



**REGULATORS**

**NON-SYNCHRONOUS STEP-DOWN (BUCK)**

Part No.	V <sub>IN</sub> (Min) (V)	V <sub>IN</sub> (Max) (V)	Load Current (A)	I <sub>sw</sub> Limit (Typ) (A)	I <sub>Q</sub> (Typ) (mA)	Feedback Voltage (V)	Switching Frequency (kHz)	Soft Start	Sync	Notes	Package
<b>Maximum Operating Input Voltage ≤ 24V</b>											
MP2357	4.5	24	0.5	0.8	0.8	0.81	1400	Internal		Internal Comp	SOT23-5 TSOT23-5
MP2259	4.5	16	1.0	1.8	1.0	0.81	1400	Internal		Internal Comp	SOT23-6 TSOT23-6
MP2359	4.5	24	1.2	1.8	0.8	0.81	1400	Internal		Internal Comp	SOT23-6 TSOT23-6
MP2364	4.75	23	1.5 (2x)	3.0	2.4	0.92	1400	External		Dual Output	TSSOP20E
MP2360	4.5	24	1.8	2.5	0.8	0.81	1400				QFN8 (2x2)
MP2371	4.5	24	1.8	2.5	0.8	0.81	700	Internal		Internal Comp	QFN8 (2x2)
MP1411	4.75	18	2.0	3.4	1.1	0.92	380	Internal		Internal Comp	MSOP10
MP2270	4.5	8.0	2.0	2.5	0.8	0.81	700			Internal Comp	MSOP10E
MP2358	4.75	23	2.0	3.4	1.1	0.92	370	Internal		External Comp	QFN10 (3x3) SOIC8
MP2361	4.75	23	2.0	3.5	1.2	0.92	1400	External		External Comp	MSOP10 QFN10 (3x3)
MP2362	4.75	23	2.0 (2x)	3.0	2.4	1.22	380		√	Dual Output	TSSOP20E
MP4350	4.5	20	2.5	3.5	0.1	0.8	4000 (Adj.)	Internal		Adjustable Frequency Pin up to 4000kHz	QFN10 (3x3)
MP1583	4.75	23	3.0	4.9	1.0	1.222	385	External		External Comp	SOIC8E PDIP8
MP2377	4.5	21	3.0	4.0	1.1	0.808	600	Internal	√	Power Good and Latch Off at Fault	SOIC8 SOIC8E
MP2380	4.5	21	5.0	7.3	1.0	0.81	600	Internal	√	Power Good	SOIC8E

<b>Maximum Operating Input Voltage ≤ 36V</b>											
MP4459	4.5	36	1.5	2.5	0.1	0.8	4000 (Adj.)	Internal		Adjustable Frequency Pin up to 4000kHz	TQFN10 (3X3)
MP1580	4.75	25	2.0	3.0	1.0	1.222	380		√	External Comp & Synch	SOIC8 PDIP8
MP1591	6.5	32	2.0	3.6	1.0	1.23	330			External Comp	SOIC8 SOIC8E
MP2467	6.0	36	2.5	3.5	0.1	0.8	500	Internal			SOIC8E
MP4460	4.5	36	2.5	3.5	0.1	0.8	4000 (Adj.)	Internal		High Voltage Adjustable Frequency Pin up to 4000kHz	QFN10 (3x3)
MP1593	4.75	28	3.0	6.2	1.0	1.222	385	External		External Comp	SOIC8E
MP2367E	4.75	28	3.0	5.5	1.3	0.795	340	External		External Comp	SOIC8E
MP2365	4.75	28	3.0	6.5	1.3	0.92	1400	External		External Comp	SOIC8E
MP2363	4.75	27	3.0	5.7	1.0	0.92	365	External		External Comp	SOIC8E

