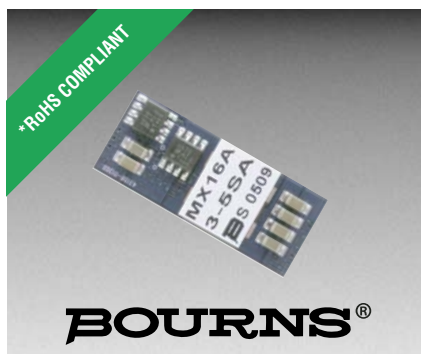




Features

- Industry standard SMT package
- Output voltage programmable from 0.75 Vdc to 3.6 Vdc via external resistor
- 16 A output current
- Up to 95 % efficiency
- Small size, low profile
- Cost-efficient
- Low output ripple and noise
- High reliability
- Remote on/off
- Output overcurrent protection (non-latching)
- Optional sequencing function

MX(T)16A-3-5SA SMT Non-Isolated Power Module

Description

Bourns® MX(T)16A-3-5SA is a non-isolated DC-DC converter offering designers a cost and space-efficient solution with standard features such as remote on/off, precisely regulated programmable output voltage and overcurrent protection and optional output voltage sequencing.

Specifications

Parameter	Min.	Nom.	Max.	Units	Notes
INPUT					
Voltage	2.4		5.5	V _{dc}	
Current			16.0	A _{dc}	
Remote: ON/OFF					
Low or Open =	Standard On	-P option Off		V _{dc}	10 µA max.
High =	Off	On	0.4 V _{in}	V _{dc}	1 mA max.
OUTPUT					
Voltage Adjustment Range	0.75		3.63	V _{dc}	
Current	0.0		16.0	A _{dc}	
Voltage Setpoint Accuracy	-2.0		2.0	% V _{o.set}	
Line Regulation		0.3		% V _{o.set}	
Load Regulation		0.4		% V _{o.set}	
Temperature Regulation		0.4		% V _{o.set}	
Ripple (pk-pk) (20 MHz Bandwidth)		25	50	mVpk-pk	1 µF ceramic//10 µF tantalum capacitors
Ripple (rms)		8	15	mVrms	1 µF ceramic//10 µF tantalum capacitors
Dynamic Load Response: 50 % to 100 % Load or 100 % to 50 % Load; (ΔI/Δt = 2.5 A/µs; 25 °C)		300 25		mV µs	1 µF ceramic//10 µF tantalum capacitors
50 % to 100 % Load or 100 % to 50 % Load; (ΔI/Δt = 2.5 A/µs; 25 °C)		150 100		mV µs	2 x 150 µF polymer capacitors
GENERAL					
MTBF		10,000		kHrs	
Operating Temperature	-40		+85	°C	
Storage Temperature	-55		+125	°C	
Switching Frequency		300		kHz	
Efficiency (V _{in} = 5 Vdc, T _A = 25 °C, Full Load)		82.0		%	V _{o.set} = 0.75 V _{dc}
		87.0		%	V _{o.set} = 1.2 V _{dc}
		89.0		%	V _{o.set} = 1.5 V _{dc}
		90.0		%	V _{o.set} = 1.8 V _{dc}
		92.5		%	V _{o.set} = 2.5 V _{dc}
		95.0		%	V _{o.set} = 3.3 V _{dc}

Applications

- Intermediate Bus architecture
- Distributed power applications
- Workstations and servers
- Telecom equipment
- Enterprise networks including LANs/WANs
- Latest generation ICs (DSP, FPGA, ASIC) and microprocessor powered applications

Output Voltage Programming

Via external trim resistor between Trim and GND:

$$R_{\text{trim}} = \left[\frac{21.07}{V_O - 0.7525} - 5.11 \right] \text{ k}\Omega$$

