ Measurement Accuracy (Typ.) (Note1)	FET Driver for Charge-Discharge Control	Current Consumption(Typ.)		Overvoltage and Undervoltage Detection	Charge and Discharge Over-Current Detection	Open Wire Detection	Short Circuit Detection	Setting Threshold	Operation Temperature (°C)	Package	Halogen Free Support
					Operating	Power-down								
ML5203	4 to 7-cells supported, battery cell voltage and current protection LSI	+5 to +42	±25mV	NMOS	30μA	0.1μA	✓	✓	—	—	Mask option	-40 to +85	SSOP30	—
ML5232	5 to 14-cells supported, 2nd protection LSI	+7 to +80	±20mV	—	2.5μA	—	Overvoltage detection	—	—	—	Mask option	-40 to +105	TSSOP20	✓
ML5233	4 to 10-cells supported, cell voltage, current and temperature protection LSI	+5 to +60	±15mV	NMOS	25μA	0.1μA	✓	✓	—	✓	Mask option	-40 to +85	LQFP32	✓
ML5235	5 to 13-cells supported, cell voltage and current protection LSI	+7 to +80	±25mV	NMOS	25μA	0.1μA	✓	✓	—	—	Mask option	-40 to +85	SSOP30	✓
New ML5241	3 to 5-cells supported, cell voltage, open wire protection LSI	+5 to +25	±25mV	—	1μA	0.1μA	Overvoltage detection	—	✓	—	Mask option	-20 to +85	WSOP10	✓
New ML5245	5 to 13-cells supported, cell voltage, current and temperature protection LSI	+7 to +80	±15mV	NMOS	25μA	0.1μA	✓	✓	—	✓	Mask option	-40 to +85	SSOP30	—

Analog Frontend type														
Part No.	Description	Supply Voltage (V)	Overvoltage Detection/ Measurement Accuracy (Typ.) (Note1)	FET Driver for Charge-Discharge Control	Current Consumption(Typ.)		Overvoltage and Undervoltage Detection	Charge and Discharge Over-Current Detection	Open Wire Detection	Short Circuit Detection	Setting Threshold	Operation Temperature (°C)	Package	Halogen Free Support
					Operating	Power-down								
New ML5204	4 to 5-cells supported, cell voltage and current monitoring LSI, with cell balancing switch, overvoltage/undervoltage/overcurrent detection status	+3.3 to +42	±25mV	—	14μA	—	✓	✓	—	✓	Mask option	-40 to +85	TSSOP20	✓
ML5238	16 cells supported, cell voltage and current monitoring LSI with cell balancing switch	+7 to +80	±20mV	NMOS	50μA	0.1μA	—	—	—	✓	MCU control	-40 to +85	QFP44	✓
ML5236	14 cells supported, cell voltage, current and temperature monitoring LSI with integrated ADC and cell balancing switch	+8 to +64	±15mV	High-side NMOS	330μA	0.1μA	Overvoltage detection	—	—	✓	MCU control	-40 to +85	TQFP44	✓
ML5239	16 cells supported, cell voltage and temperature monitoring LSI with integrated ADC and cell balancing driver	+10 to +72	±10mV	—	1.2mA	0.1μA	—	—	—	—	MCU control	-40 to +85	TQFP64	✓
New ML5248	7 cells supported, cell voltage and current monitoring LSI with cell balancing switch	+5 to +31.5	±20mV	High-side NMOS	32μA	0.1μA	—	—	—	✓	MCU control	-40 to +85	SSOP30	—

Dedicated Controller									
Part No.	Description	Supply Voltage(V)		AD Converter	Current Consumption (Typ.)			Package	Halogen Free Support
		V _{DD}	AV _{DD}		Operating	Suspended(HALT)	Shutdown		
ML610Q486P	nX-U8/100, 32KB Flash, 1KB RAM, Master Clock 500kHz	1.6 to 3.6	2.2 to 3.6	12bit, 4ch	400μA	15μA	0.2μA	TQFP48	✓
ML610Q488P	nX-U8/100, 48KB Flash with ECC, 2KB RAM, Master Clock 1MHz	1.8 to 3.6	2.2 to 3.6	10bit, 3ch	175μA	1.4μA	0.2μA	TQFP48	✓

Note1 : Overvoltage Detection Accuracy for Stand-alone type, Measurement Accuracy for Analog Frontend type.

A check mark of halogen free support means that we will be able to ship out the halogen free products. For details, please inquire to the sales.

