

DESCRIPTION

The MT8102 is a monolithic step-down buck converter with a built-in internal switching power MOSFET. It generates 2A output current with fixed 450KHz switching frequency and a wide input supply range. Output voltage can be adjusted down to 0.8V.

A voltage loop with inner current slope sensing PWM control provides fast transient response, ease loop stabilization and requires a very few external components.

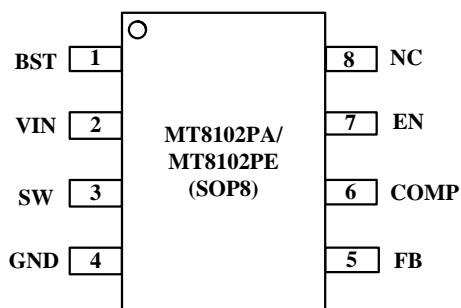
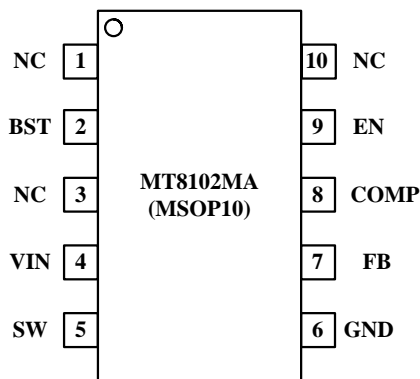
Protection features includes over current limiting and thermal shutdown. In shutdown mode the regulator only consumes less than 15uA current.

MT8102 is available in a small MSOP-10L and SOP-8L and ESOP-8L Pb free package.

FEATURES

- High Efficiency Up to 95%
- 0.18Ω Internal Switching Power MOSFET
- Wide 4.75V to 30V Operating Input Voltage Range
- Adjustable Output Voltage from 0.8V to 27V
- 15uA Shutdown Current
- 2A Output Current
- Cycle-by-Cycle Over Current Protection
- Short Circuit Protection
- Internal Soft Start
- “Pulse Skip Mode” at light loading to save power
- 450KHz Fixed Switching Frequency
- Thermal Shutdown Protection
- Stable with Low ESR Ceramic Capacitor
- Available in 10-Lead MSOP / 8-Lead SOP / 8-Lead ESOP Packages

PIN CONFIGURATION



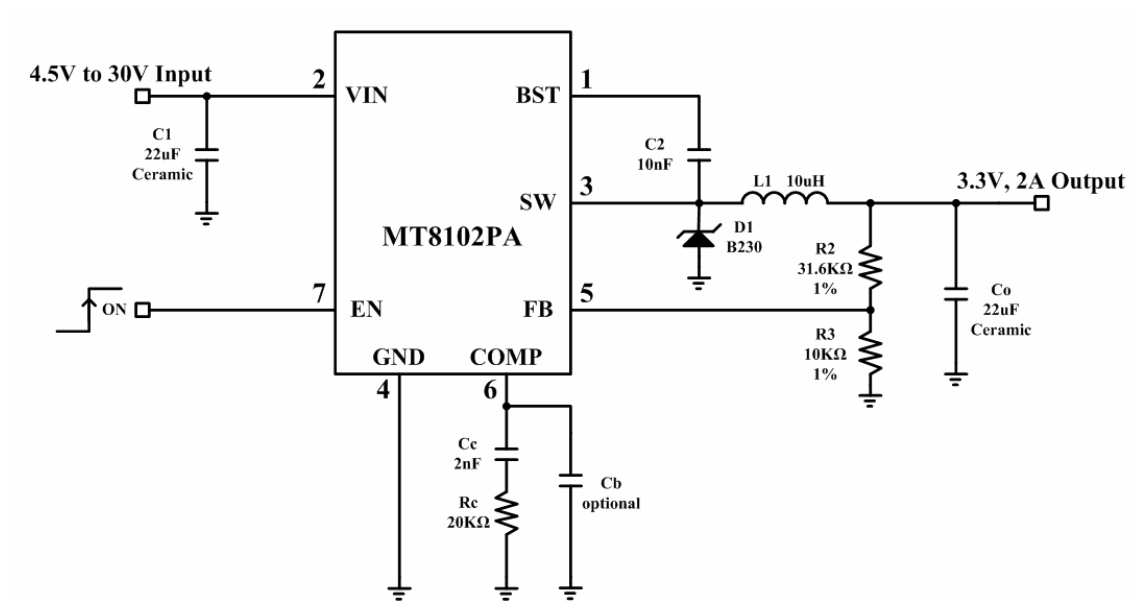
APPLICATION

- PC LCD Monitors and Graphic Card
- Portable DVD
- Distributed Power Systems
- Battery Powered or Car Powered Equipment
- Battery Charger
- Set-top Box, DSL/Cable Modems and Routers
- Telecom Equipments
- POL DC/DC Termination Supply

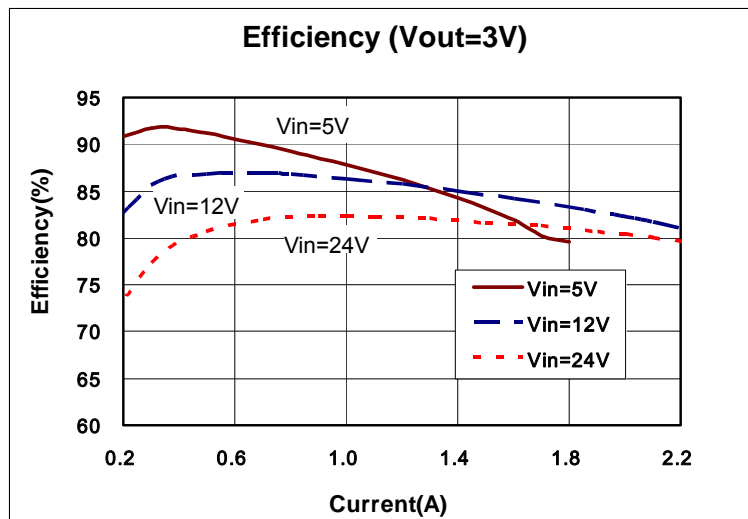
ORDERING INFORMATION

Part Number	Temp Range	Package
MT8102MA	-40°C ~ 85°C	MSOP10
MT8102PA	-40°C ~ 85°C	SOP8
MT8102PE	-40°C ~ 85°C	ESOP8