**SYNCHRONOUS STEP-DOWN (BUCK)**

Part No.	V <sub>IN</sub> (Min) (V)	V <sub>IN</sub> (Max) (V)	Load Current (A)	I <sub>sw</sub> Limit (Typ) (A)	I <sub>Q</sub> (Typ) (mA)	Feedback Voltage (V)	Switching Frequency (kHz)	Soft Start	Notes	Package
<b>Maximum Operating Input Voltage ≤ 6V</b>										
MP2104	2.5	6.0	0.6	1.0	0.4	0.6	1700	Internal	Internal Comp	TSOT23-5
MP2105	2.5	6.0	0.8	1.6	0.4	0.6	1000	Internal	Internal Comp	TSOT23-5
MP2109	2.5	6.0	0.8 (2x)	1.6	0.4	0.6	1000	Internal	Dual Output	QFN10 (3x3)
MP2102	2.5	6.0	0.8 (2x)	1.5	0.75	0.6	1500	Internal	Dual Output	QFN10 (3x3) MSOP10
MP2101	2.5	6.0	0.8 + 0.2	1.4	0.4	0.6	1600	Internal	Step Down + LDO	QFN10 (3x3)
MP2112	2.5	6.0	1.0	1.6	0.44	0.6	1000	Internal	Internal Comp	QFN6 (3x3)
MP1567	2.6	6.0	1.2	2.0	1.2	0.9	800	External	External Comp	MSOP10 QFN10 (3x3)
MP2108	2.6	6.0	2.0	3.5	1.2	0.895	740	External	External Comp	MSOP10 QFN10 (3x3)

<b>Maximum Operating Input Voltage ≤ 40V</b>										
MP2309	4.75	23	1.0	2.0	1.3	0.923	340	External	External Comp	SOIC8
MP2106	2.6	15	1.5	2.5	1.2	0.895	800	External	External Comp	MSOP10 QFN10 (3x3)
MP2305	4.75	23	2.0	3.4	1.3	0.923	340	External	External Comp	SOIC8
MP2307	4.75	23	3.0	5.8	1.3	0.923	349	External	External Comp	SOIC8
MP2403	4.6	32	3.0	6.0	1.3	0.8	250	External	External Comp	SOIC8E
MPGC01	4.5	16	6.0	8.0	1.1	0.81	600	Internal	45mΩ Integrated Top Side FET with Integrated Bottom FET Drivers and Power Good	SOIC8E
MP8666	4.5	21	6.0	8.0	1.1	0.81	600	Internal	45mΩ Integrated Top Side FET with Integrated Bottom FET Drivers and Power Good	SOIC8E
MP8670	4.5	30	6.0	8.0	0.9	0.808	420	Internal	50mΩ Integrated Top Side FET with Integrated Bottom FET Driver and Power Good	SOIC8E
MP8668	4.5	16	8.0	9.5	1.1	0.81	600	Internal	42mΩ Integrated Top Side FET with Integrated Bottom FET Drivers and Power Good	QFN14 (3x4)

**STEP-UP (BOOST) CONVERTERS**

Part No.	V <sub>IN</sub> (Min) (V)	V <sub>IN</sub> (Max) (V)	V <sub>OUT</sub> (V)	I <sub>SW</sub> Limit (Typ) (A)	I <sub>Q</sub> (Typ) (mA)	Feedback Voltage (V)	Switching Frequency (kHz)	Sync	Notes	Package
MP3900	8.6	14	N/A	N/A	0.18	0.816	330		(Boost Controller) 10V Gate Drive	MSOP8
MP3209	2.5	6.0	22	0.35	0.635	1.25	1400			TSOT23-5 UTQFN8 (2x2)
MP1522	2.7	25	25	0.45	0.65	1.23	Variable		UVLO, Variable Frequency	SOT23-5
MP3208	2.7	25	25	0.45	0.65	0.3	Variable			TSOT23-5
MP3410	1.8	6.0	6.0	1.3	0.35	1.2	500	√	Output Disconnect	TSOT23-5
MP1541	2.5	6.0	22	1.9	0.635	1.25	1300			TSOT23-5
MP1542	2.5	22	22	2.6	0.7	1.25	700/1300			MSOP8
MP1527	2.6	25	25	3	0.9	1.22	1300			QFN16 (4x4) TSSOP14
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 + LDO for TFT Bias	QFN16 (3x3) TSSOP16
MP1517	2.6	25	25	4.0	0.9	0.7	1100			QFN16 (4x4)

