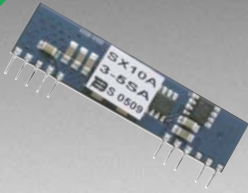


*RoHS COMPLIANT



BOURNS®

Features

- SIP (Single in-line package)
- Output voltage programmable from 0.75 V_{dc} to 3.6 V_{dc} via external resistor
- 10 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

SX(T)10A-3-5SA SIP Non-Isolated Power Module

Description

Bourns® SX(T)10A-3-5SA is a non-isolated DC-DC converter offering designers a cost and space-efficient solution with standard features such as sequencing, remote on/off, precisely regulated programmable output voltage and overcurrent protection.

Specifications

Parameter	Min.	Nom.	Max.	Units	Notes
INPUT					
Voltage	2.4		5.5	V _{dc}	
Current			10.0	A _{dc}	
Remote: ON/OFF					
Low or Open =	Standard	-P option			
High =	On	Off	0.4	V _{dc}	10 µA max.
	Off	On	V _{in}	V _{dc}	1 mA max.
OUTPUT					
Voltage Adjustment Range	0.75		3.63	V _{dc}	
Current	0.0		10.0	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)		200		mV	1 µF ceramic//10 µF tantalum capacitors
		25		µs	
50 % to 100 % Load or 100 % to 50 % Load; (Δi/Δt = 2.5 A/µs; 25 °C)		100		mV	2 x 150 µF polymer capacitors
		100		µs	
GENERAL					
MTBF		10,000		kHrs	
Operating Temperature	-40		+85	°C	
Storage Temperature	-55		+125	°C	
Switching Frequency		300		kHz	
Efficiency		82.5		%	V _{o, set} = 0.75 V _{dc}
(V _{in} = 5 V _{dc} , T _A = 25 °C, Full Load)		88.0		%	V _{o, set} = 1.2 V _{dc}
		89.5		%	V _{o, set} = 1.5 V _{dc}
		91.0		%	V _{o, set} = 1.8 V _{dc}
		93.0		%	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:

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

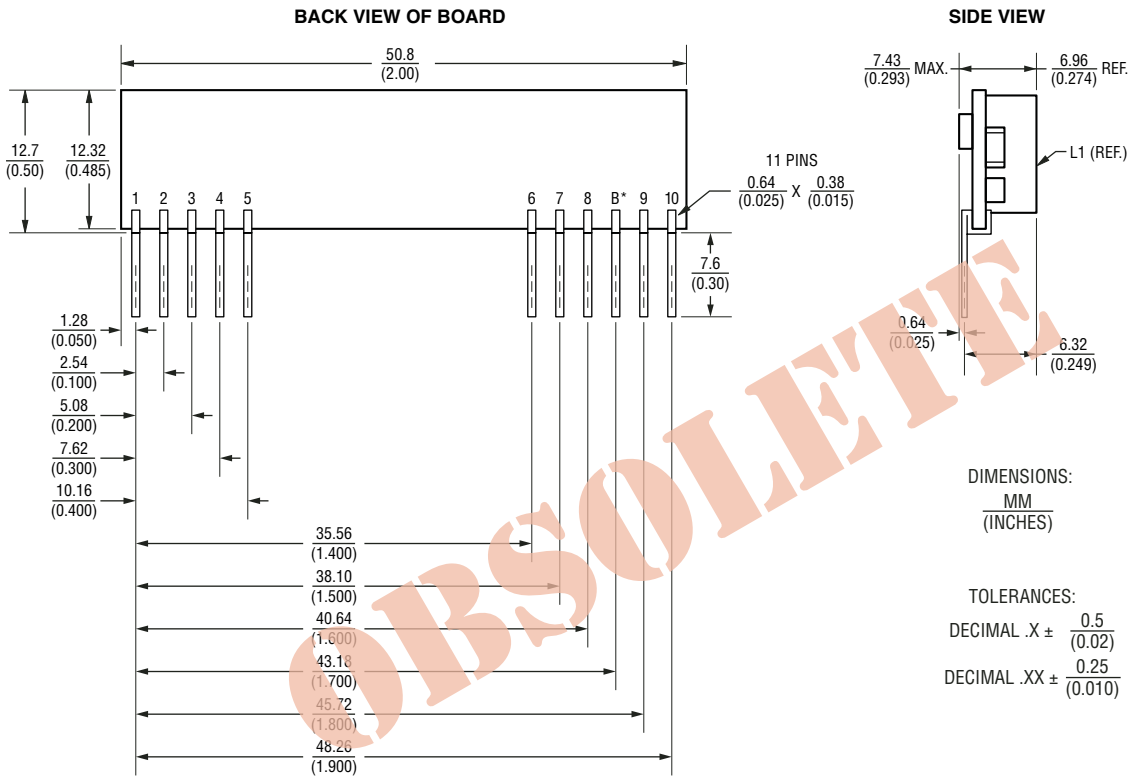
Via application of external voltage between Trim and GND:

