

Simple, Easy Solutions[®]

PRODUCT SELECTOR GUIDE

POWER MANAGEMENT SOLUTIONS FOR WORLDWIDE APPLICATIONS

- AC/DC Power Conversion
- DC/DC Power Conversion
- Modules
- Battery Management
- Class-D Audio
- Display Backlighting Power
- LED Lighting & Illumination
- E-Fuse & Load Switches
- Motor Drivers
- Precision Analog

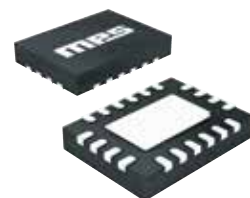


Table of Contents

AC/DC Power Conversion

EasyPower.....	2
Flyback	
Flyback Secondary-Side Regulation.....	2
Quasi-Resonant Flyback Regulator.....	2
Primary-Side Regulation.....	2
LLC with 600V Half-Bridge Drivers.....	2
PFC.....	2
Power Savers.....	3
Synchronous Rectifiers	
Synchronous Rectifiers Flyback Topology.....	3
Synchronous Rectifiers LLC Topology.....	3

LED Lighting & Illumination

AC/DC Isolated.....	3
AC/DC Non-Isolated.....	4
DC/DC Lighting.....	4
Photo Flash.....	4
Protection.....	4

DC/DC Power Conversion

Controllers & Intelli-Phase™	
CPU Core (Controllers).....	5
CPU Core Power (Intelli-Phase).....	5
Switching Regulators	
Step-Down Converters.....	6
Step-Down Controllers.....	10
Step-Up Charge Pump.....	10
Step-Up Controllers.....	10
Step-Up Converters.....	10
Step-Up Energy Storage (Dying GASP).....	11
Step-Up LNB.....	11
Buck Boost.....	11
Modules.....	12
Digital Regulators.....	12
LDO.....	13
Supervisory.....	14
MOSFET Drivers.....	14
PMIC & Multiple Outputs.....	14
Flybacks.....	14
PoE PD Controllers.....	14
PoE PD Identity.....	14

Modules.....See Page 12

Battery Management

Cigarette Lighter Adapters.....	15
Cradle Chargers.....	15
Linear Chargers.....	15
Power Bank Management.....	15
Protection.....	15
Switching Chargers.....	16

Class-D Audio

Analog Input.....	16
PWM Input Power Drivers.....	16

Display Backlighting Power

WLED Drivers (Inductors & Charge Pumps).....	17
EL Drivers.....	17

E-Fuse & Load Switches

USB Load Switches	
Single Channel.....	18
Dual Channel.....	18
E-Fuses (Integrated Hot-Swap Switches).....	19

Precision Analog

Analog Switch.....	19
High-Side Current Sense Amplifiers.....	19
Operational Amplifiers.....	19
Voltage Reference.....	19

Motor Drivers

Bridge Rectifier IC.....	20
Full-Bridge.....	20
Half-Bridge.....	20
Brushless DC Motor Drivers.....	20
Stepper DC Motor Drivers.....	20

Magnetic Sensors

MagAlpha Series.....	20
----------------------	----

Part Number Nomenclature.....21

AC/DC POWER CONVERSION

EASYPower

	Part Number	V _{CC} (Min) (V)	V _{CC} (Max) (V)	Power (W)	Control Method	R _{ds(on)} (Ω)	High-Voltage Start-Up	No-Load Power (mW)	Notes	Package
EasyPower	MP100	-	-	Up to 0.5	Smart LDO	9.5	Yes	100	85 _{AC} -305 _{AC} , Inductorless Regulator for Low-Power Applications (EasyPower), Not Recommended for New Design / Recommend MP100L	SOIC8E
EasyPower	MP100L	-	-	Up to 0.5	Smart LDO	9.5	Yes	100	85 _{AC} -305 _{AC} , Inductorless Regulator for Low-Power Applications (EasyPower)	SOIC8E
EasyPower	MP103	-	-	Up to 1	Smart LDO	-	Yes	100	85 _{AC} -305 _{AC} , Inductorless Controller for Low-Power Applications (EasyPower)	SOIC8E
EasyPower	MP150	5.3	6.5	Up to 2	Non-Isolated Buck	30	Yes	150	85 _{AC} -305 _{AC} , Primary-Side Regulator for Low-Power Applications (EasyPower)	TSOT23-5 SOIC8
EasyPower	MP153	4.5	6.5	Up to 6	Non-Isolated Buck	15	Yes	150	Universal Input, Smallest Energy Efficient Regulator with Extended Power Range (EasyPower)	TSOT23-5 SOIC8
EasyPower	MP155	5.3	6.5	Up to 3	Non-Isolated Buck	20	Yes	100	Universal Input, Energy Efficient, Primary-Side Regulator (EasyPower)	TSOT23-5 SOIC8
EasyPower	MP156	5.3	6.5	Up to 3	Non-Isolated Buck	20	Yes	30	Universal Input, Smallest Energy Efficient Regulator (EasyPower)	TSOT23-5 SOIC8
EasyPower	MP157	4.45	6.5	Up to 6	Non-Isolated Buck	10	Yes	100	Universal Input, Smallest Energy Efficient Regulator with Extended Power Range (EasyPower)	TSOT23-5 SOIC8
EasyPower	MP158	4.45	6.5	Up to 2	Non-Isolated Buck	20	Yes	100	Universal Input, Smallest Energy Efficient Regulator with a Peak Current Limit of 100mA, Enables Smallest Inductor Size for I _{out} <45mA (EasyPower)	TSOT23-9 SOIC8

FLYBACK

Flyback Secondary-Side Regulation

Part Number	Typ Max Power (W)	Type	V _{AC} (Min) (V)	V _{AC} (Max) (V)	Switching Freq (Max) (kHz)	Control Method	V _{BR} (V)	V _{CC} (Max) (V)	R _{FB} (kΩ)	Notes	Package
HFC0100	120	Controller	85	265	-	Quasi-Resonant	700	22	10	Quasi-Resonant Flyback Controller	SOIC8
HFC0300	120	Controller	85	265	-	Variable Freq	700	30	-	Variable Off-Time Flyback Controller	SOIC-7
HFC0310	120	Controller	85	265	600	Fixed Freq	-	30	14	Fixed-Frequency Flyback Controller, Low Standby Power	SOIC8
HFC0400	120	Controller	85	265	65	Fixed Freq	700	30	13	Fixed-Frequency Flyback Controller with Ultra-Low, No-Load Power Consumption	SOIC8-7A
HFC0500	120	Controller	85	265	65	Fixed Freq	700	30	14	Fixed-Frequency Flyback Controller with HV Start-Up, X-Cap Discharge, Brown OUT/IN	SOIC8-7A

Quasi-Resonant Flyback Regulator

Part Number	Typ Max Power (W)	Type	V _{AC} (Min) (V)	V _{AC} (Max) (V)	Switching Freq (Max) (kHz)	Control Method	V _{BR} (V)	V _{CC} (Max) (V)	R _{ds(on)} (Ω)	Notes	Package
HF01B00	23	Regulator	85	265	150	Quasi-Resonant/Flyback	700	22	1.9	Universal Input, Flyback, Low Standby Power, Power Dependent on Open Frame	PDIP8-7B
HF01B01	18	Regulator	85	265	150	Quasi-Resonant/Flyback	700	22	3.3	Universal Input, Flyback, Low Standby Power, Power Dependent on Open Frame	PDIP8-7B
HF01B02	14	Regulator	85	265	150	Quasi-Resonant/Flyback	700	22	5.5	Universal Input, Flyback, Low Standby Power, Power Dependent on Open Frame	PDIP8-7B
HF01B03	11	Regulator	85	265	150	Quasi-Resonant/Flyback	700	22	7.7	Universal Input, Flyback, Low Standby Power, Power Dependent on Open Frame	PDIP8-7B
HF01B04	8	Regulator	85	265	150	Quasi-Resonant/Flyback	700	22	11	Universal Input, Flyback, Low Standby Power, Power Dependent on Open Frame	PDIP8-7B SOIC8-7B

Primary-Side Regulation

Part Number	P _{OUT} (Max) (W)	V _{AC} (Min) (V)	V _{AC} (Max) (V)	Switching Freq (Max) (kHz)	R _{ds(on)}	I _{sw} Limit (A)	V _{FB} (V)	V _{BR} (V)	V _{CC} (Max) (V)	Notes	Package
MP020-5	7	85	265	75	10	0.38	4	700	700	Primary-Side Regulator with CV/CC Control	SOIC8-7A

LLC with 600V HALF-BRIDGE DRIVERS

Part Number	V _{CC} (Min) (V)	V _{CC} (Max) (V)	R _{src} /R _{sink} (Ω)	Control Method	Topology	High-Voltage Start-Up	Notes	Package
HR1000	8.9	15.5	4/2	Resonant	LLC	No	Universal Input, Half-Bridge Controller, Variable Frequency, High-Power Applications, Not Recommended for New Design / Contact Factory.	SOIC16
HR1000A	8.9	15.5	4/2	Resonant	LLC	No	Universal Input, Half-Bridge Controller, Variable Frequency, High-Power Applications	SOIC16
HR1001	8.9	15.5	4/2	Resonant	LLC	No	Universal Input, Half-Bridge Controller, Variable Frequency, High-Power Applications, Adaptive Dead Time for Highest Efficiency and Anti-Capacitive Protection	SOIC16
HR1001B	8.9	15.5	4/2	Resonant	LLC	No	Universal Input, Half-Bridge Controller, Variable Frequency, High-Power Applications Enhanced Noise Proofing	SOIC16

PFC

Part Number	V _{CC} (Min) (V)	V _{CC} (Max) (V)	I _{GATE SRC} / I _{GATE SINK} (mA)	Control Method	Topology	High-Voltage Start-Up	Notes	Package
MP44010	10	22	-350 / 600	Boundary Mode	Boost/Buck Boost	No	Universal Input, PFC Controller, Ultra-Low Start-Up Current (15μA)	SOIC8 DIP8
MP44011	10	22	-350 / 600	Boundary Mode	Boost/Buck Boost	No	Universal Input, PFC Controller, Harmonic Injection Function (Reduced Capacitor Value and Inductor Size Compared with MP44010)	SOIC8
MP44014	85	305	-750 / 800	Boundary Mode	Boost/Buck Boost	No	Universal Input, PFC Controller, Ultra-Low Start-Up Current (15μA) (BOM 2 BOM with L6562)	SOIC8

AC/DC POWER CONVERSION

POWER SAVERS

Part Number	V(BR) DSS(V)	VGS (V)	Rds(on)	Control Method	ISC (mA)	Supply (µA)	Pin Voltage (V)	Notes	Package
LN60A01	600	1	190	-	-	-	-	600V, Triple N-Channel MOSFET with Common Gate Control	SOIC8 DIP8

SYNCHRONOUS RECTIFIERS

Synchronous Rectifiers Flyback Topology

Part Number	P _{OUT} (Max) (W)	Type	Switching Freq (Max) (kHz)	Drain Rating	Operating Current (mA)	I _Q (mA)	V _{DD} (Min) (V)	V _{DD} (Max) (V)	Rds(on) (mΩ)	Notes	Package
MP6900	120	Controller	400	180	8	2	6	27	Ext. FET	Fast Turn-Off Intelligent Rectifier for Flyback	QFN6 (3x3)
MP6901	120	Controller	400	180	8	2	6	27	Ext. FET	High Noise Immunity, Fast Turn-Off Intelligent Rectifier for Flyback	TSOT23-5
MP6902	120	Controller	300	180	8	0.25	6	27	Ext. FET	Fast Turn-Off Intelligent Rectifier with Light-Load Management for Flyback	SOIC8
MP6906	150	Controller	400	180	8	2	4.2	35	Ext. FET	Fast Turn-Off Intelligent Rectifier with Very Low Voltage Forward Regulation	SOIC8 TSOT23-6
MP6960	250	Controller	400	180	8	8	8	24	Ext. FET	Fast Turn-Off Intelligent Rectifier with CC/CV Controller	SOIC8
MP6910	250	Regulator	300	180	8	0.25	6	27	10	Fast Turn-Off Intelligent Rectifier with 10mΩ, 100V FET, Vout up to 19V	TO220-3
MP6920	250	Regulator	300	60	5	-	8	24	10	Fast Turn-Off Intelligent Rectifier with Integrated 10mΩ, 60V FET, Vout up to 12V	SOIC8E
MP6914	500	Regulator	-	30	1	0.09	6	24	5.3	Ideal Diode for Solar Panel Bypass	SOIC8E

Synchronous Rectifiers LLC Topology

Part Number	P _{OUT} (Max) (W)	Type	Switching Freq (Max) (kHz)	Drain Rating	Operating Current (mA)	Minimum On Time (ns)	I _Q (mA)	Shutdown	Notes	Package
MP6903	400	Controller	Up to 300	180	8	1000	0.25	150	High-Noise Immunity, Fast Turn-Off Intelligent Rectifier with Light-Load Management for LLC	SOIC-8E
MP6922	400	Controller	Up to 300	180	16	1000	0.5	300	Dual Fast Turn-Off Intelligent Rectifier, Vfwd 70mV for LLC	SOIC8E SOIC14
MP6922A	400	Controller	Up to 300	180	16	1000	0.5	300	High-Efficiency, Dual Fast Turn-Off Intelligent Rectifier, Vfwd 30mV for LLC	SOIC8E SOIC14

LED LIGHTING & ILLUMINATION

AC/DC ISOLATED

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	Power (W)	Control Method	Type	Notes	Package
MP4021	85 _{AC}	265 _{AC}	Ext. FET	Flyback	Controller	Primary-Side Control Offline LED Controller with Active PFC <i>Not Recommended for New Design/Recommend Next Generation Products MP4026 & MP4027</i>	SOIC8
MP4021A	85 _{AC}	265 _{AC}	Ext. FET	Flyback	Controller	Primary-Side Control Offline LED Controller with Active PFC <i>Recommend Next Generation Products MP4026 & MP4027</i>	SOIC8
MP4026	85 _{AC}	265 _{AC}	Ext. FET	Flyback	Controller	Primary-Side Control Offline LED Controller with Active PFC	SOT23-6
MP4027	85 _{AC}	265 _{AC}	Ext. FET	Flyback	Controller	Primary-Side Control Offline LED Controller with Active PFC, NTC, and PWM Dimming	SOT23-8
MP4029-15	85 _{AC}	265 _{AC}	10	Flyback	Controller	Primary-Side Control, Offline LED Driver with Active PFC and Integrated Internal MOSFET	SOIC8-7B
MP4030	85 _{AC}	265 _{AC}	Ext. FET	Flyback	Controller	TRIAC Dimmable, Deep Dimming, Primary-Side Control, Offline LED Controller with Active PFC <i>Recommend Next Generation Product MP4030A</i>	SOIC8
MP4030A	85 _{AC}	265 _{AC}	Ext. FET	Flyback	Controller	Improved TRIAC Dimming Performance, Primary-Side Control, Offline LED Controller with Active PFC	SOIC8
MP4031	85 _{AC}	265 _{AC}	Ext. FET	Flyback	Controller	TRIAC and Analog Dimmable, Deep Dimming, Primary-Side Control, Offline LED Controller with Active PFC	SOIC8
MP4032-1	85 _{AC}	120 _{AC}	7	Flyback	Regulator	Integrated 500V FET, TRIAC Dimmable, Deep Dimming, Primary-Side Control, Offline LED Controller with Active PFC	SOIC8-7A
MP4033	85 _{AC}	120 _{AC}	Ext. FET	Flyback	Controller	Enhanced TRIAC-Dimmable, Primary-Side Control, Offline LED Controller with Active PFC	SOIC8 MSOP10 SOIC14
MP4034	85 _{AC}	120 _{AC}	7	Flyback	Regulator	Offline Primary-Side Isolated LED Driver IC	SOIC8 MSOP10 SOIC14
HR2000	10	12	Ext. FET	Resonant	Controller	PFC + Resonant Half-Bridge Fluorescent Lamp Driver, High-Power Application	SOIC16
HR1000A	8.9	15.5	Ext. FET	Resonant	Controller	Resonant Half-Bridge Controller, Variable Frequency, High-Power Application	SOIC16
MP44010	10	22	Ext. FET	Boost/Buck Boost	Controller	Offline PFC Controller, Boundary Conduction, Ultra-Low Start-Up Current (15µA)	SOIC8 DIP8
MP44011	10	22	Ext. FET	Boost/Buck Boost	Controller	Offline PFC Controller, Boundary Conduction, Harmonic Injection Function (Reduced Capacitor Value and Inductor Size Compared with MP44010)	SOIC8