**LOW DROPOUT (LDO) LINEAR REGULATORS**

Part No.	V <sub>IN</sub> (Min) (V)	V <sub>IN</sub> (Max) (V)	Load Current (mA)	Load Regulation (%/mA)	PSRR @1kHz (dB)	Feedback Voltage (V)	Dropout Voltage (V)	V <sub>OUT</sub> (V)	Notes	Package
MP2000	1.35	6.0	150	0.001	50	0.5	0.25 (I <sub>OUT</sub> : 100mA) 0.3 (I <sub>OUT</sub> : 150mA)	0.5 – 5.0	Low Voltage Input	TSOT23-5
MP8801	2.7	6.5	150	0.001	70	1.222	0.15 (I <sub>OUT</sub> : 150mA)	Adj., 2.5V, 2.85V & 3.3V	Low Noise. Excellent for RF Applications	TSOT23-5
MP8802	2.7	6.5	250	0.001	70	1.22	0.25	Adj., 2.5V, 2.85V & 3.3V	Excellent for RF Applications	TSOT23-5
MP2002	1.35	6.5	500	0.001	26	0.5	0.29 (I <sub>OUT</sub> : 500mA)	1.0 – 5.0	Low Voltage Input, Power Good	QFN8 (2x3)

**POWER DRIVER**

Part No.	V <sub>IN</sub> (Min) (V)	V <sub>IN</sub> (Max) (V)	I <sub>SW</sub> Limit (Typ) (A)	Frequency (kHz)	Peak Output Current (A)	I <sub>Q</sub> (Typ) (mA)	Notes	Package
MP8042	7.5	24	5.0	600	±5	2.1	Dual Channel Half Bridge	TSSOP20E

**AUDIO PRODUCTS**
**CLASS D AUDIO AMPLIFIERS**

Part No.	V <sub>IN</sub> (Min) (V)	V <sub>IN</sub> (Max) (V)	Output Power (W)	Efficiency (%)	THD+N (%)	PSRR (dB)	Type	Notes	Package
MP7720	9.5	24	20	93	0.04 @ 1W	60	Mono	Single-Ended	PDIP8 SOIC8
MP7722	9.5	24	20 (2x)	93	0.06	60	Stereo	Single-Ended	TSSOP20E
MP7731	9.5	18	30	90	0.10 @ 1W	60	Mono	BTL	TSSOP20E
MP8042	7.5	24	40	N/A	N/A	N/A	Driver Only		TSSOP20E
MP7782	9.5	24	50	90	0.06	60	Mono	Dual Channel Half-Bridge	TSSOP20E

**BACKLIGHT**
**CCFL DRIVERS**

Part No.	# of Lamps	V <sub>IN</sub> (Min) (V)	V <sub>IN</sub> (Max) (V)	I <sub>OUT</sub> Tolerance	I <sub>SUPPLY</sub> (mA)	Integrated Switches	Notes	Package
MP1010B	1	6.0	23	2%	1.8	√	Resonant Frequency	TSSOP20E
MP1026	1	4.5	14	3%	1.2	√	Resonant Frequency	TSSOP20E
MP1039	1	10	28	3%	1.4			TSSOP28
MP1048	Up to 6	10	22	3%	2.2			SOIC28 TSSOP28

**WHITE LED DRIVERS (INDUCTORS AND CHARGE PUMPS)**

Part No.	V <sub>IN</sub> (Min) (V)	V <sub>IN</sub> (Max) (V)	V <sub>OUT</sub> (Max) (V)	# of LEDs (Max)	# of Strings	Integrated Flash	Feedback Voltage (V)	Switching Frequency (kHz)	Open LED Prot.	Type	Notes	Package
MP1519L	2.5	5.5	N/A	3	3		N/A	1300	√	Charge Pump	Common Cathode	QFN16 (3x3) TQFN16 (3x3)
MP1519	2.5	5.5	N/A	4	4		N/A	1300		Charge Pump	Common Cathode	QFN16 (3x3)
MP3000	2.5	5.5	N/A	4	4		N/A	1300		Charge Pump	Single Wire Brightness Control, Common Cathode Charge Pump	QFN16 (3x3)

