



Input voltage range 36...75V DC  
 Single 80...100A output  
 1500V DC I/O electrical strength test voltage

Approvals: cRUus / CE (pending)

- High density design in industry standard  $\frac{3}{4}$  brick size (2.4" x 3.45" x 0.5")
- 100°C base plate operation
- Highly efficient topology with synchronous rectifiers
- Output voltage trim range  $\pm 10\%$
- ON/OFF control
- Remote sense
- Basic insulation rating

## Selection Chart

Output		Input voltage $U_i$ [V DC]	Rated power $T_A = 60^\circ\text{C}^1$ $P_{o\text{ nom}}$ [W]	Type	Features
$U_{o\text{ nom}}$ [V DC]	$I_{o\text{ nom}}$ [A]				
1.2	75	36...75	90 @ 200 lfm	TXS75ZY	Sense, Trim Enable or Shut-down
1.5	75	36...75	112 @ tbd lfm	TXS75ZA	
1.8	75	36...75	135 @ 300 lfm	TXS75ZB	
2.5	80	36...75	200 @ tbd lfm	TXS80ZD	
1.2	100	36...75	120 @ 300 lfm	TXS100ZY	
1.5	100	36...75	150 @ tbd lfm	TXS100ZA	
1.8	100	36...75	180 @ 400 lfm	TXS100ZB	

<sup>1</sup>  $U_{i\text{ nom}} \pm 25\%$ ,  $T_{\text{Baseplate}}=100^\circ\text{C}$ , linear air flow, stand alone module

## Purpose / Description

The TXS series is a 75 to 100 Amp, open frame, highly efficient, board mountable DC/DC converter. The low voltage – high amperage supplies the next generation of microprocessors, gate arrays and integrated circuits with reliable power. The TXS series features input undervoltage lockout, plus overload and overtemperature protection and its input-output voltage combination is ideally suited for Distributed Power Architectures (DPAs).

## Input

Nominal input voltage	$U_{i\text{ nom}}$	48 V DC	
Input voltage range		36...75 V DC	
Transient voltage withstand	survival	100V/100ms	
Efficiency	$U_{i\text{ nom}}, I_{o\text{ nom}}, T_a=25^\circ\text{C}$	TXS75ZY, TXS100ZY	typ. 87%
		TXS75ZA, TXS100ZA	typ. 88%
		TXS75ZB, TXS100ZB	typ. 89%
		TXS80ZD	typ. 90%

## Output

Output voltage setting accuracy	$U_{i\text{ nom}}, 50\% I_{o\text{ nom}}, T_c = 25^\circ\text{C}$	$\pm 1\% U_{o\text{ nom}}$
Minimum load		not required
Static line regulation	$U_{i\text{ min}} \dots U_{i\text{ max}}, 50\% I_{o\text{ nom}}$	$\pm 0.5\% U_{o\text{ nom}}$
Static load regulation	$U_{i\text{ nom}}, 10 \dots 100\% I_{o\text{ nom}}$	$\pm 0.5\% U_{o\text{ nom}}$
Dynamic load regulation	$\Delta I_o = 25\text{A}, dI_o/dt = 2\text{A}/\mu\text{s}$	$\pm 10\% U_{o\text{ nom}}, 100\mu\text{s}$
Output voltage ripple and noise	$U_{i\text{ nom}}, I_{o\text{ nom}}, 20\text{ MHz bandwidth}$	TXS100ZY/TXS100ZA 50 mVpp TXS100ZB/TXS80ZD 100 mVpp
Start-up time	$U_{i\text{ nom}}, I_{o\text{ nom}}$	10ms

## Protection

Input undervoltage lockout	Turn-on Turn-off	typ. 33V typ. 31V
Overload protection	hic-up (self recovery)	110...130% $I_{o\text{ nom}}$
OVP trip point	continuous limitation, no switch off	125% $U_{o\text{ nom}}$
Overtemperature	shutdown with automatic restart (thermistor)	typ. 115°C

## Control

/SD, inverse shutdown input	TTL-compatible, unit disabled when active low (<1.5V)	
Trim input for $U_o$	0.6V / 20k $\Omega$	90...110% $U_{o\text{ nom}}$