LED LIGHTING & ILLUMINATION

AC/DC NON-ISOLATED

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	Power (W)	Control Method	Type	Notes	Package
MP4000	85 _{AC}	265 _{AC}	Ext. FET	Low-Side Buck	Controller	Universal Input, Non-Isolated WLED Driver Controller for Lowest Cost LED Lamps DC and PWM Dimming	SOIC8
MP4001	85 _{AC}	265 _{AC}	Ext. FET	Low-Side Buck	Controller	Offline LED Controller with Integrated High-Voltage LDO and DC/PWM Dimming	SOIC8
MP4050	85 _{AC}	265 _{AC}	7	Buck	Regulator	Cost-Effective, Non-Isolated Offline LED Controller	SOIC8 SOT23-5
MP4051	85 _{AC}	265 _{AC}	Ext. FET	Buck Boost	Controller	Non-Isolated, Offline LED Controller with Active PFC	SOIC8
MP4053-7	85 _{AC}	265 _{AC}	6	Buck Boost	Regulator	HV BUCK PFC, Offline LED Driver with Integrated Internal MOSFET	SOIC8-7B
MP4053-15	85 _{AC}	265 _{AC}	12	Buck Boost	Regulator	HV BUCK PFC, Offline LED Driver with Integrated Internal MOSFET	SOIC8-7B
MP4056	85 _{AC}	265 _{AC}	Ext. FET	Buck Boost	Controller	TRIAC Dimmable, Non-Isolated, Offline LED Controller with Active PFC	SOIC8 MSOP10 SOIC14
MP4060	85 _{AC}	265 _{AC}	Ext. FET	Buck Boost	Controller	TRIAC Dimmable, High Line (230VAC), Low Power (<10W), Non-Isolated LED	SOIC8 MSOP10 SOIC14
MP4068	85 _{AC}	135 _{AC}	10	Buck/Buck Boost	Regulator	Non-Isolated, TRIAC Dimmable PFC LED Driver For 120V(AC), Up to 10W LEDs	SOIC8-7 SOIC8EP

DC/DC LIGHTING

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	Power (W)	Control Method	Type	Notes	Package
MP3412	0.8	4.4	-	Boost	Regulator	1.1A, 1MHz, Synchronous Boost WLED Driver with Output Disconnect	TSOT23-6
MP2480	5	36	-	Buck	Regulator	3A Output Current, 3% Current Accuracy, Hysteretic Control	SOIC8E
MP2481	4.5	36	-	Buck-Boost	Regulator	Buck-Boost WLED Halogen Replacement up to 5W	MSOP8
MP24892	4.5	36	-	Low-Side Buck	Regulator	Lower Voltage, Higher Current, Lower Cost Version of MP2489	TSOT23-5
MP24893	6	36	-	Low-Side Buck	Regulator	Hysteretic, Low-Side Buck for Minimal Ext., Low Cost Version of MP2489	QFN6 (3x3) TSOT23-5
MP2483	4.5	55	-	Buck, Buck-Boost	Regulator	DC and PWM Dimming Control Using a Single Pin, Consumer Grade	QFN10 (3x3) SOIC14
MPQ2483	4.5	55	-	Buck, Buck-Boost	Regulator	DC and PWM Dimming Control Using a Single Pin, Available in AEC-Q100	QFN10 (3x3) SOIC14
MP24183	4.5	55	-	Buck, Buck-Boost	Regulator	DC and PWM Dimming Control Using a Single Pin	QFN10 (3x3)
MP2488	4.5	55	-	Buck	Regulator	Up to 97.5% Efficiency, 220mΩ, Internal Power MOSFET	QFN10 (3x3) SOIC8E
MP2487	4.5	55	-	Buck	Regulator	Up to 97.5% Efficiency, 220mΩ, Internal Power MOSFET	SOIC8E
MP4012	8	55	Ext. FET	Boost & Other Topologies	Controller	HV9912 Pin Comp, for Backlight (Ex: V _{out} >200V) and Lighting (High-Output Power)	SOIC16
MP2489	6	60	-	Low-Side Buck	Regulator	Hysteretic, Low-Side Buck for Minimal Ext., Component & Fast Transient Response	QFN6(3x3) TSOT23-5 SOIC8E
MP24894	6	60	Ext. FET	Low-Side Buck	Controller	Step-Down WLED Current Controller with Wide 6V to 60V Input Voltage	TSOT6
MP4688	4.5	75	-	Buck	Regulator	MPS Adaptive Hysteretic for High-Output Current Accuracy	SOIC8E
MP4689	4.5	95	-	Buck	Regulator	MPS Adaptive Hysteretic for High-Output Current Accuracy	SOIC8E

PHOTO FLASH

Part Number	Charge Type	V _{IN} (Min) (V)	V _{IN} (Max) (V)	V _{SW} (Max) (V)	V _{OUT} (Max) (V)	I _{OUT} (Max) (A)	I _{OUT} (Min) (A)	Notes	Package
MP3331	WLED	2.7	5.5	6	-	2	-	Single Channel, 2A Boost WLED Driver for Smart Phone Camera Flash	WLCSPP-1.7x1.7
MP3361	Xenon Flash	2.5	6	60	300	1.2	1.0 (Typ)	300V, 1A, Highly Integrated Xenon Photo-Flash Charger and IGBT Driver	MSOP10
MP3360	Xenon Flash	2.5	6	60	300	1.7	0.4	60V, Programmable Peak Current, Highly Integrated Xenon Photo-Flash Charger and IGBT Driver for Mobile Phones	QFN10 (2x2)
MP3356	Xenon Flash	2.8	6	50	300	1.7	1.5	50V, Fixed 1.5A, Highly Integrated Xenon Photo-Flash Charger and IGBT Driver for DSC	QFN10 (2x2)
MP3351	Xenon Flash	3	6	60	300	2	0.3	60V, 2A, Integrated Photo-Flash Charger with IGBT Driver	QFN16 (3x3)
MP3352	Xenon Flash	3	6	60	300	2.5	0.3	60V, 2.5A, Integrated Photo-Flash Charger with IGBT Driver and Quench	QFN16 (3x3)

PROTECTION

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	Power (W)	Control Method	Type	Notes	Package
MP4690	-	-	-	Shunt	-	Smart Bypass for LED Protection, 6V Threshold Voltage Protects One LED	SOD123



AEC-Q100

AEC-Q100

DC/DC POWER CONVERSION

CONTROLLERS & INTELLI-PHASE

CPU Core (Controllers)

Part Number	V _{cc} (Min) (V)	V _{cc} (Max) (V)	I _o (Typ) (mA)	Shutdown (Typ) (mA)	F _{sw} (kHz)	Soft Start	Reg Output Phase	Notes	Package
MP2953B	4.75	5.25	18	1	200 to 1000	Internal	6	6-Phase Digital Multi-Phase Controller With PMBus Interface for VR12.5	QFN40 (5x5)
MP2930	4.75	5.25	18	14	80 to 1000	External	4	4-Phase PWM Controller with 8-Bit DAC Code for VR10 and VR11	QFN40 (6x6)
MP2932	4.75	5.25	18	14	80 to 1000	External	6	6-Phase PWM Controller with 8-Bit DAC Code for VR10 and VR11	QFN48 (6x6)
MP2935	4.5	5.25	8	0.05	200 to 2000	Internal	4	4-Phase PWM Controller for VR12.5 Applications	QFN40 (6x6)
MP2939	3.2	3.4	8	0.05	300 to 3000	Internal	4	1+2+1 Phase PWM Controller for IMVP8 Applications	QFN48 (6x6)

CPU Core Power (Intelli-Phase)

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _{OUT} (A)	I _{sw} Limit (Typ) (A)	I _{SD} (Typ) (mA)	V _{FB} (V)	F _{sw} (kHz)	Sync	Notes	Package
MP86901A	4.5	22	12	25	0.03	-	100 to 2000	√	Integrated HS/LS FETs and Driver, 12A, 22V Intelli-Phase, 3.3V PWM Logic	TQFN13 (3x3)
MP86901B	4.5	22	20	35	0.03	-	100 to 2000	√	Integrated HS/LS FETs and Driver, 20A, 22V Intelli-Phase, 3.3V PWM Logic	TQFN21 (3x4)
MP86963	4.5	21	20	-	0.551	-	100 to 1000	√	Integrated HS/LS FETs and Driver, 20A, 21V Intelli-Phase, 3.3V PWM Logic	TQFN (5x5)
MP86901C	4.5	22	25	45	0.03	-	100 to 2000	√	Integrated HS/LS FETs and Driver, 25A, 22V Intelli-Phase, 3.3V PWM Logic	TQFN21 (3x4)
MP86901D	4.5	22	25	45	0.03	-	100 to 2000	√	Integrated HS/LS FETs and Driver, 25A, 22V Intelli-Phase, 3.3V PWM Logic	TQFN21 (4x4)
MP86885	4.5	14	40	60	0.055	-	100 to 1000	√	Integrated HS/LS FETs and Driver, 40A, 14V Intelli-Phase, 3.3V PWM Logic	TQFN (4x6)
MP86905	4.5	16	50	75	0.08	-	100 to 2000	√	Integrated HS/LS FETs and Driver, 50A, 16V Intelli-Phase, 3.3V PWM Logic	QFN23 (4x4)
MP86883	4.5	14	55	80	0.06	-	100 to 1000	√	Integrated HS/LS FETs and Driver, 55A, 14V Intelli-Phase, 3.3V PWM Logic with Enhanced Package	TQFN (6x6)
MP86884	4.5	14	55	80	0.06	-	100 to 1000	√	Integrated HS/LS FETs and Driver, 55A, 14V Intelli-Phase, 5V PWM Logic	TQFN (6x6)
MP86884E	4.5	14	55	80	0.06	-	100 to 1000	√	Integrated HS/LS FETs and Driver, 55A, 14V Intelli-Phase, 3.3V PWM Logic in 6x6mm FC-TQFN Enhanced Package	TQFN (6x6)
MP86884-3	4.5	14	55	80	0.06	-	100 to 1000	√	Integrated HS/LS FETs and Driver, 55A, 14V Intelli-Phase, 3.3V PWM Logic	TQFN (6x6)

DC/DC POWER CONVERSION

SWITCHING REGULATORS

Step-Down Converters

Maximum Operating Input Voltage $1.1V \leq V_{in} \leq 7V$

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _{OUT} (Max) (A)	I _Q (Typ) (mA)	V _{FB} (Typ) (V)	F _{SW} (kHz)	Features						Notes	Package
							Power Good	External Soft-Start	Light-Load Efficiency	Synchronous Rectification	External Free Sync	Constant-On-Time (COT)		
MP28119	2.5	6	0.6	0.4	0.6	1700	-	-	-	√	-	-	Ultra-Small 1.7MHz, 600mA, 1.0V, and 1.2V Fixed Output Versions, Synchronous Step-Down Converter	QFN8 (2x2)
MP28114	2.5	6	0.6	0.4	0.6	1700	-	-	-	√	-	-	Ultra-Small, 1.7MHz, 600mA, 1.5V, 1.8V and 3.3V, Fixed Output Versions, Synchronous Step-Down Converter	QFN8 (2x2)
MP2104	2.5	6	0.6	0.4	0.6	1700	-	-	-	√	-	-	1.7MHz, 600mA, Synchronous Step-Down Converter	TSOT23-5 TQFN-6
AEC-Q100 MPQ2128	2.5	6	1	0.35	0.594	3000	-	-	-	√	-	-	2.5V to 6V Input, 3MHz, 1A, Synchronous, Step-Down Converter with AEC-Q100 Qualification	QFN8 (2x2)
NEW MP2148	2.3	5.5	1	0.011	0.6	2200	√	-	√	√	-	√	High-Efficiency, 1A, 5.5V, 2.2MHz, 11µA Iq, PG for fixed Vout, COT, Synchronous Step-Down Converter in Ultra-Small QFN Package	QFN6 (1.x1.5)
MP2158	2.5	6	1	0.017	0.6	1500	√	-	√	√	-	√	High-Efficiency, 1A, 6V, 1.5MHz, 17µA Iq, COT, Synchronous Step-Down Converter with PG in Ultra-Small QFN Package	QFN8 (2.x1.5)
Pre-Released MP2158A	2.5	6	1	0.017	0.6	1500	√	-	√	√	-	√	High-Efficiency, 1A, 6V, 1.5MHz, 17µA Iq, COT, Synchronous Step-Down Converter with Better Vfb Accuracy and Better Load Regulation	QFN8 (2.x1.5)
NEW MP2159A	2.5	6	1	0.017	0.6	1500	√	-	√	√	-	√	High-Efficiency, 1A, 6V, 1.5MHz, 17µA Iq, COT, Synchronous Step-Down Converter with Better Vfb Accuracy and Better Load Regulation	TSOT23-8
MP2149	2.7	6	1	0.045	0.608	1000	-	-	√	√	-	-	MP2149 - 6V, 1A Dual Channel, 1MHz, Low Iq, PWM Synchronous Buck with High Efficiency	TSOT23-8
MP1601	2.5	5.5	1	0.011	0.6	2200	-	-	-	√	-	-	1A Synchronous Step-down Converter with 11µA Quiescent Current	TSOT23-8
MP2160	2.7	6	1.2	0.017	0.6	3500	√	-	√	√	-	√	1.2A Peak, 6V, 3.5MHz, COT, Synchronous Step-Down Converter	QFN8 (2x1.5)
NEW MP2161A	2.5	6	2	0.017	0.6	1500	√	-	√	√	-	√	High-Efficiency, 2A, 6V, 1.5MHz, 17µA Iq, COT, Synchronous Step-Down Converter with Better Vfb Accuracy and Better Load Regulation	TSOT23-8
Pre-Released MP2162A	2.5	6	2	0.017	0.6	1500	√	-	√	√	-	√	High-Efficiency, 2A, 6V, 1.5MHz, 17µA Iq, COT, Synchronous Step-Down Converter with Better Vfb Accuracy and Better Load Regulation	QFN8 (2x1.5)
MP2144	2.5	5.5	2	0.04	0.6	1200	√	-	-	√	-	√	2A, 5.5V, 1.2MHz, 40µA Iq, High-Efficiency, COT, Synchronous Step-Down Converter with PG and Auto Discharge	TSOT23-8
MP2162	2.5	6	2	0.017	0.6	1500	√	-	√	√	-	√	High-Efficiency, 2A, 6V, 1.5MHz, 17µA Iq, COT, Synchronous Step-Down Converter with PG in Ultra-Small QFN Package	QFN8 (2x1.5)
MP2122	2.7	6	2	0.045	0.608	1000	-	-	√	√	-	-	6V, 2A Dual Channel, 1MHz, Low Iq, PWM, Synchronous Buck with High Efficiency	TSOT23-8
MP2115	2.8	6	2	0.8	0.607	Prog.	√	-	-	√	-	-	2A, 6V, 0.7MHz-2MHz Step-Down Converter with Programmable Input Current Limit	QFN10 (3x3)
MP1650	4.7	16	2	0.83	0.8	500	-	-	-	√	-	-	High-Efficiency, 2A, 16V, 500kHz, Synchronous Step-Down Converter	TSOT23-8
NEW MP2143	2.5	5.5	3	0.04	0.6	1200	√	-	√	√	-	√	3A, 5.5V, 1.2MHz, 40µA Iq, High-Efficiency, COT, Synchronous Step-Down Converter with PG and Auto Discharge	TSOT23-8
MP2143H	2.5	5.5	3	-	0.6	2000	√	-	-	√	-	√	3A, 5.5V, 2MHz, COT, Synchronous Step-Down Converter with PG and Auto Discharge	QFN10 (2x3)
MP2130	2.7	6	3.5	0.04	0.6	1200	√	-	√	√	-	√	6V, 3.5A, 1.2MHz, COT, Synchronous Step-Down Converter with PG	QFN12 (2x2)
NEW MP2131	2.7	5.5	4	0.019	0.6	1200	√	-	√	√	-	√	6V, 4A, 1.2MHz, COT, Synchronous Step-Down Converter with PG	QFN12 (2x2)
MP2147	2.8	5.5	4	0.04	0.6	1200	√	-	√	√	-	√	5.5V, 4A, 1.2MHz, 40µA Iq, COT, Synchronous Step-Down Switcher with Pre-Bias Start-Up, Output Discharge, and Dynamic Voltage Scaling	QFN12 (2x3)
MP2145	2.8	5.5	6	0.04	0.6	1200	√	-	√	√	-	√	5.5V, 6A, 1.2MHz, 40µA Iq, COT, Sync Step-Down Switcher with Pre-Bias Start-Up, Output Discharge, and Dynamic Voltage Scaling	QFN12 (2x3)
MPQ8616-6	3	6	6	1.05	0.61	Prog.	√	√	-	√	-	√	6A, 6V, CCM, Non-Latch OVP and OCP, COT, Synchronous Step-Down Converter	QFN14 (3x4)
MPQ8616-12	3	6	12	1.05	0.61	Prog.	√	√	-	√	-	√	12A, 6V, CCM, Non-Latch OVP and OCP, COT, Synchronous Step-Down Converter	QFN14 (3x4)
MPQ8612-12	3	6	12	1.1	0.608	1000	√	√	√	√	-	√	12A, 6V, DCM, Non-Latch OVP and OCP, COT, Synchronous Step-Down Converter	QFN14 (3x4)
MPQ8612-16	3	6	16	1	0.61	Prog.	√	√	√	√	-	√	16A, 6V, DCM, Non-Latch OVP and OCP, COT, Synchronous Step-Down Converter	QFN17 (4x4)
MPQ8612-20	3	6	20	1	0.61	Prog.	√	√	√	√	-	√	20A, 6V, DCM, Non-Latch OVP and OCP, COT, Synchronous Step-Down Converter	QFN17 (4x4)

DC/DC POWER CONVERSION

SWITCHING REGULATORS (CONTINUE)