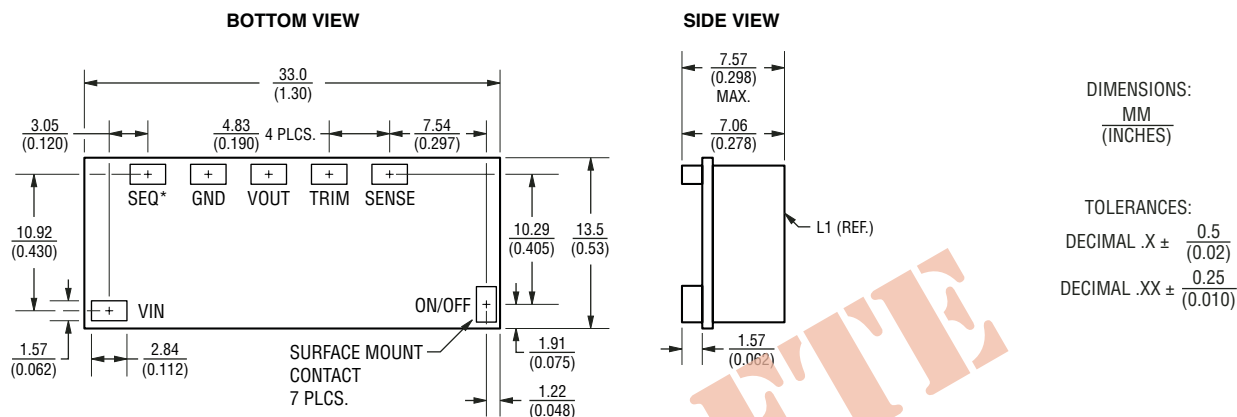
Via application of external voltage between Trim and GND:

$$V_{\text{trim}} = (0.7 - 0.1698 \times \{V_O - 0.7525\})$$

MX(T)16A-3-5SA SMT Non-Isolated Power Module

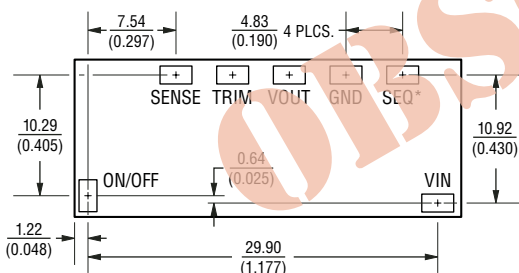
BOURNS®

Product Dimensions



*Pin Stuffed with MXT16A option only, absent with MX16A standard

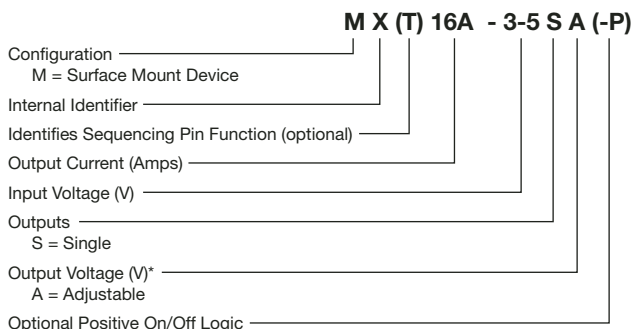
Recommended Pad Layout



RECOMMENDED PAD SIZE: $\frac{3.56}{(0.140)} \times \frac{2.41}{(0.095)}$ MIN.
 $\frac{4.19}{(0.165)} \times \frac{2.79}{(0.110)}$ MAX.

*Pad required with MXT16A option only, not required with MX16A standard

How to Order

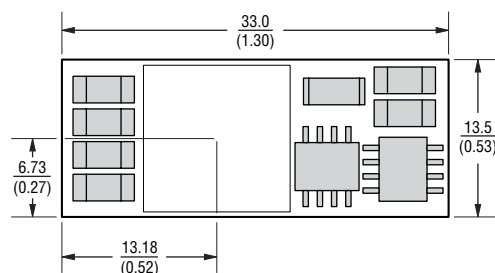


*Fixed output voltage parts and optional features available; contact factory.

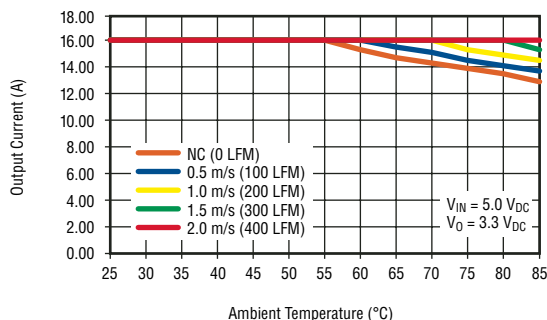
REV. C 08/06

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

Pick and Place Location



Derating Output Current vs. Local Ambient Temp & Airflow



Reliable Electronic Solutions

Asia-Pacific: Tel: +886-2 2562-4117 • Fax: +886-2 2562-4116
Europe: Tel: +41-41 768 5555 • Fax: +41-41 768 5510
The Americas: Tel: +1-951 781-5500 • Fax: +1-951 781-5700
www.bourns.com

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Bourns:

[MX16A-3-5SA-P](#) [MX16A-3-5SA](#)