

# M15A SERIES

HDLV  
Family



## Description

The M15A Series is a full-featured set of non-isolated, very high-efficiency, board-level power modules. Each converter steps a 5 V input down to lower voltages required by core logic, ASICs, microcontrollers and microprocessors. The high-density (50 W/cu. in.) brick package minimizes the board area required to implement the power conversion. The M15A utilizes Bourns Switch Power's proprietary V<sup>2</sup>™ architecture, which provides ultrafast transient response, improved line and load regulation, and very high efficiency.

Designed specifically for board-level use in applications requiring high reliability, the M15A Series features lower losses, higher reliability and a lower seated height than similar units in the market. The initial setpoint accuracy of 0.2 % and measured low-radiated emissions are also superior to most competitive units. It provides a 15-amp output at any of its standard output voltages. Beyond the standard output voltages, the series also allows custom outputs from 1.30 volts to 3.50 volts in 100 mV steps.

## Features

- 15-amp Output Current
- Open-frame Design
- 90 % Efficiency
- Overtemperature Protection
- Short-circuit Protection with auto-restart
- Fast Transient Response
- Remote Sense
- Remote Enable
- Trim Function
- 50W/in<sup>3</sup> Power Density
- Low 0.38 " Height
- Industry-standard Pin-out

Patents 5,770,940

5,978,195

6,127,814

## Common Specifications

	Min	Nom	Max	Units	Notes
<b>Input</b>					
Voltage	4.5	5	5.5	Vdc	4.75 V Startup
Current		17		A	
<b>Remote Enable</b>					
High = Disable	2.4			Vdc	
Low = Enable			0.4	Vdc	Open=Enable
E/D Current		1		mA	
<b>Output</b>					
Current	0		15	A	
Current Limit	16.5			A	
Voltage Setpoint Accuracy			±2	%V <sub>nom</sub>	
Line Regulation		±0.1		%V <sub>nom</sub>	
Load Regulation		±0.3		%V <sub>nom</sub>	±0.2 w/o remote sense
Voltage Trim Range	-7		+7	%V <sub>nom</sub>	
<b>Dynamic Response</b>					
0-100 % Load		200		mV	Δi/Δt=3A/μs
		20		μs	
100-0 % Load		200		mV	Δi/Δt=3A/μs
		20		μs	
Temperature Regulation			±0.02	%V <sub>out</sub> /°C	
<b>General</b>					
MTBF		1,000		k Hrs	Bellcore TR332, 25 °C full power, 100 LFM
Operating Temperature	0		55	°C	
Storage Temperature	-55		125	°C	
Switching Frequency		250		kHz	



Reliable Electronic Solutions

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

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## Electrical Specifications

	Nominal Input (V)	Output Voltage (V)	Output Current (A)	Noise (mV pp) typ	Efficiency (%) typ
M15A-5S3.45	5	3.45	15	100	90
M15A-5S3.3	5	3.3	15	100	90
M15A-5S2.8	5	2.8	15	100	
M15A-5S2.6	5	2.6	15	100	
M15A-5S2.5	5	2.5	15	100	
M15A-5S2.2	5	2.2	15	100	
M15A-5S2	5	2	15	100	
M15A-5S1.9	5	1.9	15	100	
M15A-5S1.8	5	1.8	15	100	
M15A-5S1.5	5	1.5	15	100	