Step-Down Converters (continued)

Maximum Operating Input Voltage ≤ 28V (continued)

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _{OUT} (Max) (A)	I _b (Typ) (mA)	V _{FB} (Typ) (V)	F _{SW} (kHz)	Features							Notes	Package
							Power Good	External Soft Start	Light-Load Efficiency	Synchronous Rectification	External Freq. Sync	Constant-On-Time (COT)			
MP2357	4.5	24	0.5	0.8	0.81	1400	-	-	-	-	-	-	0.5A, 24V, 1.4MHz Step-Down Converter	TSOT23-6 SOT23-6	
MP2313	4.5	24	1	0.2	0.8	2000	-	-	√	√	-	-	High-Efficiency, 1A, 24V, 2MHz, Synchronous Step-Down Converter with Light-Load Mode	TSOT23-8	
MP2359	4.5	24	1.2	0.8	0.81	1400	-	-	-	-	-	-	1.2A, 24V, 1.4MHz, Asynchronous Step-Down Converter	TSOT23-6 SOT23-6	
MP2106	2.6	15	1.5	1.2	0.895	800	-	√	-	√	-	-	1.5A, 15V, 800kHz, Synchronous Buck Converter	MSOP10 QFN10 (3x3)	
MP1469	4.7	16	1.5	0.83	0.8	500	-	-	√	√	-	-	4.7V to 16V, 500kHz, 1.5A Synchronous Buck	TSOT23-6	
MP1470H	4.5	16	2	0.83	0.804	1000	-	-	√	√	-	-	4.5V to 16V, 1000kHz, 2A Synchronous Buck	TSOT23-6	
MP2234	4.5	16	2	0.6	0.807	800	-	√	√	√	√	-	High-Efficiency, 2A, 16V, 800kHz, with SS, Synchronous Step-Down Converter with Internal Light Load	TSOT23-8	
MP2234S	4.5	16	2	0.5	0.804	800	-	√	√	√	√	-	2A, 16V, 800kHz, with SS, Synchronous Step-Down Converter with Internal Light Load, More Cost-Effective Version of MP2234	TSOT23-8	
MP2228	6	16	2	0.55	0.807	800	-	√	√	√	-	-	High-Efficiency, 2A, 16V, 800kHz, Synchronous Step-Down Converter with External Soft Start and Light-Load Mode	TSOT23-8	
MP1498	4.5	16	2	0.8	0.807	1400	-	√	-	√	√	-	High-Efficiency, 2A, 16V, Higher Fsw 1.4MHz, with SS, Synchronous Step-Down Converter	TSOT23-8	
MP1494S	4.5	16	2	0.5	0.8	500	-	-	√	√	√	-	High-Efficiency, 2A, 16V, 500kHz, with AAM (Light-Load Mode), Synchronous Step-Down Converter	TSOT23-8	
MP1474	4.5	16	2	0.6	0.807	500	√	-	√	√	√	-	High-Efficiency, 2A, 16V, 500kHz Synchronous Step-Down Converter	TSOT23-8	
MP1474S	4.5	16	2	0.5	0.807	500	√	-	√	√	√	-	High-Efficiency, 2A, 16V, 500kHz Synchronous Step-Down Converter	TSOT23-8	
MP2318	4.5	24	2	0.2	0.8	2000	-	-	√	√	-	-	High-Efficiency, 2A, 24V, 2MHz Synchronous Step-Down Converter with Light-Load Mode	TSOT23-8	
MP2314	4.5	24	2	0.18	0.791	500	-	-	√	√	√	-	High-Efficiency, 2A, 24V, 500kHz, with AAM (Light-Load Mode), Synchronous Step-Down Converter	TSOT23-8	
MP2110	3.3	12	3	0.19	0.6	1500	-	-	√	√	-	√	High-Efficiency, 3A, 12V Synchronous Step-Down Converter with Programmable Input Current Limit	QFN14 (3x3)	
MP2240	6	16	3	0.75	0.807	800	-	√	√	√	-	-	High-Efficiency, 3A, 16V, 800kHz, Synchronous Step-Down Converter with External Soft Start and Light-Load Mode	TSOT23-8	
MP2235	4.5	16	3	0.6	0.807	800	-	√	√	√	√	-	High-Efficiency, 3A, 16V, 800kHz, with SS, Synchronous Step-Down Converter with Internal Light Load	TSOT23-8	
MP2235S	4.5	16	3	0.5	0.804	800	-	√	√	√	√	-	3A, 16V, 800kHz, with SS, Synchronous Step-Down Converter with Internal Light Load, More Cost-Effective Version of MP2235	TSOT23-8	
MP2233	4.5	16	3	0.6	0.807	1400	-	√	-	√	√	-	High-Efficiency, 3A, 16V, Higher Fsw 1.4MHz, with SS, Synchronous Step-Down Converter	TSOT23-8	
MP1497	4.5	16	3	0.7	0.807	500	-	√	-	√	√	-	High-Efficiency, 3A, 16V, 500kHz, with SS, Synchronous Step-Down Converter	TSOT23-8	
MP1493	4.2	16	3	1	0.805	Prog.	-	-	√	√	-	√	High-Efficiency, Fast Transient, 3A, 16V Synchronous Step-Down Converter with Programmable Frequency, OCP Latch-Off	SOIC8	
MP1475	4.5	16	3	0.6	0.807	500	√	-	√	√	√	-	High-Efficiency, 3A, 16V, 500kHz Synchronous Step-Down Converter	TSOT23-8	
MP1475S	4.5	16	3	0.5	0.807	500	√	-	√	√	√	-	High-Efficiency, 3A, 16V, 500kHz Synchronous Step-Down Converter	TSOT23-8	
MP28258-A	4.2	20	3	0.36	0.815	Prog.	√	-	√	√	-	√	3A, 4.2V to 20V, COT, Sync Step-Down Converter with Hiccup OCP and Programmable Frequency	QFN12 (2x3)	
MP2315	4.5	24	3	0.18	0.791	500	-	-	√	√	√	-	High-Efficiency, 3A, 24V, 500kHz, with AAM (Light-Load Mode), Synchronous Step-Down Converter in TSOT23-8	TSOT23-8	
MPQ8632-4	2.5	18	4	0.86	0.611	Prog.	√	√	√	√	-	-	4A, 2.5V-18V, DCM, Non-Latch OVP, COT, Synchronous Step-Down Converter	QFN13 (3x4) QFN16 (3x4)	
MP2326	3.9	19	4	0.04	0.6	Prog.	√	√	√	√	√	√	4A, 19V, 40µA low Iq, High-Efficiency, COT, Synchronous Step-Down Converter	QFN14 (2x3)	
MP9151	4.5	20	4	0.7	0.795	Prog.	√	√	√	√	-	-	20V, 4A, Synchronous Step-Down Converter with PG and SS	QFN14 (2x3)	
MP8715	4.5	21	4	0.66	0.805	500	√	√	-	√	√	-	100% Duty Cycle, Synchronous, 4A, 21V, 500kHz Step-Down Converter	QFN14 (3x4) SOIC8E	
MP1499	4.5	16	4	0.6	0.807	500	-	√	√	√	√	-	High-Efficiency, 5A, 18V, 500kHz Synchronous Step-Down Converter	QFN10 (2x3)	
MP2225	4.5	18	5	0.32	0.6	500	-	-	√	√	√	-	High-Efficiency, 5A Peak, 16V, 500kHz Synchronous Step-Down Converter	TSOT23-8	
MP8760	4.5	18	6	0.86	0.611	Prog.	√	√	√	√	-	√	High-Efficiency, 6A, 18V Synchronous Step-Down Converter with Programmable Frequency	QFN13 (3x4) QFN16 (3x4)	
MP8760D	4.5	18	6	0.86	0.611	Prog.	√	√	√	√	-	√	High-Efficiency, 6A, 18V Synchronous Step-Down Converter with Output Discharge and Programmable Frequency	QFN16 (3x4)	
MPQ8632-6	2.5	18	6	0.86	0.611	Prog.	√	√	√	√	-	√	6A, 2.5V-18V, DCM, Non-Latch OVP, COT, Synchronous Step-Down Converter	QFN13 (3x4) QFN16 (3x4)	
MP2229	4.5	21	6	0.4	0.6	Prog.	-	√	√	√	√	-	6A, 4.5V-21V, Ext. SS, High light load, Synchronous Step-Down Converter	QFN14 (3x3)	
MP8765	5	24	6	0.16	0.604	500	√	-	√	√	-	√	24V, 6A, High-Efficiency, Synchronous Step-Down Converter with Hiccup OCP, PWM/PFM Mode Pin and Output Discharge	QFN16 (3x3)	



DC/DC POWER CONVERSION

SWITCHING REGULATORS (CONTINUED)

Step-Down Converters (continued)

Maximum Operating Input Voltage ≤ 28V (continued)

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _{OUT} (Max) (A)	I _O (Typ) (mA)	V _{FB} (Typ) (V)	F _{SW} (kHz)	Features							Notes	Package
							Power Good	External Soft Start	Light-Load Efficiency	Synchronous Rectification	External Freewheel Sync	Constant-On-Time (COT)			
NB671L	5.5	24	6	0.12	0.604	500	✓	-	✓	✓	-	✓	Wide Vin 5.5V-24V, 6A, COT, Synchronous Step-Down Converter with Low Quiescent Current	QFN16 (3x3)	
NB671LA	5.5	24	6	0.12	0.604	500	✓	-	✓	✓	-	✓	Wide Vin 5.5V-24V, 6A, COT, Synchronous Step-Down Converter with Low Quiescent Current	QFN16 (3x3)	
NB671LB	4.5	24	6	0.12	0.604	500	✓	-	✓	✓	-	✓	Wide Vin 4.5V-24V, 6A, COT, Synchronous Step-Down Converter with Low Quiescent Current	QFN16 (3x3)	
NB672	5	24	6	0.4	0.604	500	✓	-	✓	✓	-	✓	High-Efficiency, Fast-Transient, 6A, 24V, Fully Integrated COT, Synchronous Buck with +/-1.5A LDO and Buffered Reference	QFN21 (3x4)	
NB681	4.5	26	6	0.15	-	750	✓	-	✓	✓	-	✓	Wide Vin 4.5-26V, 6A, Low Iq, High -Current, Synchronous Buck Converter with 2-Bit VID	QFN13 (2x3)	
NB681A	4.5	26	6.5	0.15	-	750	✓	-	✓	✓	-	✓	Wide Vin 4.5-26V, 6A, Low Iq, High-Current, Synchronous Buck Converter with 2-Bit VID, 1.8V/2.5V/3.3V Compatible for IMVP8	QFN13 (2x3)	
MP8757	5	18	7	0.19	0.604	500	✓	-	✓	✓	-	✓	7A, 18V, High-Efficiency, COT, Synchronous Step-Down Converter with PG	QFN21 (3x4)	
NB673	5	24	8	0.4	0.604	500	✓	-	✓	✓	-	✓	High-Efficiency, Fast-Transient, 8A, 24V, Fully Integrated COT, Synchronous Buck with +/-1.5A LDO and Buffered Reference	QFN21 (3x4)	
MP8761	4.5	18	8	0.86	0.611	Prog.	✓	✓	✓	✓	-	✓	High-Efficiency, 8A, 18V, Synchronous Step-Down Converter	QFN13 (3x4) QFN16 (3x4)	
NB676	6.5	24	8	0.205	-	500	✓	-	✓	✓	-	✓	High-Efficiency, Fast-Transient, 8A, 24V, Low Rds(on) 26mΩ/12mΩ, Fully Integrated COT, Synchronous Buck with 5V LDO	QFN16 (3x3)	
NB676A	6.5	24	8	0.205	-	500	✓	-	✓	✓	-	✓	8A, 24V, Fixed 5.15V, COT, Synchronous Buck Converter with LDO	QFN16 (3x3)	
NB677	5.5	24	8	0.205	-	500	✓	-	✓	✓	-	✓	High-Efficiency, Fast-Transient, 8A, 24V, Low Rds(on) 26mΩ/12mΩ, Fully Integrated COT, Synchronous Buck with 3.3V LDO	QFN16 (3x3)	
NB6381	4.5	28	8	0.5	0.815	Prog.	✓	✓	✓	✓	-	✓	Wide Vin 4.5V to 28V, 8A, COT, Synchronous Step-Down Converter with Internal Bias Supply, OCP Latch-Off	QFN20 (3x4)	
NB679	5.5	26	8	0.11	5	700	✓	-	✓	✓	-	✓	Wide Vin 5.5-26V, Low Iq, High-Current, Fixed 5V-8A, Synchronous Buck Converter with 100mA LDO	QFN12 (2x3)	
NB679A	5.5	26	8	0.11	5.1	700	✓	-	✓	✓	-	✓	Wide Vin 5.5-26V, Low Iq, High-Current, Fixed 5.1V-8A, Synchronous Buck Converter with 100mA LDO and LP# Vout Scaling	QFN12 (2x3)	
NB680	4.8	26	8	0.12	3.3	700	✓	-	✓	✓	-	✓	Wide Vin 4.8-26V, Low Iq, High-Current, Fixed 3.3V-8A, Synchronous Buck Converter with 100mA LDO	QFN12 (2x3)	
NB680A	5.5	26	8	0.12	3.36	700	✓	-	✓	✓	-	✓	Wide Vin 5.5-26V, Low Iq, High-Current, Fixed 3.36V-8A, Synchronous Buck Converter with 100mA LDO and LP# Vout Scaling	QFN12 (2x3)	
NB686	4.5	26	8	0.185	0.6	700	✓	-	✓	✓	-	✓	Wide Vin 4.5-26V, 8A, Low Iq, High-Current, Synchronous Buck Converter with +/-1A LDO and Buffered Reference	QFN16 (3x3)	
MPQ8636H-10	4.5	18	10	0.86	0.611	Prog.	✓	✓	-	✓	-	✓	10A, 4.5V-18V, CCM, Non-Latch OVP, COT, Synchronous Step-Down Converter	QFN13 (3x4) QFN16 (3x4)	
MPQ8636-10	4.5	18	10	0.86	0.611	Prog.	✓	✓	-	✓	-	✓	10A, 4.5V-18V, CCM, Latch-Off OVP, COT, Synchronous Step-Down Converter	QFN13 (3x4) QFN16 (3x4)	
MPQ8636A-10	4.5	18	10	0.86	0.611	Prog.	✓	✓	-	✓	-	✓	10A, 4.5V-18V, CCM, Latch-Off OVP/OCV, COT, Synchronous Step-down Converter	QFN16 (3x4)	
MPQ8632H-10	2.5	18	10	0.86	0.611	Prog.	✓	✓	✓	✓	-	✓	10A, 2.5V-18V, DCM, Latch-Off OVP, COT, Synchronous Step-Down Converter	QFN13 (3x4) QFN16 (3x4)	
MPQ8632-10	2.5	18	10	0.86	0.611	Prog.	✓	✓	✓	✓	-	✓	10A, 2.5V-18V, DCM, Non-Latch OVP, COT, Sync Step-Down Converter	QFN13 (3x4) QFN16 (3x4)	
MP8762	4.5	18	10	0.86	0.611	Prog.	✓	✓	✓	✓	✓	✓	High-Efficiency, 10A, 18V, Synchronous Step-Down Converter	QFN13 (3x4) QFN16 (3x4)	
MP8758	5	18	10	0.19	0.604	500	✓	-	✓	✓	-	✓	10A, 18V, High-Efficiency, COT, Synchronous Step-Down Converter with PG	QFN21 (3x4)	
NB675	5	24	10	0.4	0.604	500	✓	-	✓	✓	-	✓	Wide Vin 5V-24V, 10A, COT, Synchronous Step-Down Converter with +/-1.5A LDO and Buffered Reference	QFN21 (3x4)	
MP8763	4.5	18	12	0.86	0.611	Prog.	✓	✓	✓	✓	-	✓	High-Efficiency, 12A, 18V, Synchronous Step-Down Converter	QFN13 (3x4) QFN16 (3x4)	
MP8763D	4.5	18	12	0.86	0.611	Prog.	✓	✓	✓	✓	-	✓	High-Efficiency, 12A, 18V, Synchronous Step-Down Converter	QFN16 (3x4)	
NB685	4.5	26	12	0.185	0.6	700	✓	-	✓	✓	-	✓	Wide Vin 4.5-26V, 12A, Low Iq, High-Current, Synchronous Buck Converter with +/-1A LDO and Buffered Reference	QFN16 (3x3)	
NB685A	4.5	26	12	0.135	0.6	700	✓	-	✓	✓	-	✓	Wide Vin 4.5-26V, 12A, Low Iq, High-Current, Synchronous Buck Converter with +/-1A LDO and Buffered Reference	QFN16 (3x3)	
MPQ8632-12	2.5	18	12	0.86	0.611	Prog.	✓	✓	✓	✓	-	✓	12A, 2.5V-18V, DCM, Non-Latch OVP, COT, Synchronous Step-Down Converter	QFN13 (3x4) QFN16 (3x4)	
MPQ8632-15	2.5	18	15	0.86	0.611	Prog.	✓	✓	✓	✓	-	✓	15A, 2.5V-18V, DCM, Non-Latch OVP, COT, Synchronous Step-Down Converter	QFN25 (5x4) QFN29 (5x4)	
MP38876	4.5	28	15	1	0.81	400	✓	✓	-	✓	✓	-	15A, 28V, High-Frequency, Step-Down Converter with Synchronous Gate Driver, OCP Latch-Off	QFN20 (3x4)	
MPQ8632-20	2.5	18	20	0.86	0.611	Prog.	✓	✓	✓	✓	-	✓	20A, 2.5V-18V, DCM, Non-Latch OVP, COT, Synchronous Step-Down Converter	QFN25 (5x4) QFN29 (5x4)	
MPQ8636-20	4.5	18	20	1	0.611	Prog.	✓	✓	-	✓	-	✓	20A, 4.5V-18V, CCM, Non-Latch OVP, COT, Synchronous Step-Down Converter	QFN25 (5x4) QFN29 (5x4)	
MPQ8636H-20	4.5	18	20	1	0.611	Prog.	✓	✓	-	✓	-	✓	20A, 4.5V-18V, CCM, Hiccup OVP, COT, Synchronous Step-Down Converter	QFN25 (5x4) QFN29 (5x4)	
MP8620	6	16	25	2	0.8	600	✓	✓	-	✓	✓	-	16V, 25A, Synchronous Step-Down Converter with Phase Inter-Leaving, External Soft Start, and OCP Latch-Off	QFN36 (6x6)	

