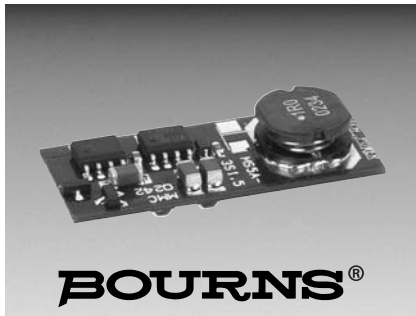




BOURNS®

Features

- Surface mount
- 5 amp output current
- 90 % efficiency
- Pin-out compatible with Lucent's Austin Lite™
- Low profile
- Trim function
- Overcurrent protection w/ auto-restart
- Fast transient response
- High-temperature operation
- Non-isolated output
- Enable/Disable

MS5A Series – Power Module

General Information

The MS5A brings low profile and cost effectiveness to a surface mount package. Matching the footprint and pin-out of Lucent's Austin Lite™ series, the MS5A 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 MS5A provides superior transient response using Bourns Switch Power's patented V²™ architecture. This high efficiency converter includes a control pin for output enable/disable, and can also accept an external voltage across its output; an advantage when powering multiple input processors.

Input Specifications

Voltage3.0 VDC Min.
3.3 VDC Nom.
3.6 VDC Max.
or4.5 VDC Min.
5 VDC Nom.
5.5 VDC Max.
Current5 A (5 V input)
5.5 A (3.3 V input)
Remote Enable
Open = On
Low = Off0.4 VDC
(Use open collector to pull down)

Output Specifications

Current.....5 A
Voltage Setpoint Accuracy.....±2 %Vnom
Voltage Trim Range.....-5 to +5 %Vnom
Line Regulation±0.1 %Vnom
Load Regulation±0.3 % Vnom
(±0.2 % without remote sense)
Dynamic Response
0 to 6 A load
.....200 mV nom. ($\Delta i/\Delta t = 3 \text{ A}/\mu\text{s}$)
19 μs nom.
6 to 0 A load
.....200 mV nom. ($\Delta i/\Delta t = 3 \text{ A}/\mu\text{s}$)
19 μs nom.
Temperature Regulation
.....±0.02 %Vout/°C max.

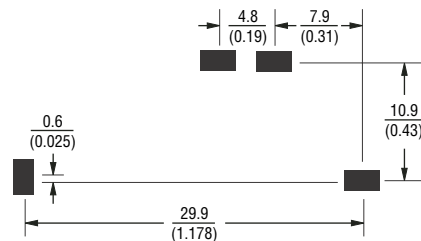
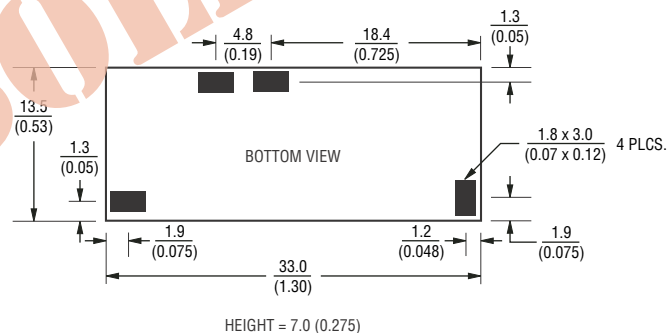
General Specifications

MBTF1,000 kHrs nom.
Bellcore TR332, 25 °C
Operating Temperature.....-25 to +85 °C
(-40 to +85 °C optional)
Storage Temperature.....-40 to +125 °C
Switching Frequency800 kHz nom.
(500 kHz nom. MS5A-3S2.5 only)

Electrical Specifications

	Nominal Input (V)	Output Voltage (V)	Output Current (A)	OCF Limit (A)	Ripple Max (mV pp)	Efficiency Typ. (%)
MS5A-5S3.3	5	3.3	5	7	100	90
MS5A-5S2.5		2.5				87
MS5A-5S2.0		2.0				85
MS5A-5S1.8		1.8				82
MS5A-5S1.5		1.5				80
MS5A-3S2.5	3.3	2.5	5	7	80	91
MS5A-3S2.0		2.0				88
MS5A-3S1.8		1.8				85
MS5A-3S1.5		1.5				82
MS5A-3S1.2		1.2				

Product Dimensions

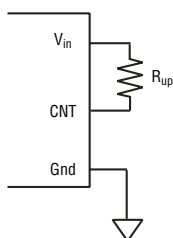


DIMENSIONS = MILLIMETERS
(INCHES)

MS5A Series – Power Module

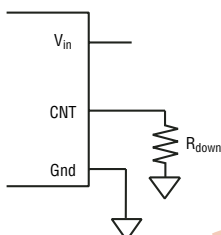
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Product Schematic



$$R_{up} = \frac{499 \times (V_{in} - (1 + \text{Trim } \%) \times 1.5 V_{in} - 1.5)}{1 - (V_{in} - (1 + \text{Trim } \%) \times 1.5 V_{in} - 1.5)}$$

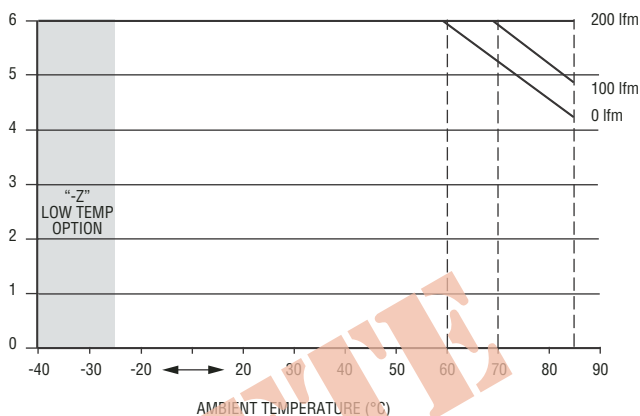
Trim % = desired percentage trim up or down



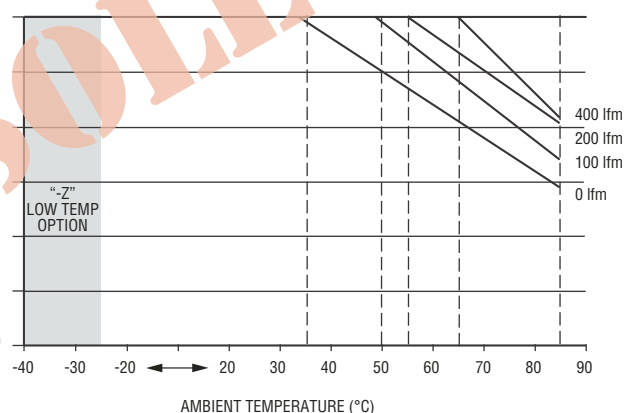
$$R_{down} = 499 \times \left(\frac{1 - \text{Trim } \%}{1 - (1 - \text{Trim } \%) } \right)$$

Temperature Derating

MS5A-3S2.5



MS5A-3S3.3



How to Order

	M	S	5A	-	5	S	3.3	-	Z
Configuration									
Internal Identifier									
Current/Power (Amps)									
Input Voltage (Volts)									
Outputs									
S = Single									
Output Voltage (Volts)									
Options									
Z = Industrial Temperature Range (-40 °C Operation)									



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