General-purpose ICs

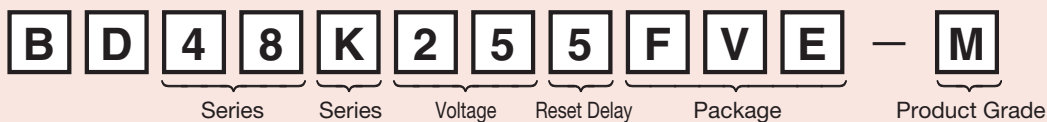
Voltage Detectors(Reset ICs)

Voltage Detectors(Reset ICs)

- Voltage Detectors (Reset ICs)** ▶ P.A64
- Voltage Detectors with Adjustable Delay Time** ▶ P.A65
- Voltage Detectors with Built-in Delay Time** ▶ P.A65
- Voltage Detectors for Automotive** ▶ P.A66
- Voltage Detectors with Watchdog Timer** ▶ P.A66
- Composite type Voltage Detectors (2ch+Comparator)** ▶ P.A66

A Power Management

Voltage Detectors How to find part number



- | | | | | | |
|---|--|---|---|---|---|
| <p style="text-align: center;">Series</p> <p>48: Without Delay Time, Open-Drain Output type
 49: Without Delay Time, CMOS Output type
 45: Fixed Delay Time, Open-Drain Output type
 46: Fixed Delay Time, CMOS Output type
 52: Adjustable Delay Time, Open-Drain Output type
 53: Adjustable Delay Time, CMOS Output type
 47: Without Delay Time, Open-Collector Output type (Bipolar)
 71: Without Delay Time, Open-Drain Output type</p> | <p style="text-align: center;">Series Option</p> <p>E / None: SSOP5(SOT23-5)/HVSOF5 / SOP4(SC82)
 K: SSOP3(SOT23-3) 1pin:GND
 L: SSOP3(SOT23-3) 3pin:GND</p> | <p style="text-align: center;">Voltage Detection Value</p> <p>Ex. 23 : 2.3V</p> | <p style="text-align: center;">Reset Delay Time</p> <p>None: Without/Adjustable Delay Time
 5: 50ms
 1: 100ms
 2: 200ms
 4: 400ms</p> | <p style="text-align: center;">Package</p> <p>G: SSOP5(SOT23-5)
 SSOP3(SOT23-3)
 FVE: VSOF5
 F: SOP4(SC82)
 HFV: HVSOF5</p> | <p style="text-align: center;">Product Grade</p> <p>None: For Consumer
 M: For Car Infotainment
 C: For Car</p> |
|---|--|---|---|---|---|

Voltage Detectors(Reset ICs)

Voltage Detectors(Reset ICs)

Standard CMOS Voltage Detector ICs												
Part No.	Types	Voltage Detection Precision (%)	Voltage Detection (V)	RESET Active Voltage Range (V)	Detection Step (V)	Output Type	Circuit Current(μA)		Hysteresis Voltage (V)	*L*Output Current(mA)		Package
							ON	OFF		V _{DD} =1.2V	V _{DD} =2.4V	
BD48ExxG series	0.1V step 38 type	±1	2.3 to 6.0	0.95 to 10.0	0.1	Open drain	0.60 (Vs=4.8V)	0.85 (Vs=4.8V)	Vs×0.05	1	4	SSOP5
BD48xxFVE series	0.1V step 38 type	±1	2.3 to 6.0	0.95 to 10.0	0.1							VSOF5
BD48KxxG series	0.1V step 38 type	±1	2.3 to 6.0	0.95 to 10.0	0.1							SSOP3(GND 1pin)
BD48LxxG series	0.1V step 38 type	±1	2.3 to 6.0	0.95 to 10.0	0.1							SSOP3(GND 3pin)
BD49ExxG series	0.1V step 38 type	±1	2.3 to 6.0	0.95 to 10.0	0.1	CMOS	0.60 (Vs=4.8V)	0.85 (Vs=4.8V)	Vs×0.05	1	4	SSOP5
BD49xxFVE series	0.1V step 38 type	±1	2.3 to 6.0	0.95 to 10.0	0.1							VSOF5
BD49KxxG series	0.1V step 38 type	±1	2.3 to 6.0	0.95 to 10.0	0.1							SSOP3(GND 1pin)
BD49LxxG series	0.1V step 38 type	±1	2.3 to 6.0	0.95 to 10.0	0.1							SSOP3(GND 3pin)

*Detection voltage (from 2.3V to 6.0V as 0.1V step) is applied in the xx of part No.. Ex : In case of 2.3V detection voltage in BD48ExxG series, part No. is BD48E23G.