DC/DC POWER CONVERSION

SWITCHING REGULATORS (CONTINUED)

Step-Down Converters (continued)

Maximum Operating Input Voltage <55V

Part Number	VIN (Min) (V)	VIN (Max) (V)	IOUT (Max) (A)	IQ (Typ) (mA)	VFB (Typ) (V)	FSW (kHz)	Features							Notes	Package
							Power Good	External Soft Start	Light-Load Efficiency	Synchronous Rectification	External Freq Sync	Constant-On-Time (COT)			
MP4410	4.5	36	0.1	0.02	1	Prog.	-	✓	-	✓	-	-	36V, 100mA, 20µA, Low Iq, Synchronous Step-Down Converter	QFN10 (3x3)	
MPQ4568	4.5	45	0.1	0.02	1	Prog.	-	✓	-	✓	-	-	Industrial Grade, 60V, 20µA, Low Iq, Synchronous Step-Down Converter	QFN10 (3x3)	
MP4568	4.5	45	0.1	0.02	1	Prog.	-	✓	-	✓	-	-	60V, 100µA, Low Iq, Synchronous Step-Down Converter	QFN10 (3x3)	
MPQ4569	4.5	75	0.3	0.02	1	1000	✓	✓	-	✓	-	-	75V, 300mA, 20µA, Low Iq, Synchronous Step-Down Converter	QFN10 (3x3) SOIC8E	
MP4569	4.5	75	0.3	0.02	1	1000	✓	✓	-	✓	-	-	75V, 300mA, 20µA, Low Iq, Synchronous Step-Down Converter	QFN10 (3x3) SOIC8E	
MPQ2459	4.5	55	0.5	0.73	0.812	480	-	-	-	-	-	-	0.5A, 55V, 480kHz Step-Down Converter	TSOT23-6	
MP4566	4.5	36	0.6	0.035	1	1000	-	-	✓	-	-	-	36V, 600mA, 1MHz, Non-Synchronous Step-Down Converter with High Light-Load Efficiency	QFN8 (2x3)	
MPQ2451	3.3	36	0.6	0.13	0.794	2000	-	-	✓	-	-	-	36V, 2MHz, 0.6A, Step-Down Converter Automotive-Grade	SOT23-6L QFN-6L	
MPQ2454	3.3	36	0.6	0.06	0.8	2300	✓	✓	-	-	✓	-	Low Iq, 36V, 0.6A, 2.3MHz, Step-Down Converter with AEC-Q100 Qualified	QFN (3x3)	
MP2454	3.3	36	0.6	0.06	0.8	2300	✓	✓	-	-	✓	-	Low Iq, 36V, 0.6A, 2.3MHz, Step-Down Converter	QFN (3x3)	
MPQ4458	3.8	36	1	0.12	0.8	Prog.	-	-	✓	-	-	-	1A, 4MHz, 36V Step-Down Converter	TQFN10 (3x3)	
MPQ4558	3.8	55	1	0.14	0.8	Prog.	-	-	✓	-	-	-	1A, 2MHz, 55V, Step-Down Converter with Light-Load Efficiency	QFN10 (3x3) SOIC8E	
MPQ4459	3.8	36	1.5	0.12	0.8	Prog.	-	-	✓	-	-	-	1.5A, 4MHz, 36V, Step-Down Converter	TQFN10 (3x3)	
MPQ2490	4.5	36	1.5	0.5	0.805	700	✓	✓	-	-	-	-	1.5A, 36V, 700kHz Step-Down Converter with Prog Output Current Limit	SOIC8	
MP24971	8	50	1.5	1.2	0.8	100	-	-	-	-	-	-	1.5A, 50V, 100kHz, 5V Fixed Output, Step-Down Converter with Programmable Current Limit, Output Line-Drop Compensation, and Output Over-Voltage Protection	SOIC8 SOIC8E	
MPQ4561	3.8	55	1.5	0.14	0.795	Prog.	-	✓	✓	-	-	-	1.5A, 2MHz, 55V Step-Down Converter	QFN10 (3x3)	
MP9942	4	30	2	0.5	0.792	410	✓	-	-	✓	✓	-	Consumer Grade, 2A, 36V Max, Synchronous Step-Down Converter with PG and External Synchronization	TSOT23-8	
MPQ4420	4	30	2	0.5	0.792	410	✓	-	-	✓	✓	-	Industrial Grade, High-Efficiency, 2A, 36V Max, Synchronous Step-Down Converter with PG and External Synchronization	TSOT23-8	
MPQ4420-AEC1	4	30	2	0.5	0.792	410	✓	-	-	✓	✓	-	High-Efficiency, 2A, 36V Max, Synchronous Step-Down Converter with PG, External Synchronization, and AEC1 Qualified	TSOT23-8	
MP4420	4	30	2	0.5	0.792	410	✓	-	-	✓	✓	-	High-Efficiency, 2A, 36V Max, Synchronous Step-Down Converter with PG and External Synchronization	TSOT23-8	
MPQ4420H	4	36	2	0.5	0.792	410	✓	-	-	✓	✓	-	Industrial Grade, High-Efficiency, 2A, 36V, Synchronous Step-Down Converter with PG and External Synchronization	TSOT23-8	
MP4420H	4	30	2	0.5	0.792	410	✓	-	-	✓	✓	-	High-Efficiency, 2A, 36V, Synchronous Step-Down Converter with PG and External Synchronization	TSOT23-8	
MPQ4560	3.8	55	2	0.14	0.797	Prog.	-	-	✓	-	-	-	2A, 2MHz, 55V, Step-Down Converter	QFN10 (3x3) SOIC8E	
MP2499	4.5	55	2	0.5	0.8	100	-	✓	-	-	-	-	Integrated 100V Load-Dump Protection, 2A, 100kHz, Step-Down Regulator with Programmable Output Current	SOIC16	
MPQ4460	3.8	36	2.5	0.12	0.8	Prog.	-	-	✓	-	-	-	2.5A, 4MHz, 36V, Step-Down Converter	QFN3x3-10	
MP2560	4.5	42	2.5	0.12	0.8	Prog.	-	-	✓	-	-	-	2.5A, 4MHz, 42V, Step-Down Converter	QFN10 (3x3) SOIC8E	
MP2565	4.5	50	2.5	0.12	0.8	Prog.	-	-	✓	-	-	-	2.5A, 4MHz, 50V, Step-Down Converter	QFN10 (3x3) SOIC8E	
MP2496M	7	36	2.5	1.6	-	Selec.	-	-	-	✓	-	-	2.5A, 36V, Frequency Selectable Step-Down Converter with Single USB Charging Ports	QFN26 (4x4)	
MP9943	4	30	3	0.5	0.79	410	✓	-	-	✓	✓	-	Consumer Grade, 3A, 36V Max, Synchronous Step-Down Converter with PG and External Synchronization	QFN8 (3x3)	
MP2403	4.6	32	3	1.45	0.8	250	-	✓	-	✓	-	-	4.6V to 32V, 250kHz, 3A, Synchronous Buck with External Comp and External SS	SOIC8N	
MPQ4423	4	36	3	0.5	0.79	410	✓	-	-	✓	✓	-	Industrial Grade, High-Efficiency, 3A, 36V Max, Synchronous Step-Down Converter with PG and External Synchronization	QFN8 (3x3)	
MPQ4423-AEC1	4	36	3	0.5	0.79	410	✓	-	-	✓	✓	-	High-Efficiency, 3A, 36V Max, Synchronous Step-Down Converter with PG, External Synchronization, and AEC1 Qualified	QFN8 (3x3)	
MP4423	4	36	3	0.5	0.79	410	✓	-	-	✓	✓	-	High-Efficiency, 3A, 36V Max, Synchronous Step-Down Converter with PG and External Synchronization	QFN8 (3x3)	
MPQ4423H	4	36	3	0.5	0.79	410	✓	-	-	✓	✓	-	Industrial Grade, High-Efficiency, 3A, 36V, Synchronous Step-Down Converter with PG and External Synchronization	QFN8 (3x3)	
MP4423H	4	36	3	0.5	0.79	410	✓	-	-	✓	✓	-	High-Efficiency, 3A, 36V, Synchronous Step-Down Converter with PG and External Synchronization	QFN8 (3x3)	
MP2497A	4.5	50	3	1.2	0.8	100	-	-	-	-	-	-	3A, 50V, 100kHz, Fast Switching Step-Down Converter with Programmable Output OVP Threshold	SOIC8E	
MP4570	4.5	55	3	0.45	1	Prog.	✓	✓	✓	✓	✓	-	3A, 4.5V-55V Input, Frequency Programmable, Fully Integrated Synchronous Step-Down Converter	TSSOP-20 EP	
MPQ4570	4.5	55	3	0.45	1	Prog.	✓	✓	✓	✓	✓	-	3A, 4.5V-55V Input, Frequency Programmable, Fully Integrated Synchronous Step-Down Converter	TSSOP-20 EP	
MPQ4462	3.8	36	3.5	0.12	0.792	Prog.	-	-	-	-	-	-	3.5A, 4MHz, 36V, Step-Down Converter	QFN10 (3x3) SOIC8E	
MP4473	4.5	36	3.5	0.5	0.815	Prog.	✓	✓	✓	✓	-	-	36V, 3.5A, Sync Buck Converter with PG	QFN20 (3x4)	
MPQ4473	4.5	36	3.5	0.5	0.815	Prog.	✓	✓	✓	✓	-	-	36V, 3.5A, Sync Buck Converter with PG with AEC-Q100 Qualified	QFN20 (3x4)	
MP5402M	7	36	5	1.6	-	Selec.	-	-	-	✓	-	-	5A, 36V, Frequency Selectable, Step-Down Converter with Dual USB Charging Ports	QFN26 (4x4)	

DC/DC POWER CONVERSION

SWITCHING REGULATORS (CONTINUED)

Step-Down Converters (continued)

Maximum Operating Input Voltage <55V (continued)

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _{OUT} (Max) (A)	I _O (Typ) (mA)	V _{FB} (Typ) (V)	F _{SW} (kHz)	Features							Notes	Package
							Power Good	External Soft Start	Light-Load Efficiency	Synchronous Rectification	External Freq Sync	Constant On-Time (COT)			
MP28490	4.5	30	5	0.9	0.808	420	✓	-	-	-	✓	-	5A, 30V, 420kHz, Step-Down Converter with Power Good. Output Adjustable from 0.8V to 15V.	SOIC8E	
MPQ4470A	4.5	36	5	0.5	0.815	Prog.	✓	✓	✓	✓	-	-	Industrial Grade, High-Efficiency, Fast-Transient, 5A, 36V, Synchronous Step-Down Converter with AEC-Q100 Qualification	QFN20 (3x4)	
MPQ4470	4.5	36	5	0.5	0.815	Prog.	✓	✓	✓	✓	-	-	High-Efficiency, Fast-Transient, 5A, 36V, Synchronous Step-Down Converter with AEC-Q100 Qualification	QFN20 (3x4)	
MP8675	4.5	42	6	0.9	0.808	420	-	-	-	✓	✓	-	6A, 42V, 420kHz, Step-Down Converter with Synchronizable Gate Driver	SOIC8E	
MP38892	4.5	42	6	0.9	0.808	420	-	-	-	✓	✓	-	6A, 42V, 420kHz, Step-Down Converter with Synchronizable Gate Driver	SOIC8E	

Step-Down Controllers

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _{OUT} (A)	I _O (Typ) (mA)	I _{SD} (Typ) (mA)	V _{FB} (V)	F _{SW} (kHz)	Soft Start	Reg Output Phase	Notes	Package
MP2910	5	12	-	0.6	-	0.8	300	Internal	-	Synchronous Buck PWM DC-DC and Linear Power Controller, Specific Power Good Indicator for Intel®, Grantsdale F _{SB} , V _{TT} Power Sequence	SOIC14 SOIC8E
MP2905	3	28	-	0.6	-	0.6	Adj. 200 to 500	External	-	Ideal for Applications Greater than 15A	MSOP10

Step-Up Charge Pump

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	V _{OUT} (Min) (V)	V _{OUT} (Max) (V)	I _{OUT} (Max) (A)	I _O (mA)	F _{SW} (kHz)	Notes	Package
MPQ9361	2.8	5	5	5	0.11	2	1350	Industrial Grade, Fixed 5V Output, High-Performance Regulated Charge Pump, Internal Soft-Start OCP SCP In-Rush Current Limit	TSOT23-6
MP9361	2.8	5	5	5	0.11	2	1350	Fixed 5Vout, High-Performance Regulated Charge Pump, Internal Soft-Start OCP SCP In-Rush Current Limit	TSOT23-6
MP9218	2.8	5	5	5	0.11	2	1350	Fixed 5Vout, High-Performance Regulated Charge Pump in a Small QFN2x2 Package P2P with LTC3204	TQFN2x2-6

Step-Up Controllers

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _{OUT} (A)	F _{SW} (kHz)	I _O (Typ) (mA)	Power Good	V _{FB} (Typ) (V)	Soft-Start	Max Duty Cycle	Notes	Package
MP3908	4.75	10	5	300	0.27	-	0.818	External	0.86	Current Mode PWM Controller with Synchronous Gate Drive	MSOP10
MP3900	8.6	12	2.5	390	0.27	-	0.816	Internal	0.83	Efficiency Flyback/Boost Controller	MSOP8
MP3910	5	35	1	Adj. 30 to 400	0.288	-	1.237	External	0.95	Programmable Switching Frequency, External SS, 35V Vin Max, Supports Pulse-Skipping Mode at Light Load	MSOP10
MP6002	10	100	3	550	1	-	1.21	Internal	-	Flyback/Forward DC/DC Converter, 30W, Integrated 150V Power Switch	SOIC8E
MP6001	10	100	2	550	1	-	1.21	Internal	-	Flyback/Forward DC/DC Converter, 15W, Integrated 150V Power Switch	SOIC8E
MP6003	10	100	-	550	1	-	1.21	Internal	-	Monolithic Flyback/SEPIC DC/DC Converter	SOIC8E

Step-Up Converters

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	V _{OUT} (Max) (V)	I _{SW} Limit (Typ) (A)	I _O (Typ) (mA)	V _{FB} (V)	Switching Freq (kHz)	Sync	Notes	Package
MP3209	2.5	6	22	0.35	0.64	1.25	1400	-	Internal Comp, Tiny Inductors and Capacitors Can be Used	TSOT23-5 UTQFN8 (2x2)
MP3418	0.6	4	4	0.4	0.038	1.21	1200	✓	400mA, 1.2MHz, Very Low Iq, Output Disconnect	TSOT23-8
MP3217	2.5	6	36	0.5	0.46	1.24	670	-	Cycle-by-Cycle Over-Current Protection, UVLO, Thermal Shutdown, P2P with MAX5025-5028	TSOT23-6
MP1400	2.7	7	-6	0.6	0.2	0	1500	-	Output Adjustable from -0.9V to -6V, Very Small Size	CSP8 (0.8x1.6)
MP1531	2.7	5.5	22	0.65	0.8	1.25	250	-	Triple Output Step-Up and Charge Pump for TFT Bias	QFN16 (3x3) TSSOP16
MP3216	2.5	6	36	0.75	0.55	1.24	1300	-	Output Disconnect, Output-Short Protection, Cycle-by-Cycle Over-Current Protection	TSOT23-6
MP3120	0.8	5	5	1.2	0.47	1.19	1100	✓	Output Disconnect, has LDO Mode	TSOT23-6
MP3430	2.7	5.5	90	1.2	0.3	0.8	1300	-	APD Current Monitoring (1:10 or 1:2 Ratio) with 5% Accuracy and 50ns Response Time, Programmable APD Current Limit and Protection, Internal Comp and SS	QFN16 (3x3)
MP3410	1.8	6	6	1.3	0.36	1.19	550	✓	Output Disconnect	TSOT23-5
MP3212	2.3	5.5	28	1.3	0.18	1.23	1000	-	Integrated Input Disconnect Switch, Internal SS, and Internal Comp	QFN10 (3x3)
MP3414	0.6	4	4	1.8	0.035	1.21	1000	✓	Very Low Iq, Output Disconnect	TSOT23-8
MP1541	2.5	6	22	1.9	0.64	1.25	1300	-	-	TSOT23-5
MP1542	2.5	22	22	2.6	0.7	1.25	700/1300	-	-	MSOP8
MP3221	2.5	6	6	2.7	0.27	0.796	1200	-	High-Efficiency, Low Iq, Input Disconnect	TSOT23-6
MP3414A	1.8	5.5	5.5	3	0.022	0.6	1000	✓	Very Low Iq, Output Disconnect, Improved Version of MP3414	TSOT23-8
MP3213	2.5	22	22	3.5	0.7	1.25	700/1300	-	-	MSOP8E
MP1530	2.7	5.5	22	3.6	1.3	1.25	1400	-	Triple Output Charge Pump and LDO for TFT Bias	QFN16 (3x3) TSSOP16