## Safety and EMC

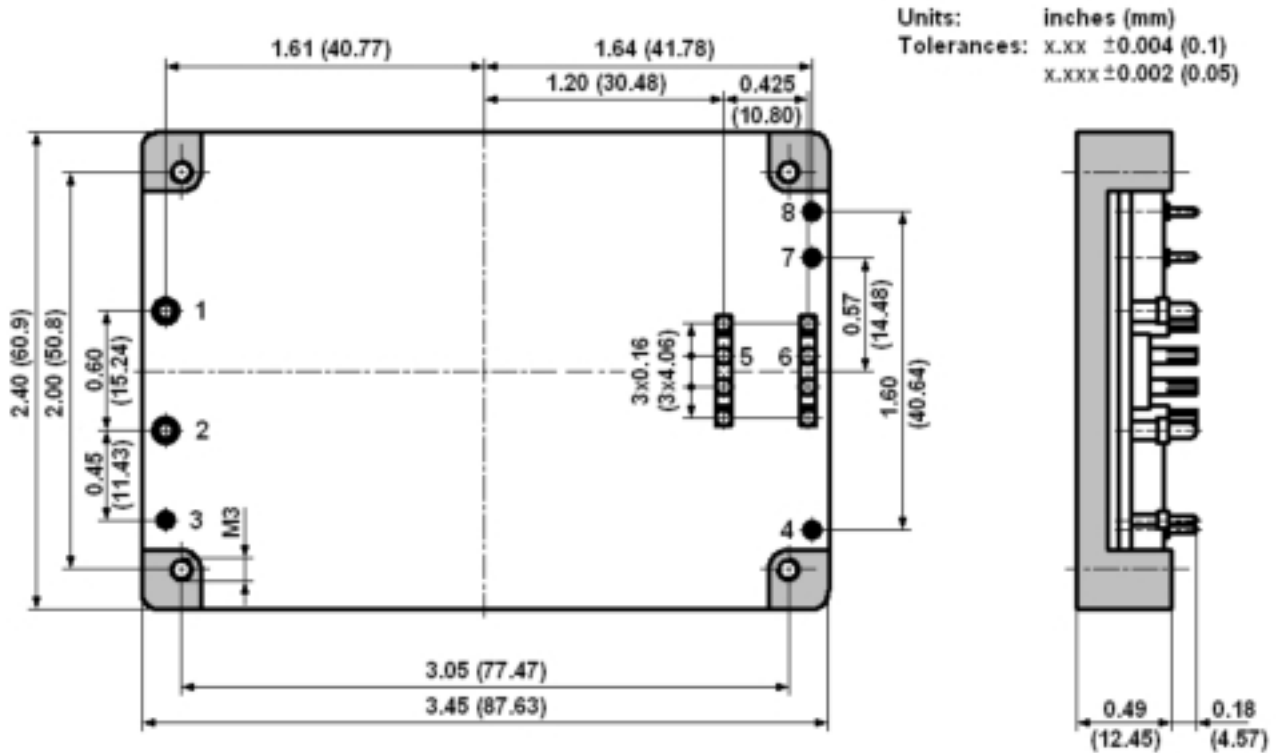
Planned approvals	EN 60950, UL 1950, CSA 22.2 No. 950	
I/O insulation	EN60950, base plate floating	Basic
Electric strength test voltage	I/Case, I/O, O/Case	1.5 kV DC
Electrostatic discharge	IEC/EN 61000-4-2, level 3 (contact/air)	4/8 kV, criterion B
Electromagnetic field	IEC/EN 61000-4-3, level 2	3 V/m, criterion A
Electr. fast transients/burst	IEC/EN 61000-4-4, tbd.	tbd., criterion B
Electromagnetic emissions	CISPR 22/EN 55022, conducted (with external filter)	class B
	CISPR 22/EN 55022, radiated (with external filter)	class B

## Environmental specifications

Operating temperature $T_{BP}$	$U_{i\text{ nom}}, I_{o\text{ nom}},$ base plate temperature	-40...100°C
Storage temperature	non operational	-40...100°C
Damp heat	IEC/EN 60068-2-3, 93%, 40°C	56 days
Shock	IEC/EN 60068-2-27, 11 ms	tbd $g_n$
Bump	IEC/EN 60068-2-29, 6 ms	tbd $g_n$
Sinusoidal vibration	IEC/EN 60068-2-6, 8.2...58.1/58.1...500 Hz	tbd $g_n$ /tbd $g_n$
Random vibration	IEC/EN 60068-2-64, 10...200/200...2000 Hz	tbd/tbd $g^2/\text{Hz}$
MTBF	MIL-HDBK-217F Notice 2, $G_B, 60^\circ\text{C}$	1.1 Mio h

## Mechanics

Print mountable industry standard  $\frac{3}{4}$  brick (2.4 x 3.45 x 0.5 inch<sup>3</sup>)



Pin	Function	_ inch (mm)
1	Vi-	0.08 ± 0.002
2	Vi+	(2.03 ± 0.05)
3	ON/OFF	0.04 ± 0.002
4	Sense+	(1.02 ± 0.05)
5	Vo-	4x 0.085 ± 0.002
6	Vo+	(4x 2.16 ± 0.05)
7	Trim	0.04 ± 0.002
8	Sense-	(1.02 ± 0.05)

Thermal Impedance (Baseplate to ambient)	
100 lfm	2.8 K/W
200 lfm	2.2 K/W
300 lfm	1.7 K/W
400 lfm	1.4 K/W

**Note:** Thermal impedance data is dependent on many environmental factors. The exact thermal performance should be validated for specific application. The figure is for a stand-alone module.

## Options / Accessories

Option / Accessory	Suffix	Remarks
Negative Logic (unit works when active low)	N	
0.24" (6.1mm) Pin Lengths	tbd	Contact factory
0.24" (6.1mm) Horizontal Heatsink	1H	Includes Thermal Pad
0.24" (6.1mm) Vertical Heatsink	1V	Includes Thermal Pad
0.45" (11.4mm) Horizontal Heatsink	2H	Includes Thermal Pad
0.45" (11.4mm) Vertical Heatsink	2V	Includes Thermal Pad
0.95" (24.1mm) Horizontal Heatsink	3H	Includes Thermal Pad
0.95" (24.1mm) Vertical Heatsink	3V	Includes Thermal Pad

Subject to change without notice.