



Description

The MS10A brings a high current output to a surface mount package. Using only a 1 " square footprint, it is perfect for point-of-load applications that demand a high performance power source.

Designed for use with today's latest microprocessors, ASICs, and DSPs, the MS10A provides superior transient response using Bourns Switch Power's patented V²™ architecture. Output voltages are user selectable, allowing greater flexibility in design and layout. Each high efficiency converter includes separate control pins for output enable/disable and output voltage trim. The MS10A output can also accept an external voltage across its output; an advantage when power multiple input processors.

Features

- Low Cost
- 10-amp Output Current
- 92 % Efficiency
- Low 0.36 " Profile
- Remote Sense
- Adjustable V_{out}
- Trim Function
- Short-circuit Protection with auto-restart
- Fast Transient Response
- High-temperature Operation
- Remote Enable
- Output Precharge Capability

Patents 5,770,940

Common Specifications

	Min	Nom	Max	Units	Notes
Input					
Voltage	3.0	3.3	3.6	V _{dc}	
	4.5	5	5.5	V _{dc}	
Current		10		A	
Remote Enable					
High = Disable	2.4			V _{dc}	
Low = Enable			0.4	V _{dc}	Open = Enable
E/D Current		1		mA	
Output					
Current	0		10	A	
Current Limit	11			A	
Voltage Setpoint Accuracy		±1	±2	%V _{nom}	
Line Regulation		±0.1		%V _{nom}	
Load Regulation		±0.2		%V _{nom}	
Dynamic Response					
0 to 100 % load		200		mV	Δi/Δt = 3 A/μs
		17		μs	
100 to 0 % load		200		mV	Δi/Δt = 3 A/μs
		20		μs	
Temperature Regulation			±0.02	%V _{out} /°C	
General					
MTBF		553		k Hrs	25 °C, 80 % load
Operating Temperature	-40		85	°C	
Storage Temperature	-55		125	°C	
Switching Frequency		450		kHz	5 Vin
		350		kHz	3.3 Vin



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Specifications are subject to change without notice.
 Customers should verify actual device performance in their specific applications.

Electrical Specifications

	Nominal Input (V)	Output Voltage (V)	Output Current (A)	Ripple (mV pp) max	Efficiency (%) typ
MS10A-3SA	3.3	1.0 - 2.5	10	100	92
MS10A-5SA	5	1.0 - 3.5	10	100	92