AEC-Q100

AEC-Q100

NEW

DC/DC POWER CONVERSION

SWITCHING REGULATORS (CONTINUED)

Step-Up Converters (continued)

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	V _{OUT} (Max) (V)	I _{SW} Limit (Typ) (A)	I _O (Typ) (mA)	V _{FB} (V)	Switching Freq (kHz)	Sync	Notes	Package
MPQ1530	2.7	5.5	22	3.6	1.3	1.25	1400	-	Triple Output Charge Pump and LDO for TFT Bias with AEC-Q100 Qualified	QFN16 (3x3)
MP1517	2.6	25	25	4	0.9	0.7	1100	-	-	QFN16 (4x4)
MP3425	3.1	22	55	5	0.65	1.25	Prog. 300 to 2000	-	Programmable UVLO and EN Hysteresis, Consumer Grade	QFN14 (3x4)
MP3422	1.9	5.5	5.5	6.5	0.043	0.807	600	√	High-Efficiency, Very Low I _q , Small Size, Output Disconnect	QFN14 (2x2)
MP3426	3.2	22	35	8.5	0.65	1.225	Prog. 300 to 2000	-	Programmable UVLO, Soft Start, UVLO Hysteresis	QFN14 (3x4)
MPQ3426	3.2	22	35	8.5	0.65	1.225	Prog. 300 to 2000	-	Industrial Grade, Programmable UVLO, Soft Start, UVLO Hysteresis AEC Qualification is in Progress	QFN14 (3x4)
MP3423	1.9	5.5	5.5	9	0.043	0.807	600	√	High-Efficiency, Very Low I _q , Small Size, Output Disconnect	QFN14 (2x2)
MP3427	3	8	10	22	0.6	1.225	600	√	Supports up to a 30W Load, External Soft-Start, Programmable UVLO and Hysteresis	QFN22 (3x4)
MP3428	3	20	22	22	0.6	1.225	600	√	External Soft Start, Programmable UVLO and Hysteresis	QFN22 (3x4)
MP3428A	3	20	22	22	0.6	1.225	600	√	Input Disconnect Function, External Soft Start, Programmable UVLO and Hysteresis	QFN22 (3x4)

Step-Up Energy Storage (Dying GASP)

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	V _{STRG} (Max) (V)	I Limit Charging (A)	I Limit Dumping (A)	I _O (Typ) (mA)	V _{FB} (V)	Notes	Package
MP6302	4.2	18	32	0.25	2.5	0.25	1	Programmable Storage and Release Voltage, Indicators for Storage and Input Voltage	QFN10 (2x3)
MP5600	9	18	19.5	1.2	5	3.5	1.227	Multiple Output Power Supply for TV-LCD Panel	TQFN40 (5x5)
MP201	4.5	18	32	0.26	2.5	0.25	1	Programmable Storage and Release Voltage, Flag Indicator	SOIC8
MP5505A	2.7	7	30	0.5	5	2 (Max)	0.79	Programmable Storage and Release Voltage, Hot-Swap Management Unit	QFN20 (3x4)
MP5512	4	18	40	0.96	5	1	0.8	Programmable Storage and Release Voltage, Hot-Swap Management Unit	QFN28 (4x5)

Step-Up LNB

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	Standard	I _{OUT} (Max) (A)	22kHz Tone Signal Generated	POK Indicator	I2C	Notes	Package
MP8124	8	14	DiSEqC™ 1.x	0.5	External	-	-	Boost Converter with Internal Switch, Low-Noise LDO Output, Line-Drop Compensation, Selectable Vout Compensation, Adjustable Output SS	QFN14 (2x3)
MP8125	8	14	DiSEqC™ 1.x	0.55	Internal	√	-	Boost Converter with Internal Switch, Low-Noise LDO Output, Line-Drop Compensation, Settable LDO Current Limit, Selectable Vout Compensation, Adjustable Output SS	TSSOP16 QFN24 (4x4)
MP8126	8	14	DiSEqC™ 1.x	0.55	External	√	-	Boost Converter with Internal Switch, Low-Noise LDO Output, Line-Drop Compensation, Settable LDO Current Limit, Selectable Vout Compensation, Adjustable Output SS, Direct 22kHz Input	TSSOP16EP QFN24 (4x4)

BUCK-BOOST

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	V _{OUT} (Max) (V)	I _{SW} Limit (Typ) (A)	I _O (Typ) (mA)	V _{FB} (V)	F _{SW} (kHz)	Sync	Notes	Package
MP2155	2	5.5	5	2.2	0.08	0.496	1000	√	2.2A, High-Efficiency, Very Low I _q , Power-Save Mode, Load Disconnect	QFN10 (3x3)
MP28163	2	5.5	5	2.9	0.07	0.496	1100	√	2.9A, High-Efficiency, Very Low I _q , Power-Save Mode, Load Disconnect	QFN10 (3x3)

MODULES

Part Number	I _{OUT} (A)	V _{IN} (V)	I _Q (μA)	Light-Load Efficiency	Power Good	Soft Start	Protection Features OCP/SCP/ULVO/OTP	Notes	Package	Solution Size
MPM3805	0.6	2.5 to 6	17	√	√	Internal	√	6V Input, 0.6A, Synchronous Step-Down Converter Module with Integrated Inductor	3x2.5x0.9mm QFN12	3.81x5.97mm
MPM3805-1.2V	0.6	2.5 to 6	17	√	√	Internal	√	-	3x2.5x0.9mm QFN12	3.81x5.97mm
MPM3805-1.8V	0.6	2.5 to 6	17	√	√	Internal	√	-	3x2.5x0.9mm QFN12	3.81x5.97mm
MPM3805-2.5V	0.6	2.5 to 6	17	√	√	Internal	√	-	3x2.5x0.9mm QFN12	3.81x5.97mm
MPM3805-3.3V	0.6	2.5 to 6	17	√	√	Internal	√	-	3x2.5x0.9mm QFN12	3.81x5.97mm
MPM3606	0.6	4.5 to 21	200	√	√	Internal	√	21V Input, 0.6A, Synchronous Step-Down Converter Module with Integrated Inductor	3x5x1.6mm QFN20	6.7x6.3mm
MPM3606A	0.6	4.5 to 21	300	√	√	Internal	√	-	3x5x1.6mm QFN20	6.7x6.3mm
MPM3506A	0.6	4.5-36	580		√	Internal	√	36V/600mA, Synchronous Step-Down Converter with Integrated Inductor	3x5x1.6mm QFN19	6.7x6.3mm
MPM3610	1.2	4.5 to 21	200	√		Internal	√	21V Input, 1.2A, Synchronous Step-Down Converter Module with Integrated Inductor	3x5x1.6mm QFN20	6.7x6.3mm
MPM3610A	1.2	4.5 to 21	200	√	√	Internal	√	-	3x5x1.6mm QFN20	6.7x6.3mm
MPM3510A	1.2	4.5-36	580		√	Internal	√	36V/1.2A, Synchronous Step-Down Converter with Integrated Inductor	3x5x1.6mm QFN19	6.7x6.3mm
MPM3620	2	4.5 to 24	200	√		Internal	√	24V Input, 2A, Synchronous Step-Down Converter Module with Integrated Inductor	3x5x1.6mm QFN20	6.7x6.3mm
MPM3620A	2	4.5 to 24	200	√	√	Internal	√	-	3x5x1.6mm QFN20	6.7x6.3mm
MPM3830	3	2.7 to 6	40	√	√	Internal	√	6V Input, 3A, Synchronous Step-Down Converter Module with Integrated Inductor	3x5x1.6mm QFN20	8.5x4.5mm
MPM3680	6	2.5 to 18	860	√	√	Internal/External	√	18V, 6A, Step-Down Power Module in a 12x12x4mm QFN	12x12x4mm QFN57	-
MPM3682	10	2.5 to 18	860	√	√	Internal/External	√	18V, 10A, Step-Down Power Module in a 12x12x4mm QFN	12x12x4mm QFN57	-
MPM3684	15	2.5 to 18	860	√	√	Internal/External	√	18V, 15A, Step-Down Power Module in a 12x15x4mm QFN	12x15x4mm QFN65	-
MPM3686	20	2.5 to 18	860	√	√	Internal/External	√	18V, 20A, Step-Down Power Module in 12x15x4mm QFN	12x15x4mm QFN65	-

DIGITAL REGULATORS

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _{OUT} (Max) (A)	I _Q (Typ) (mA)	V _{FB} (Typ) (V)	F _{SW} (kHz)	Power Good	External Soft Start	Light-Load Efficiency	Synchronous Rectification	External Freq Sync	Constant-On-Time (COT)	Notes	Package
MP8864	4.5	21	4	0.5	0.6	1600	√	√	√	√	-	-	4A, 21V, High-Efficiency Synchronous Step-Down Converter with I2C Interface	QFN15 (3x3)
MP8846	4.5	8	6	0.5	0.6	1600	√	√	√	√	-	-	6A, 8V, High-Efficiency, Synchronous Step-Down Converter with I2C Interface	QFN15 (3x3)
MP8865	4.5	21	6	0.5	0.6	1600	√	√	√	√	-	-	6A, 21V, High-Efficiency, Synchronous Step-Down Converter with I2C Interface	QFN15 (3x3)
MP8867	4.5	17	8	0.56	0.6	1500	√	√	√	√	-	-	8A, 17V, High-Efficiency, Synchronous Step-Down Converter with I2C Interface	QFN14 (3x4)
MP8868	4.5	17	10	0.56	0.6	1500	√	√	√	√	-	-	10A, 17V, High-Efficiency, Synchronous Step-Down Converter with I2C Interface	QFN14 (3x4)

DC/DC POWER CONVERSION

LDO

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _{OUT} (mA)	IQ (Typ) (µA)	Load Reg (%/mA)	PSRR @ 1kHz (dB)	V _{FB} (V)	Dropout Voltage (mV)	V _{OUT} (V)	Notes	Package
MP2000	1.35	6	150	65	0.001	50	0.5	250 (IO: 100mA) 300 (IO: 150mA)	0.5 to 5.0 Only Adj Option Available Now	Low Voltage Input (1.35V to 6V)	TSOT23-5
MP20049	2.3	6	150	55	0.001	78	-	50 (IO: 120mA)	Fixed, 1.2V to 4.5V, Available Option: 2.8V	Ultra-Low Noise, High PSRR in WLCSP Package, P2P ADP120 & LP5900	WLCSP (0.8x0.8)
MP8801	2.7	6.5	150	125	0.001	70	1.22	150 (IO: 150mA)	Adj., Avail Fixed Options: 2.5V, 2.85V and 3.3V	Low Noise, Excellent for RF App, Lower Cost	TSOT23-5
MP8903	2.7	6.5	150	125	0.001	50	1.22	150 (IO: 150mA)	Adj., Avail Fixed Options: 2.5V, 2.85V and 3.3V	Low Cost, Small QFN 2mmx2mm Option, Consumer Grade	QFN8 (2x2) TSOT23-5
MPQ8903	2.7	6.5	150	125	0.001	50	1.22	150 (IO: 150mA)	Adj., Avail Fixed Options: 2.5V, 2.85V and 3.3V	Low Cost, Small QFN 2mmx2mm Option	QFN8 (2x2) TSOT23-5
MP20142	2.5	5.5	200 (2x)	150	-	75	-	60 (IO: 100mA) 180 (IO: 300mA)	1.5V to 3.3V, Programmable	Dual Outputs, Prog with 2-Pin Control Input	TQNF8 (2x2)
MP2004	2.7	6.5	200 (2x)	114	0.005	69	-	90 (IO: 100mA) 180 (IO: 200mA)	Avail Options: 2.5/1.8, 5.0/3.3, 3.0/2.85, 1.85/1.85, 3.3/2.5, 2.8/1.8	Dual LDO Adjustable	TSOT23-6
MP20249	2.3	6	200 (2x)	125	0.001	65	-	60 (IO: 150mA) 75 (IO: 200mA)	Fixed, 1.2V to 3.3V, Avail Option: 2.8V/1.2V	Dual-Channel, Ultra-Low Noise, High PSRR in a 6-Ball WLCSP Package	WLCSP (1x1.5)
AEC-Q100 MPQ20056-18	2.5	5.5	250	150	0.002	63	0.8	100 (IO: 250mA)	Fixed 1.8V	250mA, Fixed 1.8V Output, Available in AEC-Q100 and Industrial Grade	QFN8 (2x2)
AEC-Q100 MPQ20056-33	2.5	5.5	250	150	0.002	63	0.8	100 (IO: 250mA)	Fixed 3.3V	250mA, Fixed 3.3V Output, Available in AEC-Q100 and Industrial Grade	QFN8 (2x2) TSOT23-5
MP20048	1.7	5.5	250	350	5E-04	35	1.234	60 (IO: 250mA)	Adj. 1.234V to 5.0V	Stable without Any Output Capacitors	TSOT23-5
MP8802	2.7	6.5	250	125	0.001	70	1.22	230 (IO: 250mA)	Adj., Avail Fixed Options: 2.5V, 2.85V and 3.3V	Excellent for RF Applications, Lower Cost	TSOT23-5
MP8902	2.7	6.5	250	125	0.001	70	1.22	230 (IO: 250mA)	Adj., Available 1.25V to 5V Fixed Options: 2.5V, 2.85V and 3.3V	Excellent for RF Applications	QFN8 (2x2)
MP20041	2.5	6	300 (2x)	114	0.003	65	-	75 (IO: 100mA) 220 (IO: 300mA)	Avail Options: 1.8/1.2, 1.8/1.3, 1.8/2.5, 1.8/3.3, 2.5/3.3, 2.8/1.8, 2.8/3.3, 3.3/2.7, 3.3/3.3, 3.0/3.0	Dual Fixed Output, 300mA/CH LDO, P2P RT9012	QFN8 (2x2)
MP20044	2.5	6	300 (2x)	114	0.002	65	-	75 (IO: 100mA) 220 (IO: 300mA)	1.2V to 5.0V Avail Option: 3.0V/3.0V	Dual Fixed Output, Good Load Regulation, 300mA/Ch LDO	TQNF8 (2x2)
MP20043	2.5	5.5	300 (2x)	150	-	75	-	60 (IO: 100mA) 180 (IO: 300mA)	1.2V to 3.3V Avail Ver: -A, -B, -C, -D, -E	Dual Outputs, Programmable with 2-Pin Control Input	TQNF8 (2x2)
MP2002	1.35	6.5	500	100	0.001	26	0.5	290 (IO: 500mA)	Adj. 0.5V to 5.0V	Low-Voltage Input, Power Good	QFN8 (2x3)
MP8904	2.5	6.5	500	100	0.001	26	0.496	300 (IO: 500mA)	Adj. 0.5V to 5.0V	Power Good Output	QFN8 (2x3)
AEC-Q100 MPQ8904	2.5	6.5	500	100	0.001	26	0.496	300 (IO: 500mA)	Adj. 0.5V to 5.0V, Available in AEC-Q100 and Industrial Grade	Power Good Output, Available in AEC-Q100 and Industrial Grade	QFN8 (2x3)
MP20045	2.5	5.5	1000	110	3E-04	56	1.5	140 (IO: 1000mA)	Adj. 1.5V to 5.0V, Avail Fixed Options: 1.8V, 2.5V and 3.3V	High Input/Output Current with Fast Response, Fixed and Adjustable +0.252 Output Voltages	QFN8 (3x3) SOIC8E
MP20051	2.5	5.5	1000	110	3E-04	63	0.8	140 (IO: 1000mA)	Adj. 0.8V to 5.0V	0.8V VFB Version of MP20045, with Adjustable Output Voltage from 0.8V to 5.0V	QFN8 (3x3) SOIC8E
AEC-Q100 MPQ20051	2.5	5.5	1000	110	3E-04	63	0.8	140 (IO: 1000mA)	Adj. 0.8V to 5.0V Available in AEC-Q100 and Industrial Grade	Available in AEC-Q100 and Industrial Grade	QFN8 (3x3)
MP20046	2.7	5.5	2000	75	3E-04	70	-	210 (IO: 2000mA)	Fixed, 1.5V to 3.3V, Available Options: 1.5V, 1.8V, 2.5V, 3.3V	High Input/Output Current with Fast Response	SOIC8E QFN10 (3x3)
MP20073	1.3	6	2000	-	N/A	N/A	N/A	N/A	V _{TT} /V _{TT} Ref	DDR2/3 Termination Regulator, V _{DRV} =3.3V	MSOP8E
MP2007	1.3	6	3000	-	N/A	N/A	N/A	N/A	V _{TT} /V _{TT} Ref	DDR2/3 Termination Regulator	MSOP8E
MP20075	1.3	3.6	3000	-	N/A	N/A	N/A	N/A	V _{TT} /V _{TT} Ref	DDR2/3 Termination Regulator, V _{DRV} =3.3V	MSOP8E
High-Performance, Low-Dropout Linear Regulators											
MP2016	4	42	30	12	0.003	50	1.23	700 (IO: 30mA)	Adj. 1.2V to 20V	Ideal for Automotive	QFN8 (2x3) TSOT23-5
MP2009	2	6	120	50	0.002	78	-	172 (IO: 120mA)	Adj. 1.5V to 4.5V Avail Fixed Options: 1.8V, 2.5V, 3.3V and 4.0V	No Bypass Capacitor Required	SC70-5
MP2013	2.5	40	150	3.2	0.003	41	1.215	620 (IO: 150mA)	Fixed and Adj. 1.215V to 15V	3.2µA, Ultra-Low Quiescent Current	TSOT23-5 QFN6 (2x2) QFN8 (3x3)
MPQ2013	2.5	40	150	3.2	0.003	41	1.215	620 (IO: 150mA)	Fixed and Adj. 1.215V to 15V Industrial Grade	Industrial Grade, 3.2µA, Ultra-Low Quiescent Current	TSOT23-5 QFN6 (2x2) QFN8 (3x3)
NEW MPQ2013A	2.5	40	150	3.2	0.005	41	1.215	620 (IO: 150mA)	Fixed and Adj. 1.215V to 15V Industrial Grade	Industrial Grade, 3.2µA, Ultra-Low Quiescent Current, EN Pin	TSOT23-5 QFN6 (2x2) QFN8 (3x3)
MP20042	2.7	6.5	200 (2x)	114	0.005	73	-	73 (IO: 100mA) 145 (IO: 150mA)	1.2V to 3.3V, Avail Options: 1.85/1.85, 2.5/1.8, 2.8/1.8, 3.0/2.85, 3.3/2.5, 5.0/3.3	Dual LDO Adjustable and Fixed Output Options	QFN8 (2x2)
MP2005	1	5.5	800	100	5E-04	65	0.5	70 (IO: 800mA)	Adj. 0.5V to 4.0V	Ultra-Low Dropout, Fast Transient, 48dB PSRR @ 1MHz	QFN8 (2x3)
MP2030	1.1	5	3000	220	0.001	32	0.5	150 (IO: 3000mA)	Adj. 0.9V to 3.8V	Dual Supply, Fast Transient, Ultra-Low Dropout with Bias Supply, Power Good, Current Limit, and Internal Thermal Protection	QFN10 (3x3) QFN32 (5x5)
MP2040	1.1	5	3000	3500	0.001	40	0.5	150 (IO: 3000mA)	Adj. 0.9V to 3.3V	Highest PSRR, Fast Transient Response, 3A, Very Low Dropout Linear Regulator	QFN10 (3x3) QFN32 (5x5)