Voltage Detector ICs(Low Voltage Detection type)

Part No.	Types	Voltage Detection Precision (%)	Voltage Detection (V)	RESET Active Voltage Range (V)	Detection Step (V)	Output Type	Circuit Current(μA)		Hysteresis Voltage(V)	*L*Output Current(mA)		Package
							ON	OFF		V _{DD} =1.2V	V _{DD} =2.4V	
BU48xxG series	0.1V step 40 type	±1	0.9 to 4.8	0.7 to 7.0	0.1	Open drain	0.40 (V _{DET} =4.8V)	0.55 (V _{DET} =4.8V)	V _{DET} × 0.05	3.3	6.5	SSOP5
BU48xxFVE series	0.1V step 40 type	±1	0.9 to 4.8	0.7 to 7.0	0.1							VSO5F5
BU48xxF series	0.1V step 40 type	±1	0.9 to 4.8	0.7 to 7.0	0.1							SOP4
BU49xxG series	0.1V step 40 type	±1	0.9 to 4.8	0.7 to 7.0	0.1	CMOS	0.40 (V _{DET} =4.8V)	0.55 (V _{DET} =4.8V)	V _{DET} × 0.05	3.3	6.5	SSOP5
BU49xxFVE series	0.1V step 40 type	±1	0.9 to 4.8	0.7 to 7.0	0.1							VSO5F5
BU49xxF series	0.1V step 40 type	±1	0.9 to 4.8	0.7 to 7.0	0.1							SOP4

Bipolar Voltage Detector ICs

Part No.	Types	Voltage Detection Precision (%)	Voltage Detection (V)	RESET Active Voltage Range (V)	Detection Step (V)	Output Type	Circuit Current (μA)		Hysteresis Voltage(mV)	*L*Output Current (mA)	Package
							I _{CC} L	I _{CC} H			
BD47xxG series	0.1V step 28 type	±1	1.9 to 4.6	0.85 to 10.0	0.1	Open collector	1.5	1.6	50	15	SSOP5

Over Voltage Detector ICs

BD71L4Lx-1 series	2 type	±0.8	4.05	1.2 to 7.0	—	Open drain	0.6	0.7	0.03	4 (V _{DD} =4.25V)	SSOP5 HVSO5F5
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Voltage Detector ICs(Low Voltage Detection Type): Detection voltage(from 0.9V to 4.8V as 0.1V step) is applied in the xx of part No.. Ex : In case of 2.3V detection voltage in BU48xxG series, part No. is BU4823G.
 Bipolar Voltage Detector ICs : *Detection voltage(from 1.9V to 4.6V as 0.1V step) is applied in the xx of part No.. Ex : In case of 2.3V detection voltage in BD47xxG series, part No. is BD4723G.

Voltage Detectors with Adjustable Delay Time

Voltage Detectors with Adjustable Delay Time

Part No.	Types	Voltage detection precision at Ta=25°C (%)	Voltage Detection (V)	RESET Active Voltage Range (V)	Detection Step (V)	Output Type	Circuit Current(μA)		Hysteresis Voltage (V)	*L*Output Current (mA)		RESET Active Timeout Period (ms)	Delay Circuit Resistance (MΩ)	Package
							ON	OFF		V _{DD} =1.2V	V _{DD} =2.4V			
BD52ExxG series	0.1V step 38 type	±1	2.3 to 6.0	0.95 to 10.0	0.1	Open drain	0.90 (V _{DET} =4.8V)	0.85 (V _{DET} =4.8V)	V _{DET} × 0.05	1.2	5.0	Variable	9	SSOP5
BD52xxFVE series	0.1V step 38 type	±1	2.3 to 6.0	0.95 to 10.0	0.1									VSO5F5
BD53ExxG series	0.1V step 38 type	±1	2.3 to 6.0	0.95 to 10.0	0.1	CMOS	0.90 (V _{DET} =4.8V)	0.85 (V _{DET} =4.8V)	V _{DET} × 0.05	1.2	5.0	Variable	9	SSOP5
BD53xxFVE series	0.1V step 38 type	±1	2.3 to 6.0	0.95 to 10.0	0.1									VSO5F5