**WHITE LED DRIVERS (INDUCTORS AND CHARGE PUMPS) continued**

Part No.	V <sub>IN</sub> (Min) (V)	V <sub>IN</sub> (Max) (V)	V <sub>OUT</sub> (Max) (V)	# of LEDs (Max)	# of Strings	Integrated Flash	Feedback Voltage (V)	Switching Frequency (kHz)	Open LED Prot.	Type	Notes	Package
MP2370	4.5	24	15	3	1		0.155	1400		Inductor	High Voltage In, High Efficiency	TSOT23-6
MP3021	2.7	5.5	N/A	4	4		N/A	1200		Charge Pump	Single Wire Brightness Control, Common Anode	QFN16 (3x3)
MP3204	2.5	6.0	21	5	1		0.104	1300	✓	Inductor	UVLO, Low EMI, Thermal Shutdown	TSOT23-6
MP3001	2.7	5.5	N/A	5	5	✓	N/A	1200		Charge Pump	Single Wire Brightness Control Common Anode with Flash	QFN16 (3x3)
MP3205	2.5	6.0	21	5	1		0.104	1300		Inductor	Internal Open LED Protection	TSOT23-5
MP1518	2.5	6.0	25	6	1		0.104	1300		Inductor		TSOT23-6 QFN8 (2x2)
MP1528	2.7	36	N/A	9	1		0.4	Variable	✓	Inductor		QFN6 (3x3) MSOP8
MP1529	2.7	5.5	N/A	16	3	✓	N/A	1200	✓	Inductor		QFN16 (4x4)
MP1517	2.6	25	25	18	3		0.7	1100	✓	Inductor	UVLO, External Comp	QFN16 (4x4)
MP3302	2.5	6.0	36	27	9		0.195	1300	✓	Inductor	Large Panel Drive, High Voltage Output	QFN8 (2x3)
MP3202	2.5	6.0	25	39	13		0.104	1300	✓	Inductor	1.3A Current Limit, UVLO, Low EMI, Thermal Shutdown	TSOT23-6 QFN8 (2x2)

**BATTERY CHARGERS**

Part No.	V <sub>IN</sub> (Min) (V)	V <sub>IN</sub> (Max) (V)	# of Cells	I <sub>CHARGE</sub> (A)	Trickle Charge	Charge Status	Charge Type	Package
MP2603	4.75	25	1	Up to 0.15	✓	✓	CC and CV Charging Modes	TSOT23-5
MP2601	4.75	25	1	Up to 0.3	✓	✓	CC and CV Charging Modes	TSOT23-5
MP2602	3.5	28	1	Up to 1.0	✓	✓	CC and CV Charging Modes	QFN10 (3x3)
MP2604	3.5	27	1	Up to 1.0		✓	CC and CV Charging Modes	QFN10 (3x3)
MP2606	3.5	28	1	Up to 1.0		✓	CC and CV Charging Modes	QFN10 (3x3)

**ISOLATED POWER SUPPLIES**

Part No.	V <sub>IN</sub> (Min) (V)	V <sub>IN</sub> (Max) (V)	P <sub>OUT</sub> (W)	I <sub>SW</sub> Limit (Typ) (A)	Topology	I <sub>Q</sub> (Typ) (mA)	Feedback Voltage (V)	Switching Frequency (kHz)	Notes	Package
MP6001	4.5	100	15W (Max)	2.0	Flyback / Forward	N/A	N/A	55-550	Integrated 150V Power Switch	SOIC8E
MP3900	8.6	14	60W (Max)	0.2V/Rsense	Flyback / Forward	0.18	0.816	330	(Boost Controller) 10V Gate Drive	MSOP8

**PRECISION ANALOG**
**OPERATIONAL AMPLIFIERS**

Part No.	V <sub>IN</sub> (Min) (V)	V <sub>IN</sub> (Max) (V)	GBW (kHz)	I <sub>Q</sub> (Typ) (μA)	PSRR (dB)	Slew Rate (V/μs)	Offset Voltage (mV)	Notes	Package
MP8102	1.8	5.5	200	7.5	60	0.1	1.0		TSOT23-5
MP8103	1.8	5.5	200	14	60	0.1	1.0	Dual Channel	MSOP8
MP8101	1.8	5.5	400	11	60	0.2	1.0		TSOT23-5
MP8130	2.7	40	200	10	60	0.1	1.0	High Voltage	TSOT23-5

**HIGH-SIDE CURRENT SENSE AMPLIFIERS**

Part No.	V <sub>IN</sub> (Min) (V)	V <sub>IN</sub> (Max) (V)	I <sub>Q</sub> (Typ) (μA)	PSRR (%/V)	Offset Voltage (mV)	Notes	Package
MP8100	2.5	18	12	0.05	0.25	High Side Current Sense	SOIC8
MP8110	2.5	40	12	0.05	0.5	High Side Current Sense	SOIC8 MSOP8