DC/DC POWER CONVERSION

SUPERVISORY

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _O (Typ) (μA)	Threshold Acc (%)	Reset Threshold Accuracy (%)	Delay Time (me)	LDO I _{OUT} (mA)	PSRR @1K	V _{DROPOUT} (mV)	Notes	Package
AEC-Q100 MPQ6400	1.8	6	1.6	0.4	1	2.1 to 10000	-	-	-	Low Quiescent Current Programmable-Delay Supervisory Circuit, Available in AEC-Q100 and Industrial Grade	TSOT23-6 QFN6 (2x2)
MP6401	2.5	5.5	80	0.25	7.5	3.125 to 1580	300	57	114 (IO: 300mA)	Linear Regulator with Integrated Reset Circuit	TQFN8 (3x3) TQFN6 (2x2) TSOT23-6
MP6402	2.5	5.5	400	-	3	Prog	500	60	260 (IO:500mA)	Dual LDO, Integrated Reset Circuit, Fixed Output Voltages from 0.9V to 3.3V	SOIC8E TQFN8 (3x3)

MOSFET DRIVERS

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	Bootstrap Supply (Max) (V)	Peak Pull-Up Current (A)	Peak Pull-Down Current (A)	Rise Time (ns)	Fall Time (ns)	Turn-On Delay (ns)	Turn-Off Delay (ns)	Notes	Package
MP18024	9	16	100	3	4.5	15	9	20	20	100V, 4A, High-Frequency, Half-Bridge Gate Driver	SOIC8E
MP1906	10	16	80	0.35	1	50	30	80	80	80V, Half-Bridge Gate Driver	SOIC8
MP1907	4.5	18	100	1.5	2.5	12	9	18	20	100V, 2.5A, High-Frequency Half-Bridge Gate Driver	QFN3x3-10
MPQ18021A	9	18	100	1.5	2.5	12	9	16	16	100V, 2.5A, High-Frequency, Half-Bridge Gate Driver	SOIC8
MP18021A	9	18	100	1.5	2.5	12	9	16	16	100V, 2.5A, High-Frequency, Half-Bridge Gate Driver	SOIC8E QFN8 (3x3)
MP18021	9	18	100	1.5	2.5	12	9	16	16	100V, High-Frequency, N-MOSFET, Half-Bridge Gate Driver with 1ns Matching Delay	SOIC8EP QFN8 (3x3)

PMIC & MULTIPLE OUTPUTS

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	V _{OUT} (V)	V _{FB} (V)	I _{sw} Limit (Typ) (A)	F _{sw} (kHz)	Notes	Package
MP5410	1.8	5.5	10	1.23	10	Variable	Low Start-Up Voltage Boost Converter with 4 SPDT Switches	QFN16 (3x3)
MP5414	1.8	5.5	10	1.23	10	Variable	Step-Up Converter, 4 SPDT Switches, LDO and Charger Designed for 3-D Glasses	QFN28 (4x5)

FLYBACKS

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	V _{OUT} (V)	I _{sw} Limit (Typ) (A)	I _O (Typ) (mA)	V _{FB} (V)	Switching Freq (kHz)	Sync	Notes	Package
NEW MP6004	14	80	150	2.05	0.38	1.99	10 to 200	-	13W, Integrated 180V Power Switch	QFN14 (3x3)

POE PD CONTROLLERS

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	V _{OUT} (V)	I _{sw} Limit (Typ) (A)	I _O (Typ) (mA)	V _{FB} (V)	Switching Freq (kHz)	Sync	Notes	Package
MP3900	8.6	12	10V Gate Driver	0.2V/R _{SENSE}	0.18	0.816	330	-	(Boost Controller) 10V Gate Drive	MSOP8
MP3908	4.75	12	10V Gate Driver	0.19V/R _{SENSE}	0.27	0.82	260	√	Synchronous Boost Controller, Optimized for PoE PD Power, Lossless Current Sense, Forward, Flyback, SEPIC Apps, External SS	MSOP10
MP6001	4.5	100	5V	2	-	-	55 to 550	-	15W, Integrated 150V Power Switch	SOIC8E
MP6002	10	100	5V	4	1	1.21	55 to 550	-	30W, Integrated 150V Power Switch	SOIC8E

POE PD IDENTITY

Part Number	Pass Device	Current Limit (mA)	Thermal Protection	IEEE Detection & Classification	Notes	Package
MP8004	100V, 1Ω DMOS	420	Yes	802.3af	13W PoE PD Interface and PWM Converter	QFN20 (4x6)
MP8005	100V, 1Ω DMOS	440	Yes	802.3af	13W PoE PD Interface and PWM Controller	TSSOP20
MP8001	100V, 0.8Ω DMOS	440	Yes	802.3af	15W PoE PD Controller	SOIC8

BATTERY MANAGEMENT

CIGARETTE LIGHTER ADAPTERS

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	Absolute V _{IN} (Max) (V)	I _{OUT} (A)	Switching Freq (kHz)	Short-Circuit Switching Freq (kHz)	Soft Start	Shutdown Supply Current (Max) (μA)	Notes	Package
MP2490	4.5	36	40	1.5	700	200	External	10	1.5A, 36V, 700kHz Step-Down Converter with Programmable Output Current Limit	SOIC8 QFN10 (3x3)
MP2493	4.5	36	40	2	130	35	External	10	1.5A, 36V, 130kHz Low EMI Step-Down Converter with Programmable Output Current Limit	SOIC8 SOIC8E
MP2497	4.5	50	60	3	100	50	Internal	10	3A, 50V, 100kHz Step-Down Converter with Programmable Output OVP Threshold	SOIC8 SOIC8E
MP2497A	4.5	50	60	3	100	50	Internal	10	3A, 50V, 100kHz, Fast Switching Step-Down Converter with Programmable Output OVP Threshold	SOIC8 SOIC8E
MP24971	8	50	-	1.5	100	-	Internal	-	1.5A, 50V, 100kHz, Programmable Current Limit, Output Line-Drop Compensation, Output Over-Voltage Protection	SOIC8 SOIC8E
MP2492	4.5	55	60	2	100	100	External	10	2A, 55V, 100kHz Step-Down Converter with Programmable Output Current Limit	SOIC8E QFN10 (3x3)
MP2494	4.5	55	60	2	100	100	External	10	2A, 55V, 100kHz Step-Down Converter	SOIC8 SOIC8E
MP24943	4.5	55	-	3	100	-	External	-	3A, 55V, 100kHz, Programmable Output OVP Threshold	SOIC8 SOIC8E

CRADLE CHARGERS

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	# of Cells	I _{CHARGE} (A)	Trickle Charge	Charge Status	Charge Type	Notes	Package
MP26085	7	20	-	-	-	-	CV/CC Controller	CC/CV Controller with 1.223V Voltage Reference	SOT23-8
MP26075	2.2	28	1	1	√	√	CV/CC Linear	Includes a Pre-Charge Function, Thermal Foldback, and a Voltage Control Function for a Flyback Controller	QFN10 (3x3)
MP2681	4.5	30	3-5	4	No	No	CV/CC Controller	CC/CV Controller with Full Protection and Indication. One-Chip Solution for Power Tool Applications	SOIC 16

LINEAR CHARGERS

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	# of Cells	I _{CHARGE} (A)	Trickle Charge	Charge Status	Charge Type	Notes	Package
MP2607	4.5	12	1	Up to 1.5	√	√	CV/CC Linear	Li-Ion Linear Charger with System Power-Path Management	QFN14 (3x4)
MP26028	3.5	20	1	Up to 1	√	√	CV/CC Linear	Includes Battery Temp Monitor, Trickle Charge	QFN10 (3x3)
MP26060	3.5	24	1	Up to 1	√	√	CV/CC Linear	4.15V Output Safe Charge	QFN10 (3x3)
MP2603	4.75	25	1	Up to 0.15	√	√	CV/CC Linear	Simple System Charger, 50mA to 150mA Programmable Charge, No NTC	TSOT23-5
MP2631	3	28	1	Up to 1	√	√	CV/CC Linear	Li-Ion, Linear Battery Charger with 10mA High-Voltage LDO	QFN10 (3x3)
MP2608	3.5	28	1	Up to 1	√	√	CV/CC Linear	Dual Input USB & AC-Adapter	QFN10 (3x3)
MP2604	3.5	28	1	Up to 1	-	√	CV/CC Linear	Includes NTC, Battery Temp Monitor	QFN10 (3x3)
MP2602	3.5	28	1	Up to 1	√	√	CV/CC Linear	Includes NTC, Battery Temp Monitor, Trickle Charge	QFN10 (3x3)
MP2606	3.5	28	1	Up to 1	-	√	CV/CC Linear	Wide IBF Hysteresis, NTC	QFN10 (3x3)
MP26056	3.5	28	1	Up to 1	√	√	CV/CC Linear	Dual-Mode USB & AC Adapter	QFN10 (3x3)
MP2605	3.5	28	1	Up to 1	√	√	CV/CC Linear	Auto-Charge Term & Recharge, Timer	QFN10 (3x3)
MP26053	3.5	28	1	Up to 1	√	√	CV/CC Linear	I _{chg} =10% of Iset, Auto-Charge Term & Recharge, Timer	QFN10 (3x3)
MP26058	3.5	28	1	Up to 1	-	√	CV/CC Linear	Includes LDO Mode & Timer	QFN10 (3x3)
MP26057	3.5	28	1	Up to 1	√	√	CV/CC Linear	Travel Charger	QFN10 (3x3)
MP26121	3.5	28	1	Up to 1	√	√	CV/CC Linear	Li-Ion Linear Battery Charger with 10% Battery Full Threshold, Flexible NTC Interface	QFN10 (3x3)

POWER BANK MANAGEMENT

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	Charge Current (Max) (A)	Output Cur. Boost Mode (A)	Switching Freq (kHz)	# of Cells	Battery Charge Voltage (V)	Battery Type	Notes	Package
MP2633	4.5	6	1.5	1.5	1200/600	1	4.2/3.6	Li-Ion Li-Polymer	1.5A, Single-Cell Switching Charger with Power-Path Management and 1A Boost OTG	QFN24 (4x4)
MP2633A	4.5	6	1.5	1	1200/600	1	4.2/3.6	Li-Ion Li-Polymer	1.5A, Single-Cell Switching Charger with Power-Path Management and 1A Boost OTG	QFN24 (4x4)
MP2635	4.5	6	2	1.5	1200/600	1	4.2/3.6	Li-Ion Li-Polymer	2A, Single-Cell Switching Charger with Power-Path Management and 1A Boost OTG	QFN24 (4x4)
MP2635A	4.5	6	2	1	1200/600	1	4.2/3.6	Li-Ion Li-Polymer	2A, Single-Cell Switching Charger with Power-Path Management and 1A Boost OTG	QFN24 (4x4)
MP2636	4.5	6	3	3	600	1	4.2/4.3/4.35	Li-Ion Li-Polymer	3A, Single-Cell Switching Charger with Power-Path Management and 3A System Boost Current	QFN30 (4x4)
MP2637	4.5	6	2.5	2.4	600	1	4.2/4.35	Li-Ion Li-Polymer	2.5A, Single-Cell Switching Charger with Power-Path Management and 2.4A System Boost Current	QFN24 (4x4)

PROTECTION

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	# of Cells	I _{CHARGE} (A)	Trickle Charge	Charge Status	Charge Type	Notes	Package
MP2671	2.6	30	1	-	-	-	Battery Protect	Li-Ion Battery Charger with Protection Circuit	QFN12 (3x4)
MP2670	4.3	30	1	-	-	-	Battery Protect	Li-Ion Battery Charger with Protection Circuit	QFN10 (3x3)
MP2674	4.3	30	1	-	-	-	Battery Protect	Li-Ion Charger, Protection Circuit, Tolerates Input Surge up to 30V, Small Pkg	QFN8 (2x2)
MP2676	4.3	30	1	-	-	-	Battery Protect	Li-Ion Charger Protection IC with Integ P-MOSFET for PMU Charger Protection	QFN8 (2x2)
MP2678	3.3	30	1	-	-	-	Battery Protect	Li-Ion Battery Charger Protection IC with 5V LDO Mode	QFN8 (2x2)



BATTERY MANAGEMENT

SWITCHING CHARGERS

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	# of Cells	I _{CHARGE} (A)	Trickle Charge	Charge Status	Charge Type	Switching Freq (kHz)	Notes	Package
MP2611	4.5	6	1	Up to 2	✓	✓	CV/CC Switching	1500	Single-Cell Switching Charger with Separate Input for USB and AC Adapter	QFN14 (3x4mm)
MP2625B	4	16	1	2	✓	✓	CC/CV Switching	1500	2A, Single-Input, Single-Cell Switch Mode Battery Charger with Narrow VDC Power-Path Management	QFN20 (3x4)
MP2617B	4	16	1	3	✓	✓	CC/CV Switching	1500	3A, Single-Input, Single-Cell Switch Mode Battery Charger with Narrow VDC Power-Path Management	QFN20 (3x4)
MP2615	4.5	18	1-2	2	✓	✓	CV/CC Switching	600	2A, 1 and 2 Cell Switch-Mode Battery Charger	QFN16 (3x3)
MP2610	5	24	1/2	Up to 2	✓	✓	CV/CC Switching	1100	1.1MHz Switching Li-Ion Charger, up to 90% Efficiency	QFN16 (4x4)
MP2618	5.5	24	2/3	Up to 2	✓	✓	CV/CC Switching	600	600kHz Switching Li-Ion Charger with System Power-Path Management	QFN28 (4x5)
MP2619	4.5	24	2/3	2	✓	✓	CV/CC Switching	600	2A, 24V Input, 600kHz, 2-3 Cell Switching Li-Ion Battery Charger with System Power-Path Management	QFN28 (4x5)
MP26101	5	24	1/2	Up to 2	✓	✓	CV/CC Switching	1100	4.1V/Cell Switching Li-Ion Charger	QFN16 (4x4)
MP26123	9	24	2/3	Up to 2	✓	✓	CV/CC Switching	600	600kHz Switching Li-Ion Battery Charger	QFN16 (4x4)
MP2623	4.5	24	1/2	Up to 2	✓	✓	CV/CC Switching	1100	3.6V/Cell Switching Li-Ion Charger	QFN16 (4x4)