Voltage Detectors with Adjustable Delay Time(Low Voltage Detection type)

Part No.	Types	Voltage Detection Precision (%)	Voltage Detection (V)	RESET Active Voltage Range (V)	Detection Step (V)	Output Type	Circuit Current(μA)		Hysteresis Voltage (V)	*L*Output Current (mA)		RESET Active Timeout Period (ms)	Delay Circuit Resistance (MΩ)	Package
							ON	OFF		V _{DD} =1.2V	V _{DD} =2.4V			
BU42xxG series	0.1V step 40 type	±1	0.9 to 4.8	0.7 to 7.0	0.1	Open drain	0.40 (V _{DET} =4.8V)	0.55 (V _{DET} =4.8V)	V _{DET} × 0.05	3.3	6.5	Variable	10	SSOP5
BU42xxFVE series	0.1V step 40 type	±1	0.9 to 4.8	0.7 to 7.0	0.1									VSO5F5
BU42xxF series	0.1V step 40 type	±1	0.9 to 4.8	0.7 to 7.0	0.1	CMOS	0.40 (V _{DET} =4.8V)	0.55 (V _{DET} =4.8V)	V _{DET} × 0.05	3.3	6.5	Variable	10	SOP4
BU43xxG series	0.1V step 40 type	±1	0.9 to 4.8	0.7 to 7.0	0.1									VSO5F5
BU43xxFVE series	0.1V step 40 type	±1	0.9 to 4.8	0.7 to 7.0	0.1									VSO5F5
BU43xxF series	0.1V step 40 type	±1	0.9 to 4.8	0.7 to 7.0	0.1	CMOS	0.40 (V _{DET} =4.8V)	0.55 (V _{DET} =4.8V)	V _{DET} × 0.05	3.3	6.5	Variable	10	SOP4

Voltage Detector with Adjustable Delay Time(SENSE type)

Part No.	Voltage Detection Precision at Ta=25°C (%)	Voltage Detection (V)	Power Supply Voltage Range (V)	Output Type	Circuit Current (μA)	Hysteresis Voltage (V)	Output ON Resistance (Ω)	RESET Active Timeout Period (ms)	Package
BD4142HFV	±1.8	0.5	3 to 5.5	Open drain	7.5	0.01	100	Variable	HVSO5F5

Adjustable Delay Time Setting Voltage Detector ICs : Detection voltage(from 2.3V to 6.0V as 0.1V step) is applied in the xx of part No.. Ex : In case of 2.3V detection voltage in BD52ExxG series, part No. is BD52E23G.
 Adjustable Delay Time Setting Voltage Detector ICs(Low Voltage Detection Type) : Detection voltage(from 0.9V to 4.8V as 0.1V step) is applied in the xx of part No.. Ex : In case of 2.3V detection voltage in BU42xxG series, part No. is BU4223G.