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

SX(T)10A-3-5SA SIP Non-Isolated Power Module

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Product Dimensions

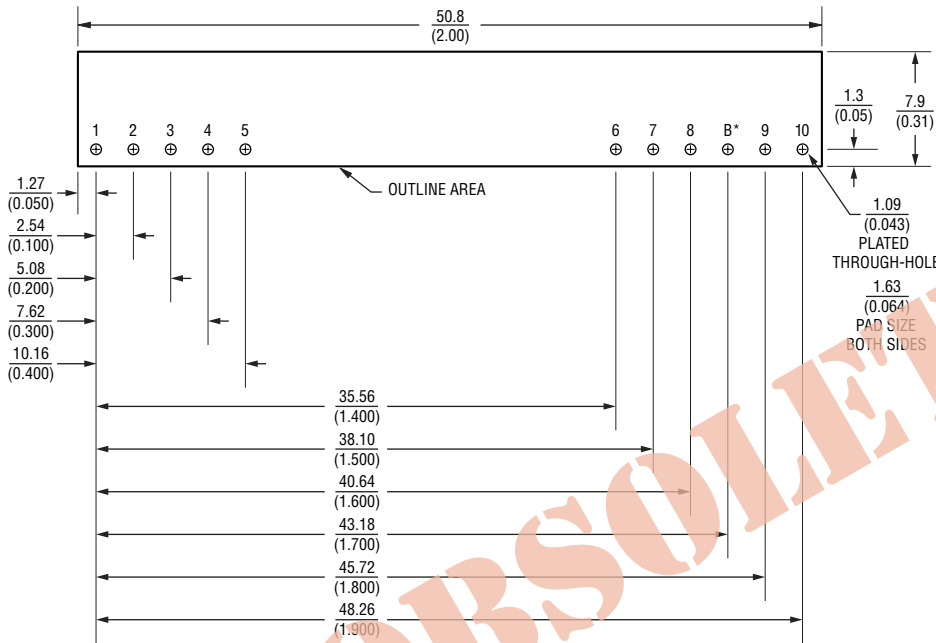


*Pin Stuffed with SXT10A option only, absent with SX10A standard

SX(T)10A-3-5SA SIP Non-Isolated Power Module

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Recommended Hole Pattern



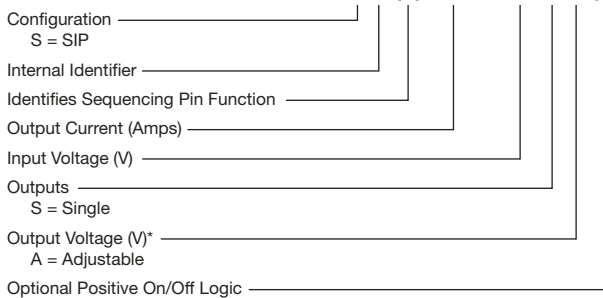
Pinout Detail

PIN	FUNCTION
1	VOUT
2	VOUT
3	SENSE
4	VOUT
5	GND
6	GND
7	VIN
8	VIN
B (optional)	SEQ
9	TRIM
10	ON/OFF

*Hole required with SXT10A option only, not required with SX10A standard

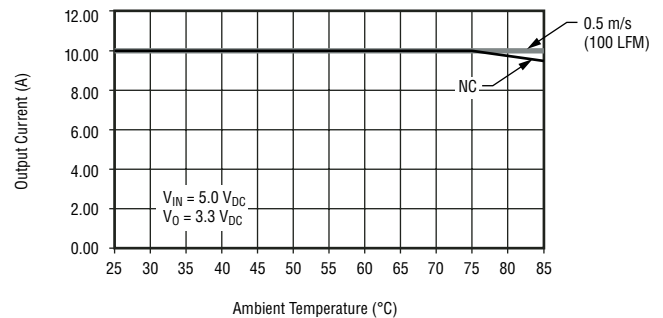
How to Order

S X (T) 10A - 3-5 S A (-P)



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

Derating Output Current vs. Local Ambient Temp & Airflow



Reliable Electronic Solutions

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Tel: +886-2 2562-4117 • Fax: +886-2 2562-4116

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Tel: +1-951 781-5500 • Fax: +1-951 781-5700

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REV. B 08/06

Specifications are subject to change without notice.

Customers should verify device performance in their specific applications.