



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	Vdc	
	4.5	5	5.5	Vdc	
Current		10		A	
Remote Enable					
High = Disable	2.4			Vdc	
Low = Enable			0.4	Vdc	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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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