Voltage Detectors with Built-in Delay Time

Voltage Detectors with Built-in Delay Time

Part No.	Types	Voltage Detection Precision (%)	Voltage Detection (V)	RESET Active Voltage Range (V)	Detection Step (V)	Output Type	Circuit Current(μA)		Hysteresis Voltage (V)	*L*Output current(mA)		RESET Active Timeout Period (ms)	Manual Reset PIN	Package		
							ON	OFF		V _{DD} =1.2V	V _{DD} =2.4V					
BD45xx5G series	0.1V step 26 type	±1	2.3 to 4.8	0.95 to 10.0	0.1	Open drain	0.80 (V _{DET} =4.8V)	0.85 (V _{DET} =4.8V)	V _{DET} × 0.05	1.2	5.0	50	Yes	SSOP5		
BD45xx1G series	0.1V step 26 type	±1	2.3 to 4.8	0.95 to 10.0	0.1									100	Yes	SSOP5
BD45xx2G series	0.1V step 26 type	±1	2.3 to 4.8	0.95 to 10.0	0.1									200	Yes	SSOP5
BU45Kxx2G series	0.1V step 26 type	±1	2.3 to 4.8	0.6 to 10.0	0.1	CMOS	2.3 (V _{DET} =4.8V)	2.8 (V _{DET} =4.8V)	V _{DET} × 0.05	1.2	5.0	200	No	SSOP3(GND 1pin)		
BU45Lxx2G series	0.1V step 26 type	±1	2.3 to 4.8	0.6 to 10.0	0.1									200	No	SSOP3(GND 3pin)
BU45Kxx4G series	0.1V step 26 type	±1	2.3 to 4.8	0.6 to 10.0	0.1									400	No	SSOP3(GND 1pin)
BU45Lxx4G series	0.1V step 26 type	±1	2.3 to 4.8	0.6 to 10.0	0.1	CMOS	0.80 (V _{DET} =4.8V)	0.85 (V _{DET} =4.8V)	V _{DET} × 0.05	1.2	5.0	400	No	SSOP3(GND 3pin)		
BD46xx5G series	0.1V step 26 type	±1	2.3 to 4.8	0.95 to 10.0	0.1									50	Yes	SSOP5
BD46xx1G series	0.1V step 26 type	±1	2.3 to 4.8	0.95 to 10.0	0.1									100	Yes	SSOP5
BD46xx2G series	0.1V step 26 type	±1	2.3 to 4.8	0.95 to 10.0	0.1	CMOS	2.3 (V _{DET} =4.8V)	2.8 (V _{DET} =4.8V)	V _{DET} × 0.05	1.2	5.0	200	Yes	SSOP5		
BU46Kxx2G series	0.1V step 26 type	±1	2.3 to 4.8	0.6 to 10.0	0.1									200	No	SSOP3(GND 1pin)
BU46Lxx2G series	0.1V step 26 type	±1	2.3 to 4.8	0.6 to 10.0	0.1									200	No	SSOP3(GND 3pin)
BU46Kxx4G series	0.1V step 26 type	±1	2.3 to 4.8	0.6 to 10.0	0.1	CMOS	0.80 (V _{DET} =4.8V)	0.85 (V _{DET} =4.8V)	V _{DET} × 0.05	1.2	5.0	400	No	SSOP3(GND 1pin)		
BU46Lxx4G series	0.1V step 26 type	±1	2.3 to 4.8	0.6 to 10.0	0.1									400	No	SSOP3(GND 3pin)
BU46Kxx4G series	0.1V step 26 type	±1	2.3 to 4.8	0.6 to 10.0	0.1									400	No	SSOP3(GND 1pin)
BU46Lxx4G series	0.1V step 26 type	±1	2.3 to 4.8	0.6 to 10.0	0.1	CMOS	2.3 (V _{DET} =4.8V)	2.8 (V _{DET} =4.8V)	V _{DET} × 0.05	1.2	5.0	400	No	SSOP3(GND 3pin)		

*Detection voltage(from 2.3V to 4.8V as 0.1V step) is applied in the xx of part No.. Ex : In case of 2.3V detection voltage in BD45xx5G series, part No. is BD45235G.

Voltage Detectors for Automotive

105°C Corresponding																
Part No.	Types	Voltage Detection Precision at T _{amb} =25°C (%)	Voltage Detection (V)	RESET Active Voltage Range (V)	Detection Step (V)	Output Type	Circuit Current(μA)		Hysteresis Voltage (V)	*L*Output Current (mA)		RESET Active Timeout Period (ms)	Delay Circuit Resistance (MΩ)	Manual Reset PIN	Package	Automotive Grade AEC-Q100
							ON	OFF		V _{DD} =1.2V	V _{DD} =2.4V					
BD48ExxG-M series	0.1V step 38 type	±1	2.3 to 6.0	0.95 to 10.0	0.1	Open drain	0.60 (V _S =4.8V)	0.85 (V _S =4.8V)	V _S ×0.05	1.0	4	—	—	No	SSOP5	YES
BD49ExxG-M series	0.1V step 38 type	±1	2.3 to 6.0	0.95 to 10.0	0.1	CMOS						—	—	No	SSOP5	YES
BD45Exx5G-M series	0.1V step 26 type	±1	2.3 to 4.8	0.95 to 10.0	0.1	Open drain	0.80 (V _{DET} =4.8V)	0.85 (V _{DET} =4.8V)	V _{DET} ×0.05	1.2	5	50	—	Yes	SSOP5	YES
BD45Exx1G-M series	0.1V step 26 type	±1	2.3 to 4.8	0.95 to 10.0	0.1							100	—	Yes	SSOP5	YES
BD45Exx2G-M series	0.1V step 26 type	±1	2.3 to 4.8	0.95 to 10.0	0.1							200	—	Yes	SSOP5	YES
BD46Exx5G-M series	0.1V step 26 type	±1	2.3 to 4.8	0.95 to 10.0	0.1							50	—	Yes	SSOP5	YES
BD46Exx1G-M series	0.1V step 26 type	±1	2.3 to 4.8	0.95 to 10.0	0.1							100	—	Yes	SSOP5	YES
BD46Exx2G-M series	0.1V step 26 type	±1	2.3 to 4.8	0.95 to 10.0	0.1							200	—	Yes	SSOP5	YES
BD52xxG-2M series	0.1V step 42 type	±2.5 (All Temperature)	0.9 to 5.0	0.8 to 6.0	0.1	Open drain	0.23	0.27	V _{DET} ×0.05	1.0mA or more	2.0mA or more	Variable	±30% (All Temperature)	No	SSOP5	YES
BD53xxG-2M series	0.1V step 42 type	±2.5 (All Temperature)	0.9 to 5.0	0.8 to 6.0	0.1	CMOS						Variable	±30% (All Temperature)	No	SSOP5	YES