CLASS-D AUDIO

ANALOG INPUT

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	P _{OUT} (W)	Efficiency (%)	THD+N (%)	PSRR (dB)	Type	Notes	Package
MP1720	2.5	5.5	2.7	90	0.11 @ 1W	60	Mono	Mono BTL, Low EMI, High-Efficiency, Flexible Switching-Frequency Setting	QFN10 (3x3) MSOP10E
MP1740	2.5	5.5	3	90	0.11 @ 1W	62	Mono	Mono BTL, Ultra Small for Portable and Mobile Phones	9-Ball WLCSP (1.5x1.5)
MP7731	9.5	18	30	90	0.10 @ 1W	60	Mono	30W Class-D Mono Amplifier	TSSOP20F
MPQ7731	9.5	18	30	90	0.10 @ 1W	60	Mono	30W Class-D Mono Amplifier Available in AEC-Q100 and Industrial Grade	TSSOP20F
MP7720	9.5	24	20	93	0.04 @ 1W	60	Mono	Single-Ended Audio Amplifier	PDIP8 SOIC8
MP7722	9.5	24	20 (2x)	93	0.06 @ 1W	60	Stereo	Stereo, Single-Ended Audio Amplifier	TSSOP20F
MP7745	9.5	26	20 (2x)	93	0.05 @ 1W	59	Stereo	Stereo, Single-Ended, Fully Integrated Audio Amplifier, P2P with MP7722	TSSOP20F
MP7742	9.5	28	15 (2x)	90	0.018 @ 1W	60	Stereo	Stereo, Single-Ended, Fully Integrated Audio Amplifier, P2P with MP7722	TSSOP20F
MP7741	9.5	36	10	94	0.02 @ 1W	58	Mono	Single-Ended, Fully Integrated Audio Amplifier	QFN10 (3x3)
MP7740	9.5	36	15	90	0.018 @ 1W	60	Mono	Single-Ended, P2P with MP7720	SOIC8
MP7747	9.5	36	20	91	0.02 @ 1W	59	Mono	Single-Ended, Fully Integrated Audio Amplifier	QFN10 (3x3)
MP7748	9.5	36	20 (2x)	91	0.02 @ 1W	60	Stereo	Stereo Single-Ended, Fully Integrated Audio Amplifier	TSSOP28F
MP7748S	9.5	36	30 (2x)	94	0.02 @ 1W	59	Stereo	2x30W Stereo SE or 1x60W BTL Class-D Audio Amplifier	TSSOP28EP
MP7751	5	26	20 (2x)	92	0.06 @ 1W	60	Stereo	5-26VDD, 2 x 20W Stereo BTL Class-D Audio Amplifier	TSSOP28EP
MP7752	5	18	15 (2x)	90	0.06 @ 1W	60	Stereo	5-18VDD, 2 x 15W Filterless Stereo BTL Class-D Audio Amplifier	TSSOP28EP
MP7770	9.5	36	45 (2x)	95	0.03 @ 1W	60	Stereo	2x45W Stereo SE or 1x90W BTL Audio Amplifier, 8.5A Peak	TSSOP28F

PWM INPUT POWER DRIVERS

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	P _{OUT} (W)	Efficiency (%)	THD+N (%)	PSRR (dB)	Type	Notes	Package
MP7782	9.5	24	50	90	0.06 @ 1W	60	Mono	Full-Bridge BTL Output	TSSOP20F



DISPLAY BACKLIGHTING POWER

WHITE LED DRIVERS (INDUCTORS & CHARGE PUMPS)

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	V _{OUT} (Max) (V)	# of Channels	Current Limit (Typ) (A)	V _{FB} (V)	Switching Freq (kHz)	Open LED Protection	Type	Notes	Package
MP3412	0.8	4.4	5	1	1.1	0.2	1000	✓	Boost	High-Efficiency, 0.8V Low Start-Up Voltage	TSOT23-6
MP9361	2.8	5	5	1	-	-	1350	-	Regulated Charge Pump	Internal SS	TSOT23-6
MPQ9361	2.8	5	5	1	-	-	1350	-	Regulated Charge Pump	Internal SS, Available in Industrial Grade	TSOT23-6
MP3312	2.7	5.5	36	2	1.8	0.24	1200	✓	Boost	P2P Compatible with TPS61163 for Smart Phones LCD Backlight	WLCSP9 (1.3x1.3)
MP3309	2.7	5.5	35	1	1.5	0.2	300 to 1200 Programmable	✓	Boost	Synchronous Boost LED Driver for Tablet and Smart Phone	QFN10 (1.4x1.8)
MP3309C	2.7	5.5	35	1	1.5	0.2	300 to 1200 Programmable	✓	Boost	Synchronous Boost LED Driver With I2C Interface for Tablet and Smart Phone	QFN10 (1.4x1.8)
MP1519L	2.5	5.5	-	3	-	-	1300	✓	Charge Pump	Common Cathode	QFN16 (3x3) TQFN16 (3x3)
MP1519	2.5	5.5	-	4	-	-	1300	-	Charge Pump	Common Cathode	QFN16 (3x3)
MP1529	2.7	5.5	25	3	1.2	-	1200	✓	Boost	Integrated Flash	QFN16 (4x4)
MP3021	2.7	5.5	-	4	-	-	1250	-	Charge Pump	Single-Wire Brightness Control, Common Anode	QFN16 (3x3)
MP3204	2.5	6	21	1	0.35	0.104	1300	✓	Boost	UVLO, Low EMI, Thermal Shutdown	TSOT23-6
MP3205	2.5	6	21	1	0.35	0.104	1300	-	Boost	MP3204 without OVP Pin	TSOT23-5
MP3304 (A/B/C)	3	6	36/24/18	1	1.33	0.2	2200	✓	Boost	High-Efficiency, True PWM Dimming	QFN8 (2x3)
MP3305	3	6	36	1	1.33	0.2	2200	✓	Boost	High-Efficiency, True PWM Dimming, Adjustable OVP Threshold	QFN8 (2x3)
MP3308	3	6	36	1	1.3	0.2	2200	✓	Boost	Boost WLED Driver Supporting CABC Dimming for Tablet PC or Smart Phone Backlight	QFN14 (3x4)
MP1518	2.5	6	25	1	0.35	0.104	1300	-	Boost	2.5V to 6Vin, 0.35A Boost WLED Driver	QFN8 (2x2) TSOT23-6
MP3202	2.5	6	25	1	1.3	0.104	1300	✓	Boost	1.3A Current Limit, UVLO, Low EMI, Thermal Shutdown	QFN8 (2x2) TSOT23-5
MP3301	2.5	6	36	1	1	-	1300	✓	Boost	Boost WLED Driver for up to 10 Series LED, for Smart Phone LCD Panel Backlight	TSOT23-5
MP3302	2.5	6	36	1	1.3	0.2	1300	✓	Boost	Large Panel Drive, High-Voltage Output	QFN8 (2x3) TSOT23-5
MP3306	3	12	30	1	1.8	0.2	700	✓	Boost	Synchronous Boost LED Driver with Integrated Disconnect FET for Small Size LCD Panel	QFN12 (2x2)
MP1517	2.6	25	25	1	4	0.7	1100	✓	Boost	UVLO, External Comp	QFN16 (4x4)
MP3388S	4.5	25	50	8	2	0.6	625 or 1250	✓	Boost	PWM or DC Input Burst PWM Dimming	QFN24 (4x4) SOIC28
MP3387L	3	25	50	6	2.5	0.6	500 to 1250	✓	Boost	6-Channel, 50Vout, Boost WLED Driver with Smart Dimming to Avoid Audible Noise	TQFN24 (4x4)
MP3310	4.5	25	50	1	1.3	0.5	1200 Programmable	✓	Boost	50V, 1.3A, Wide 4.5V to 25V Input Range	QFN10 (3x3)
MP3384L	3	25	50	4	1.3	0.6	1250 or 625	✓	Boost	50V, 1.2A, 4-Channel Balanced Current Source	QFN16 (3x3)
MPQ3386	4.5	25	50	6	2	0.6	1250	✓	Boost	50V, 6 String White LED Driver with AEC-Q100 Qualified	QFN24 (4x4)
MP4013	8	26	Ext. FET	1	Ext. FET	0.6	100 to 600	✓	Boost	More Features, Better Protection, More Cost Effective, Replacing MP4012 in All New Designs.	SOIC16
MP3389	5	28	Ext. FET	12	Ext. FET	0.6	100 to 500	✓	Boost	External MOSFET, PWM, or DC Input Burst PWM Dimming	TSSOP28E SOIC28
MP3398A	5	28	Ext. FET	4	Ext. FET	0.6	100 to 500	✓	Boost	Inductor-Short Protection, Separate ADIM Pin	TSSOP16E SOIC16 SOIC20
MP3398L	4.5	28	Ext. FET	4	Ext. FET	0.6	100 to 500	✓	Boost	Lower Vin-Min of MP3398A, Suitable for USB Powered Applications	SOIC16
MP3394S	5	28	55	4	Ext. FET	0.3	150-500	✓	Boost	P2P Compatible with MP3394, for New Designs Recommend MP3394S	TSSOP16EP SOIC16
MP3391	9	35	Ext. FET	8	Ext. FET	0.45	150-500	✓	Boost	8-Channel, 80mA/Channel Boost Controller for 18-24" LCD Panel/TV	SOIC28 TSSOP28E
MP1528	2.7	36	36	1	0.95	0.4	Variable	✓	Boost	2.7V to 36Vin, 36Vout Boost WLED Driver	MSOP8 QFN6 (3x3) QFN8 (2x2)
MP3373	9	40	Ext. FET	8	Ext. FET	0.2	100 to 1000	✓	Boost	Advanced Version of MP3393: Adding Phase-Shift, Inductor-Short Protection; More Cost Competitive, Replacing MP3393 in New Designs	SOIC28 TSSOP28
MP4601	4.5	75	75	1	2.5	0.2	200 to 2000 Programmable	✓	Buck-Boost	Novel Power-Leverage Technology for 60" TV, Can Regulate LED String Voltage up to 350V	TSSOP16E SOIC16
MP4700	Offline	Offline	Ext. FET	1	Ext. FET	0.3	Up to 160	External Components	Buck	BCM Zero Current & Valley Voltage Switching for >97% Efficiency, Low BOM Cost Due to Low-Power Stress	SOIC8E
MP24830-C470	Offline	Offline	Ext. FET	1, 2, 4	Ext. FET	0.2	50 to 365	✓	Buck Boost	Power Leverage LED Driver in 2.5 Power Stage, Low BOM Cost & High Efficiency for Large TV	SOIC14, QFN14 (Coming)
MP4653	Offline	Offline	Ext. FET	1, 2, 4	Ext. FET	0.2	20 to 250	✓	LLC	LIPS CC/CV Mode, LLC LED Driver for Large TV, 2-Power Stage for Low BOM Cost & High Efficiency for Large TV	SOIC20
EL DRIVERS											
Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	V _{OUT} (Max) (V)	# of Channels	Current Limit (Typ) (A)	V _{FB} (V)	Switching Freq (kHz)	Open LED Protection	Type	Notes	Package
MP3802	1.8	5.5	120V AC (240Vpp)	-	-	-	240 EL Lamp	-	EL Lamp Driver	240Vpp AC Output EL	MSOP8 QFN8 (3x3)
MP3801	2.5	5.5	95 AC (190Vpp)	-	-	-	240 EL Lamp	-	EL Lamp Driver	190Vpp AC Output EL	MSOP8



E-FUSE & LOAD SWITCHES

USB LOAD SWITCHES

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	Cont. Current (Max) (A)	Short-Circuit Current (Max) (A)	Enable Logic	Fault Flag	Output Discharge	Note	Package
Single Channel									
MP6205	2.7	5.5	0.5	1	Active High	Over-Current, Active Low	No	Single 500mA Current-Limit Switch, P2P TPS2041B/51B	QFN8 (2x3) MSOP8E SOIC8E
MP62055 (-3)	2.7	5.5	0.5	1.1	Active High	Over-Current, Active High	No	0.5A Current-Limit Switch, Small Package, Industry Standard, Pin Out, P2P TPS2051B	TSOT23-5 SOIC8 (62055-3)
MP62130 MP62131	2.7	5.5	0.5	1.1	Active Low Active High	Over-Current, Active Low	Yes	Single 500mA Current-Limit Switch with Output Discharge, P2P LM3525M-L	MSOP8 SOIC8
MP62061	2.7	5.5	0.7	1.25	Active High	Over-Current, Active High	No	Single 700mA Current-Limit Switch, P2P TPS2051B	MSOP8E SOIC8E
MP62071	2.7	5.5	0.8	1.1	Active High	Over-Current, Active High	No	Single 800mA Current-Limit Switch, P2P TPS2051B	MSOP8E
MP6211	2.7	5.5	1	2.2	Active High	Over-Current, Active Low	No	Single 1A Current-Limit Switch, P2P TPS2051B	SOIC8E MSOP8E
MP6212	2.7	5.5	1	2.2	Active Low	Over-Current, Active Low	No	Single 1A Current-Limit Switch with 90µA Iq & 1.5A Current Limit	SOIC8E MSOP8E
MP6211-3 MP6212-3	2.7	5.5	1	2.2	Active High Active Low	Over-Current, Active Low	No	Single 1A Current-Limit Switch, FLAG Output Remains Low after a Short Circuit or Thermal Current-Limit Event	SOIC8E MSOP8E
MP6215	2.7	5.5	1.5	2.3	Active High	Over-Current, Active Low	No	Single 1.5A Current-Limit Switch	MSOP8E
MP62170 MP62171	2.7	5.5	1.5	2.3	Active Low Active High	Over-Current, Active Low	No	1.5A Current-Limit Switch, P2P TPS2061 and P2P TPS2065	SOIC8 MSOP8
MP62170-1 MP62171-1 MP62171-3	2.7	5.5	1.5	2.3	Active Low Active High	Over-Current, Active Low	Yes	1.5A Current-Limit Switch with Output Discharge, P+J72p TPS2061 and p2p TPS2065	SOIC8 MSOP8
MP62550 MP62551	2.5	5.5	1.5	1.7	Active Low Active High	Over-Current, Active Low	No	Precision Adjustable Current-Limited Power Distribution Switch 60mA, 1.7A, 88/100mΩ @100mA, 1.5µA Max Shutdown Current	TQFN6 (2x2) TSOT23-6
MP62040	1.7	5.5	2	-	Active Low	-	No	Single Channel, up to 2A Continuous Current in Ultra-Small Package	UTQFN4
MP62040-1 MP62041-1	1.7	5.5	2	-	Active Low Active High	-	Yes	Single Channel, up to 2A Continuous Current with Output Discharge in Ultra-Small Package	UTQFN4
MP62160 MP62161	2.7	5.5	2	2.8	Active Low Active High	Over-Current, Active Low	Yes	2A Current-Limit Switch with Output Discharge	QFN8E MSOP8E SOIC8
MP62180 MP62181	2.7	5.5	2	2.8	Active Low Active High	Over-Current, Active Low	No	2A Current-Limit Switch, without Output Discharge Version of MP62160/1	QFN8E MSOP8E SOIC8
MP62260 MP62261	2.7	5.5	2	3	Active Low Active High	Over-Current, Active Low	No	2A, 50mΩ Rds(on), Current-Limit Switch, P2P TPS2024 and P2P TPS2034	SOIC8
MP62260-1 MP62261-1	2.7	5.5	2	3	Active Low Active High	Over-Current, Active Low	Yes	2A, 45mΩ Rds(on), Current-Limit Switch with Output Discharge, P2P TPS2024 and p2p TPS2034	SOIC8
Dual Channel									
MP62350 MP62351	2.7	5.5	0.5	0.75	Active Low Active High	Over-Current, Active Low	Yes	Dual 500 mA/ch Current-Limit Switch, P2P LM3526	SOIC8 MSOP8
MP6231 MP6232	2.7	5.5	0.5	1.1	Active High Active Low	Over-Current, Active High	No	Dual 500 mA/ch Current-Limit Switch, P2P TPS2052B and P2P TPS2042B	SOIC8 SOIC8E MSOP8E
MP62340 MP62341	2.7	5.5	1	1.5	Active Low Active High	Over-Current, Active Low	No	3.3V/5V Dual 1A Current-Limit Switch, P2P TPS2066/2	MSOP8E SOIC8
MP62340-1 MP62341-1	2.7	5.5	1	1.5	Active Low Active High	Over-Current, Active Low	Yes	3.3V/5V Dual 1A Current-Limit Switch with Output Discharge, P2P TPS2066/2	MSOP8E SOIC8
MP6233	2.7	5.5	1.5	2.6	Active High	Over-Current, Active Low	No	1.5A Current-Limit Switch	MSOP8E
MP5073	0.5	5.5	2	2	Active High	-	Yes	Programmable Current Limit, PG, Slew Rate Control, Output Discharge	QFN12 (2x2)
MP5083	0.5	5.5	2	2	Active High	-	Yes	5% Current Monitoring (from 0.6A-Full Load), PG, Slew Rate Control, Output Discharge	QFN12 (2x2)
MP5077	0.5	5.5	7	7	Active High	-	Yes	Programmable Current Limit, Slew-Rate Control, Output Discharge	QFN12 (2x2)
MP5087	0.5	5.5	7	7	Active High	-	Yes	5% Current Monitoring (from 1.5A-Full Load), PG, Slew Rate Control, Output Discharge	QFN12 (2x2)
MP5087A	0.5	5.5	7	7	Active High	-	Yes	Programmable Current Limit, Slew Rate Control, Output Discharge	QFN12 (2x2)
MP5086	0.5	5.5	7	7	Active High	-	Yes	5% Current Monitoring (from 1.5A-Full Load), NTC Comparator, Open-Drain OTP Indicator	TQFN12 (2x2)
MP5092	0.5	5.5	7.5	7.5	Active High	-	Yes		QFN18 (2x3)