APPLICATION CIRCUIT

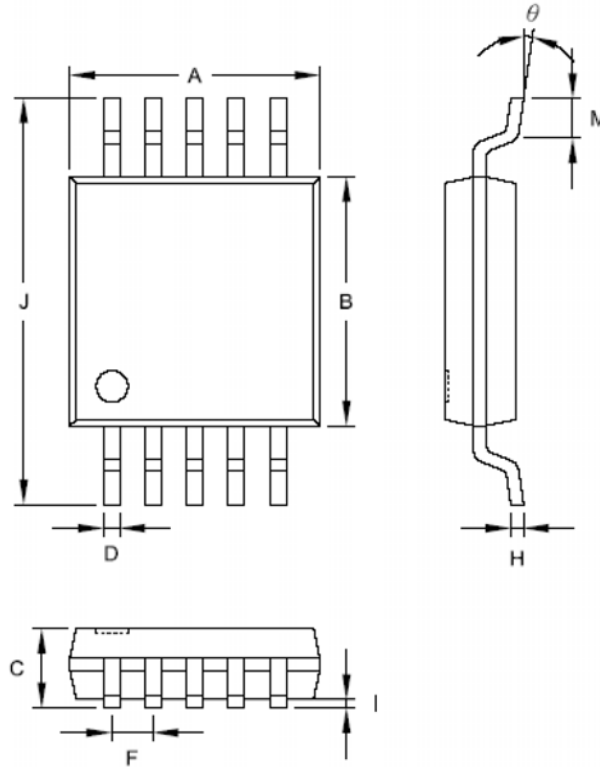


TYPICAL PERFORMANCE CHARACTERISTICS



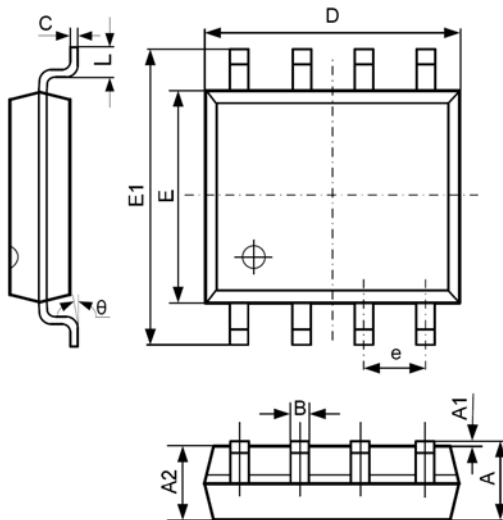
PACKAGE INFORMATION

Package: MSOP-10



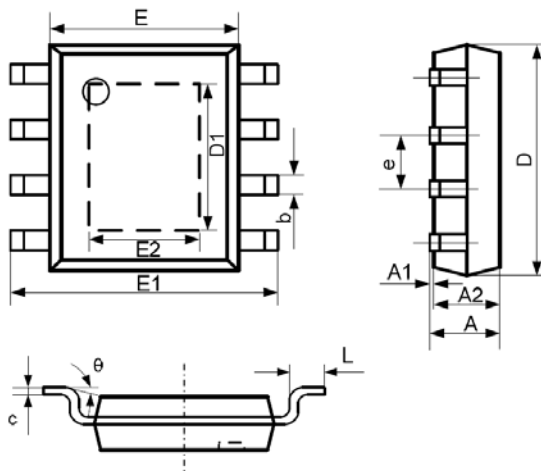
Symbols	Dimensions in Millimeters		Dimensions in Inch	
	MIN	MAX	MIN	MAX
A	2.896	3.099	0.114	0.122
B	2.896	3.099	0.114	0.122
C	0.813	1.219	0.032	0.048
D	0.152	0.305	0.006	0.012
F	0.470	0.530	0.019	0.021
H	0.127	0.229	0.005	0.009
I	0.051	0.152	0.002	0.006
J	4.699	5.105	0.185	0.201
M	0.406	0.660	0.016	0.026
θ	0°	6°	0°	6°

SOP-8 PACKAGE OUTLINE AND DIMENSIONS



SYMBOL	DIMENSION IN MILLIMETERS		DIMENSION IN INCHES	
	MIN	MAX	MIN	MAX
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
B	0.330	0.510	0.013	0.020
C	0.190	0.250	0.007	0.010
D	4.700	5.100	0.185	0.201
E	3.800	4.000	0.150	0.157
E1	5.800	6.300	0.228	0.248
e	1.270 TYP		0.050 TYP	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

ESOP8 PACKAGE OUTLINE AND DIMENSIONS



SYMBOL	DIMENSION IN MILLIMETERS		DIMENSION IN INCHES	
	MIN	MAX	MIN	MAX
A	1.350	1.750	0.053	0.069
A1	0.050	0.150	0.002	0.006
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.700	5.100	0.185	0.200
D1	3.202	3.402	0.126	0.134
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
E2	2.313	2.513	0.091	0.099
e	1.270 TYP		0.050 TYP	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°