125°C Corresponding																
Part No.	Types	Voltage Detection Precision Within The Full Temperature Range (%)	Voltage Detection (V)	RESET Active Voltage Range (V)	Detection step(V)	Output Type	Circuit current(μA)		Hysteresis Voltage (V)	*L*Output current (mA)		RESET Active Timeout Period(ms)	Delay Time Precision (%)	Manual Reset PIN	Package	Automotive Grade AEC-Q100
							ON	OFF		V _{DD} =1.2V	V _{DD} =2.4V					
BD52xxG-2C series	0.1V step 42 type	±3	0.9 to 5.0	0.8 to 6.0	0.1	Open drain	0.23	0.27	V _{DET} ×0.05	1.0mA or more	2.0mA or more	Variable	±50 (All Temperature)	No	SSOP5	YES
BD53xxG-2C series	0.1V step 42 type	±3	0.9 to 5.0	0.8 to 6.0	0.1	CMOS						Variable	±50 (All Temperature)	No	SSOP5	YES

Voltage Detectors for Automotive : Detection voltage is applied in the "xx" of part No.. Ex. : In case of 2.3V detection voltage in BD48ExxG-M series, Part No. is BD48E23G-M.

Others

Voltage Detectors with Watchdog Timer														
Part No.	Voltage Detection Precision (%)	Voltage Detection (V)	RESET Active Voltage Range (V)	Output Type	Circuit Current(μA)		Hysteresis Voltage (V)	*L*Output Current(mA)		RESET Active Timeout Period (ms)	Delay Circuit Resistance (MΩ)	WDT Active Voltage Range (V)	INH Mode (Active)	Package
					ON	OFF		V _{DD} =1.2V	V _{DD} =0.5V					
BD37A19FVM	±1.5	1.9	1.0 to 10.0	Open Drain	5	V _{DET} ×0.13		0.7		Variable	10	2.5 to 10.0	H	MSOP8
BD37A41FVM	±1.5	4.1	1.0 to 10.0	Open Drain	5	V _{DET} ×0.035		0.7		Variable	10	2.5 to 10.0	H	MSOP8
BD87A28FVM	±1.5	2.8	1.0 to 10.0	Open Drain	5	V _{DET} ×0.045		0.7		Variable	10	2.5 to 10.0	L	MSOP8
BD87A29FVM	±1.5	2.9	1.0 to 10.0	Open Drain	5	V _{DET} ×0.05		0.7		Variable	10	2.5 to 10.0	L	MSOP8
BD87A34FVM	±1.5	3.4	1.0 to 10.0	Open Drain	5	V _{DET} ×0.05		0.7		Variable	10	2.5 to 10.0	L	MSOP8
BD87A41FVM	±1.5	4.1	1.0 to 10.0	Open Drain	5	V _{DET} ×0.035		0.7		Variable	10	2.5 to 10.0	L	MSOP8
BD99A41F	±1.5	4.1	1.0 to 10.0	Open Drain	5	V _{DET} ×0.035		0.7		Variable	10	2.5 to 10.0	H	SOP8

Composite type Voltage Detectors(2ch+Comparator)								
Part No.	Voltage Detection Precision (%)	Voltage Detection (V)	Output Type	Circuit Current (μA) V _{SB} =5V	Hysteresis Voltage (mV)	RESET Active Timeout Period (ms)	Input Voltage (V)	Package
BD3775AF	±1.5	1.23	Open Collector+ Constant Current Pull Up	350	28	Variable	3.5 to 18	SOP8