E-FUSE & LOAD SWITCHES

ELECTRONIC FUSES (INTEGRATED HOT-SWAP SWITCHES)

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	Cont Current (Max) (A)	Short-Circuit Current (Max) (A)	Enable Logic	Fault Flag	Output Discharge	Note	Package
MP6219	2.7	5.5	2	Prog.	Active High	Thermal Fault = Tri-State	No	1A-2A Programmable Current Limit, 1.4ms Turn-On Time	SOIC8E
MP5002	2.5	6	3	Prog.	Active High	Thermal Fault = Tri-State	No	3.3V, 56mΩ Rds(on), Programmable Current Limit with Built-In Protection and Fault Indication with Slew-Rate Control	QFN10 (3x3)
MP5003	2.5	6	3	Prog.	Active High	Thermal Fault = Tri-State	No	3.3V, 44mΩ Rds(on), Programmable Current Limit with Slew-Rate Control & Automatic Start-Up after Thermal Protection	QFN10 (3x3)
MP5010A	3	18	4.2	Prog.	Active High	Thermal Fault = Tri-State	No	1A-5A, 40mΩ Rds(on), Programmable Current Limit & Slew-Rate Control, 3A/ 2.13A Trip/ Hold Current, 3ms Soft-Start Time	QFN10 (3x3)
MP5010B	3	18	4.2	Prog.	Active High	Thermal Fault = Tri-State	No	1A-5A, 40mΩ Rds(on), Programmable Current-Limit & Slew-Rate Control, 4.3A/3A Trip/Hold Current, 2.58ms Soft-Start Time	QFN10 (3x3)
MP5013	3	18	4.2	Prog.	Active High	Short/Over Current, Under Voltage, Over Voltage, Thermal Shutdown	No	5V, 1A-5A, 36mΩ Rds(on), Programmable Current-Limit & Slew-Rate Control, 5A/ 2.8A Trip/ Hold Current	TSOT23-8
MP5010S	3.6	18	4.2	Prog.	Active High	Thermal Fault = Tri-State	No	1A-5A, 40mΩ Rds(on), Programmable Current-Limit, P2P NIS5135	QFN10 (3x3)
MP5000S	10	18	4.2	Prog.	Active High	Thermal Fault = Tri-State	No	1A-5A, 40mΩ Rds(on), Programmable Current Limit & Slew-Rate Control, 5.0A/ 3.7A Trip/ Hold Current, p2p NIS5132	QFN10 (3x3)
MP5000A	10	18	4.2	Prog.	Active High	Thermal Fault = Tri-State	No	Inrush Current Performance Improved Version of MP5000S, p2p NIS5132	QFN10 (3x3)
MP5014	10	18	4.2	Prog.	Active High	Short/Over Current, Under Voltage, Over Voltage, Thermal Shutdown	No	12V, 1A-5A, 36mΩ Rds(on), Programmable Current Limit with Over-Voltage Clamp and Slew-Rate Control	TSOT23-8
MP5006	4	10	5	Prog.	Active High	Thermal Fault = Tri-State	No	5V, 44mΩ Rds(on), Programmable Current Limit with Slew-Rate Control and Automatic Start-Up/Retry after Thermal Protection	QFN10 (3x3)
MP5018	4.5	14	5	Prog.	Active High	Thermal Fault = Tri-State	No	Reverse Current Blocking, 1A-5A, 45mΩ Rds(on), Programmable Current Limit	QFN12 (2x3)
MP5017	3	14	5	Prog.	Active High	Thermal Fault = Tri-State	No	3V – 5V, 1A – 5A Current Limit Switch with Over Voltage Clamp and Reverse Block	QFN12(2x3)
MP5021	8	16	10	Prog. to 15A	Active High	Current Limit, Thermal Shutdown and Damaged MOSFET	Yes	12V, 7mΩ Rds(on) Hot-Swap Protection Device with Current Monitoring	QFN22 (3x5)
MP5021B	4.8	16	10	Prog.	Active High	Current Limit, Thermal Shutdown and Damaged MOSFET	Yes	12V, 7mΩ Rds(on) Hot-Swap Protection Device with Current Monitoring	QFN22 (3x5)
MP5022A	8	16	15	Prog.	Active High	Current Limit, Thermal Shutdown and Damaged MOSFET	Yes	12V, 3mΩ Rds(on) Hot-Swap Protection Device with Current Monitoring and Controlled Ron Mode	QFN22 (3x5)

PRECISION ANALOG

ANALOG SWITCH

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	Channels	T _{ON} (ns)	T _{OFF} (ns)	R _{ON} (Max) (Ω)	Notes	Package
MP2735	1.65	5.5	2	29	23	0.45	Low-Voltage Dual SPDT Analog Switch	QFN10 (1.4x1.8)
MP2736	1.65	5.5	2	29	23	0.45	Low-Voltage Dual SPDT Analog Switch with EN Function	QFN10 (1.4x1.8)

HIGH-SIDE CURRENT SENSE AMPLIFIERS

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _O (Typ) (μA)	PSRR (%/V)	Offset Voltage (mV)	Notes	Package
MP8110	2.5	40	12	0.05	0.5	High-Side Current Sense	SOIC8 MSOP8

OPERATIONAL AMPLIFIERS

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	GBW (kHz)	I _O (Typ) (μA)	PSRR (dB)	Slew Rate (V/μs)	Offset Voltage (mV)	Notes	Package
MP8102	1.8	5.5	200	7.5	80	0.1	1	Ultra-Low Power 1.8V, 600kHz Op Amp	TSOT23-5
MP8101	1.8	5.5	400	11	80	0.2	1	Ultra-Low Power 1.8V, 400kHz Op Amp	TSOT23-5
MP8103	1.8	5.5	200	14	80	0.1	1	Dual Ultra-Low Power 1.8V, 600kHz Op Amp	MSOP8
MP8104	1.8	5.5	400	11	80	0.2	1	Ultra-Low Power 1.8V, 400kHz Op Amp w/ Industry Standard Pin Out	TSOT23-5
MP5120	3.2	18	14000	1600	85	45	2	Single-Channel, High-Speed, High-Voltage, Rail-to-Rail Input-Output	TSOT-5
MP5220	3.2	18	14000	3200	85	45	2	Dual-Channel, High-Speed, High-Voltage, Rail-to-Rail Input-Output	MSOP-8
MP5420	3.2	18	14000	6400	85	45	2	Quad-Channel, High-Speed, High-Voltage, Rail-to-Rail Input-Output	TSSOP-14
MP5121	3.2	20	14000	1600	85	45	2	Single-Channel, High-Speed, High-Voltage, Rail-to-Rail Input-Output	TSOT-5
MP5221	3.2	20	14000	3200	85	45	2	Dual-Channel, High-Speed, High-Voltage, Rail-to-Rail Input-Output	MSOP-8
MP5421	3.2	20	14000	6400	85	45	2	Quad-Channel, High-Speed, High-Voltage, Rail-to-Rail Input-Output	TSSOP-14
MP8130	2.7	36	100	10	80	0.1	1	Ultra-Low Power 36V, 200kHz, High-Voltage Op Amp	TSOT23-5

VOLTAGE REFERENCE

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	V _{OUT} (V)	Initial Acc (%)	Operating Current (mA)	Z _{OUT} (Ω)	Description	Notes	Package
MP8201	1.2	12	1.2 - 10	0.5	60μA to 20mA	1	1.0V Shunt Reference	Precision Adjustable Shunt Voltage Regulator	SOT23
MP8200	1	12	1	1	100μA to 10mA	0.5	1.0V Shunt Reference	Precision Shunt Reference	SOT23

MOTOR DRIVERS

BRIDGE RECTIFIER IC

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	Rds(on) (mΩ)	Drain Source Rating (V)	Rise/Fall Time (ns)	Forward Voltage (V)	Reverse Recovery Time (ns)	Leakage Current (μA)	Output Current (A)	Notes	Package
MP8051	4	16	45	23	25.00	0.4	78	80	1	Integrated 2 MOSFETs and 2 Schottky Diodes, 0.45mm Height	TQFN (3x3)

FULL-BRIDGE

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	Bootstrap Supp (Max) (V)	Peak Pull-Up Current (A)	Peak Pull-Down Current (A)	Rise Time (ns)	Fall Time (ns)	Turn Off/On Delay (ns)	Notes	Package
MP8042	7.5	24	5	5	5	10	10	54/37	24V, 5A Dual-Channel Power Half-Bridge Driver	TSSOP20E
MP8049	5	26	-	5.5	5.5	5	5	30/30	24V, 5A Quad-Channel Power Half-Bridge Driver	QFN40 (5x5)

HALF-BRIDGE

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	Bootstrap Supp (Max) (V)	Peak Pull-Up Current (A)	Peak Pull-Down Current (A)	Rise Time (ns)	Fall Time (ns)	Turn Off/On Delay (ns)	Notes	Package
MP18021	9	16	100	1.5	2.5	12	9	16	100V High-Frequency, N-MOSFET Half-Bridge Gate Driver with 1ns Matching Delay, P2P HIP2100, MIC4103/4, MAX5062, UCC27200, and LM5100/1	SOIC8E
MP18024	9	16	100	2.6	4.5	15	12	20	100V, 4A, High-Frequency, Half-Bridge Gate Driver	SOIC8E
MP1906	10	16	80	0.4	1	50	30	80	80V, Half-Bridge Gate Driver, Including Input Signal Overlap Protection and Under-Voltage Lockout for Both Channels	SOIC8E
MP1907	6	18	100	1.5	2.5	12	9	20	100V, 2.5A, High-Frequency, Half-Bridge Gate Driver, Incl Input Signal Overlap Protection and UVLO Latch Function	QFN10 (3x3)
MP18021A	9	18	100	1.5	2.5	12	9	16	100V, 2.5A, High-Frequency, Half-Bridge Gate Driver, Including New Package to MP18021, Consumer Grade	SOIC8E QFN8 (3x3)
MPQ18021A	9	18	100	1.5	2.5	12	9	16	100V, 2.5A, High-Frequency, Half-Bridge Gate Driver	SOIC8E QFN8 (3x3)
MPQ8039	7.5	25	5	9.0	9	20	20	70	9A, 25V Integrated Half-Bridge and Driver	SOIC8E
MP8040	7.5	25	5	9.0	9	20	20	70	9A, 25V Integrated Half-Bridge and Driver	SOIC8E
MP8044	7.5	25	-	-	-	-	-	-	22V, 4A Dual-Channel Power Half-Bridge	TSSOP20F

BRUSHLESS DC MOTOR DRIVERS

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _{OUT} (mA)	V _{HB} (V)	I _Q (mA)	Type	Notes	Package
MP6505	4.5	16	400	1.2	1.4	Single-Phase	Single-Phase Brushless DC Motor Driver w/ IOVP, OCP, Built-In Locked-Rotor Protection	TSSOP16 (5x6.4) QFN16 (3x3)
MP6510	4.5	16	1200	1.2	1.4	Single-Phase	Single-Phase Brushless DC Motor Driver w/ IOVP, OCP, Built-In Locked-Rotor Protection	TSSOP16 (5x6.4)
MP6536	5	26	5500	-	2.2	Three-Phase	26V, 5.5A, Three-Channel Half-Bridge Driver	QFN40(5x5)

STEPPER DC MOTOR DRIVERS

Part Number	V _{IN} (Min) (V)	V _{IN} (Max) (V)	I _{OUT} (mA)	V _{HB} (V)	I _Q (mA)	Type	Notes	Package
MP6506	2.7	15	500	-	1.1	-	Bipolar Stepper-Motor Driver with Integrated MOSFETs	QFN16 (3x3)
MP6507	2.7	15	700	-	1.1	-	Bipolar Stepper-Motor Driver with Integrated MOSFETs	TSSOP16 (5x6.4) QFN16 (3x3)
MP6501A	8.5	35	2500	-	7	-	Bipolar Stepper-Motor Driver with Integrated MOSFETs	TSSOP28EP
MP6508	2.7	18	1200	-	1.6	-	Bipolar Stepper-Motor Driver with Integrated MOSFETs	TSSOP16EP QFN16 (4x4)
MP6509	2.7	18	1200	-	1.6	-	Bipolar Stepper-Motor Driver with Integrated MOSFETs and Current Attenuation	TSSOP20EP
MP6518	8.5	35	1500	-	7	-	Bipolar Stepper-Motor Driver with Integrated MOSFETs	TSSOP28EP

MAGNETIC SENSORS

MAGALPHA SERIES

Part Number	Resolution	Interface	Output	Supply Voltage	Sensing Range	Temperature Range	Side-Shaft Mounting Capability	Notes	Package
MA100	8-Bit (Input)	SPI	UVW	3V-3.6V	50mT-200mT	-40°-125°	Yes	Angular Sensor for 3-Phase Brushless Motor Commutation with Side-Shaft Positioning Capability	QFN16 (3x3)
MA120	8-Bit (Input)	SPI	UVW	3V-3.6V	50mT-200mT	-40°-125°	No	Angular Sensor for 3-Phase Brushless Motor Commutation	QFN16 (3x3)
MA300	11-Bit/10-Bit (Digital/Incremental)	SPI	Digital, UVW, and ABZ	3V-3.6V	30mT-150mT	-40°-125°	Yes	Angular Sensor for 3-Phase Brushless Motor Commutation and Position Control with Side-Shaft Positioning Capability	QFN16 (3x3)
MA700	11-Bit/10-Bit (Digital/Incremental)	SPI	Digital and ABZ	3V-3.6V	30mT-150mT	-40°-125°	Yes	Angular Sensor for Position Control with Side-Shaft Positioning Capability	QFN16 (3x3)
MA750	8-Bit/12-Bit (Digital/PWM)	SPI	Digital and PWM	3V-3.6V	30mT-150mT	-40°-125°	NO	Contactless Turning Knob Sensor	QFN16 (3x3)



PART NUMBERING NOMENCLATURE

PART NUMBERING EXAMPLE: MP1234EK-LF-Z

PART NUMBERING EXAMPLE: MP1234EK-LF-Z													
MP	1234	E	K								-LF	-Z	
Monolithic Power	Part Number	Temperature Grade (T _A)	Package								Lead Free	Tape & Reel	
MP### MP#### MP##### MPQ##### HF#### NB###	Older Devices	C	0°C to +70°C	C	WLCSP	QM	QFN (6x7)	C	C-Spec	-LF	-Z		
		D	-40°C to +85°C	D	QFN (2x3)	QN	QFN (7x7)	E	Enhanced				
		E	-20°C to +85°C	E	SC70	QP	QFN (7x8)	R	Reserve Lead Bend or Top Exposed Pad				
		H	-40°C to +125°C	F	TSSOP w/ EXPOSED PAD	QQ	QFN (8x8)	S	Customer Specific				
		K	-55°C to +125°C	FP	QFP	QV	QFN (3x5)	T	Thin Package				
				G	QFN (2x2)	QW	QFN (4x6)	U	Ultra-Thin Package				
				H	MSOP w/ EXPOSED PAD	QX	QFN (6x10)						
				J	TSOT23 (0.9mm Height)	QY	QFN (5x8)						
				K	MSOP	R	QFN (4x4)						
				L	QFN (3x4)	S	SOIC						
				M	TSSOP	SD	SOD123						
				N	SOIC w/ EXPOSED PAD	T	SOT23 (1.1mm Height)						
				P	PDIP (300 Mil)	U	QFN (5x5)						
				Q	QFN (3x3)	V	QFN (4x5)						
				QD	QFN (1x1.5)	W	SOIC - WB w/ EXPOSED PAD						
				QF	QFN (1.2x1.6)	X	Sorted Wafer						
				QG	QFN (1.4x1.8)	XN	Unsorted Wafer						
		QH	QFN (1.5x2)	Y	SOIC-WB (Wide-Body)								
		QJ	QFN (5x6)	Z	TO220								
		QK	QFN (6x6)	ZF	TO263								
Parts introduced after July 2011													
MP### MP#### MP##### MPQ##### HF#### NB###	Newer Devices	G	Temperature Internal to Datasheet -40°C to +125°C (T _J) Standard	Same as Above								No LF Indicator	-Z

Notes

PRODUCT SELECTOR GUIDE (2H2015)



41-43, rue Périer
92120 Montrouge - FRANCE
Téléphone : +33 (0)1 55 58 04 04
Fax : +33 (0)1 55 58 04 00



Simple, Easy Solutions®

www.monolithicpower.com