**PART NUMBERING NOMENCLATURE**
**PART NUMBERING EXAMPLE: MP1521EK-LF-Z**

MP	1521	E		K		-LF	-Z
Monolithic Power	Part Number	Temperature Grade		Package		Lead Free	Tape & Reel
MP####		C	0 to +70°C	X	Sorted Wafer	-LF	-Z
		E	-20°C to +85°C	XN	Unsorted Wafer		
		D	-40°C to +85°C	K	MSOP		
		H	-40°C to +125°C	H	MSOP w/EXPOSED PAD		
		K	-55°C to +125°C	P	PDIP (300 mil)		
				M	TSSOP		
				F	TSSOP w/EXPOSED PAD		
				T	SOT23 (1.1 mm Height)		
				J	TSOT23 (0.9 mm Height)		
				Y	SOIC-WB (Wide Body)		
				W	SOIC-WB w/EXPOSED PAD		
				S	SOIC		
				N	SOIC w/EXPOSED PAD		
				G	QFN (2 x 2)		
				Q	QFN (3 x 3)		
				R	QFN (4 x 4)		
				U	QFN (5 x 5)		
				D	QFN (2 x 3)		
				L	QFN (3 x 4)		

**TAPE & REEL PACKAGING for AUTOMATED HANDLING**
**GENERAL OVERVIEW**

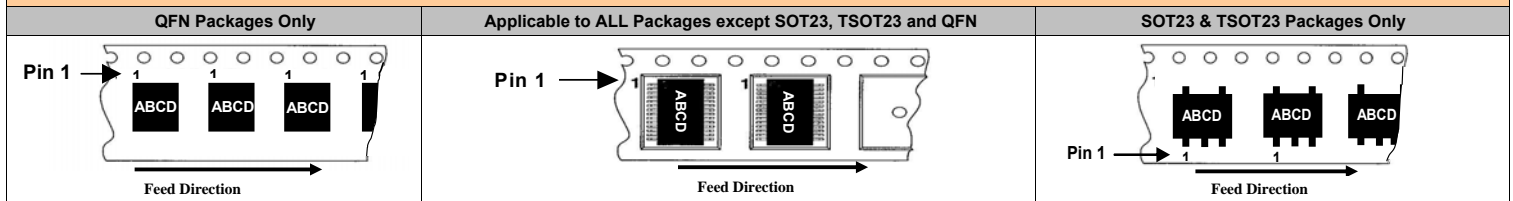
Surface mount products are available in Tape & Reel packaging. Below is a table of standard Tape & Reel configurations. These packages conform to EIA-481-1/2/3 and JEDEC standards. All products are lead scanned and co-planarity checked by 3D imaging.

**PRICING INFORMATION**

Consult factory for price adder and availability.

**PACKAGING INFORMATION**

Part Number	Package Description	Quantity/Rail	Quantity/Rail	Reel Diameter (in)	Carrier Tape Width (mm)	Carrier Tape Pitch (mm)
MP####xH-Z	MSOP8/10 w/Exposed Pad	2500	50	13	12	8
MP####xK-Z	MSOP8/10	2500	50	13	12	8
MP####xP-Z	PDIP8	N/A	50	N/A	N/A	N/A
MP####xG-Z	QFN 2x2	5000	N/A	13	8	4
MP####xD-Z	QFN 2x3	5000	N/A	13	12	8
MP####xQ-Z	QFN 3x3	5000	N/A	13	12	8
MP####xL-Z	QFN 3x4	5000	N/A	13	12	8
MP####xR-Z	QFN 4x4	5000	N/A	13	12	8
MP####xU-Z	QFN 5x5	5000	N/A	13	12	8
MP####xS-Z	SOIC8 (Narrow Body)	2500	100	13	12	8
MP####xN-Z	SOIC8 w/Exposed Pad (Narrow Body)	2500	100	13	12	8
MP####xS-Z	SOIC16	2500	46	13	16	8
MP####xWR-Z	SOIC24 w/Heat Slug and Reverse Lead Bend (Wide Body)	1000	31	13	24	12
MP####xY-Z	SOIC28 (Wide Body)	1000	27	13	24	12
MP####xT-Z	SOT23-3/6	3000	N/A	7	8	4
MP####xJ-Z	TSOT23-5/6	3000	N/A	7	8	4
MP####xM-Z	TSSOP14/16	2500	96	13	16	8
MP####xF-Z	TSSOP16 w/Exposed Pad	2500	96	13	16	8
MP####xM-Z	TSSOP20	2500	75	13	16	8
MP####xM-Z	TSSOP28	2500	50	13	16	8
MP####xFR-Z	TSSOP38 w/Exposed Pad, Reverse Lead	2500	31	13	16	8

**PACKAGE ORIENTATION**


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