



3S8A_T1.5U Series

3W - Triple Output - Fixed Input - Isolated & Unregulated SIP PACKAGE

DC-DC Converter

3 Watt

- ⊕ Power sharing on outputs
- ⊕ Triple outputs: -24V, -48V & -72V
- ⊕ Operation temperature range: -40°C ~ +105°C
- ⊕ Torroidal magnetics
- ⊕ Industrial temperature range
- ⊕ 1.5KVDC isolation
- ⊕ Internal SMD construction
- ⊕ Industry standard pinout
- ⊕ RoHS compliance
- ⊕ Power density 1.65W/cm³

The 3S8A_T1.5U series are miniature, isolated 3W DC/DC converters in a SIP package. They offer the ideal solution in many space critical applications for board level power distribution. The internal SMD construction makes it possible to offer a product with high performance at low cost. The series offers smaller size, improved efficiency, lower output ripple noise and 1.5KVDC isolation and providing three output voltages of -24V, -48V and -72V from a single isolated 4V, 5V and 12V input voltage.



Common specifications	
Short circuit protection:	1 second
Cooling:	Free air convection
Operation temperature range:	-40°C to +105°C
Storage temperature range:	-50°C to +125°C
Lead temperature:	300°C (1.5mm from case for 10 sec.)
Efficiency:	75% MIN, 85% TYP (all channels or any single channel)
Storage humidity range:	< 95%
Case material:	Black flame-retardant heat-proof plastic [UL94-V0]
Potting material:	Epoxy [UL94-V0]
MTBF:	>3,500,000 hours
Weight:	3.85g

Input specifications					
Item	Test condition	Min	Typ	Max	Units
Input voltage, maximum rating	• 3S8A_0472T1.5U			5.5	V
	• 3S8A_0572T1.5U			7	V
	• 3S8A_1272T1.5U			15	V
Voltage range	• 3S8A_0472T1.5U	3.6	4	5	V
	• 3S8A_0572T1.5U	4.5	5	5.5	V
	• 3S8A_1272T1.5U	11	12	13.3	V
Zero load input current (ICCZL)	• 3S8A_0472T1.5U, 0% output load		55	75	mA
	• 3S8A_0572T1.5U, 0% output load		55	75	mA
	• 3S8A_1272T1.5U, 0% output load		28	52	mA

Isolation specifications					
Item	Test condition	Min	Typ	Max	Units
Isolation voltage	Tested for 1 second	1500			VDC
Isolation capacitance (1MHz, 1V)	• 3S8A_0472T1.5U		70		pF
	• 3S8A_0572T1.5U		70		pF
	• 3S8A_1272T1.5U		125		pF
Isolation resistance	Input-output, isolation voltage 1000VDC	1			GΩ

Example:
3S8A_0505T1.5U
3 = 3 Watt; S7 = SIP8; A = Pinning; 5Vin; 5Vout; T = Triple Output;
1.5 = 1.5kVDC; U = Unregulated Output

Output specifications					
Item	Test condition	Min	Typ	Max	Units
Total rated power	Total of all outputs or any single output	0.1		3	W
Single channel voltage set point accuracy	Pout = 100mW	0		10	%
	Pout = 3W	-7.5		2.5	%
Output voltage: Vout1	Pout = 100mW	24		26.3	V
	Pout = 3W	22.2		24.5	V
Output voltage: Vout2	Pout = 100mW	48		53	V
	Pout = 3W	44.4		50	V
Output voltage: Vout3	Pout = 100mW	72		80	V
	Pout = 3W	66.6		74	V
Line regulation	Vin = 90% to 110% of nominal		1	1.2	%
Load regulation	Pout = 100mW to 3W		8	15	%
Switching frequency	Full load, nominal input		80		KHz

Output voltage configuration				
Channel name	Standard ref	Option 1	Option 2	Option 3
+Vout	0V	+24V	+48V	+72V
-Vout1	-24V	0V	+24V	+48V
-Vout2	-48V	-24V	0V	+24V
-Vout3	-72V	-48V	-24V	0V

Note:

- The 3W total power delivery can be taken from either single channel or any combination of all three channels. This allows an enormous amount of flexibility, especially when combined with the selectable output OV reference. For example, using the option 2 output configuration; -24V at 0.5W, +24V at 1W and +48V at 1.5W power supplies are available from a single 1S7A_T1.5U device.
- This series is compatible with RoHS soldering systems with a peak wave solder temperature of 300°C for 10 seconds. Both types in this series are backward compatible with Sn/Pb soldering systems.
- Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta = 25°C, humidity <75% with nominal input voltage and rated output load;
- All index testing methods in this datasheet are based on our Company's corporate standards;
- We can provide product customization service;
- Specifications are subject to change without prior notice.

3S8A_T1.5U Series

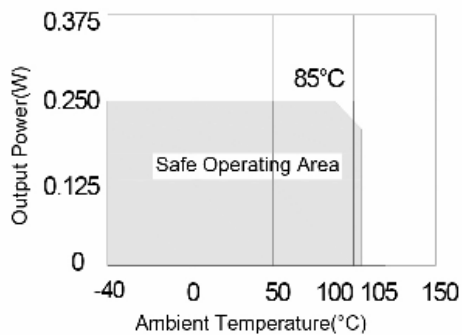
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Part Number	Nominal input Voltage [V]	Output [V]	Rated output current [V]	Output Current [mA]		Output Current [mA]	
				Min. load	Max load	Min. load	Max load
3S8A_0472T1.5U	4	-Vout1	-24	1.5	43	1.5	43
		-Vout2	-48	0.7	22	0.7	22
		-Vout3	-72	0.6	14	0.6	14
3S8A_0572T1.5U	5	-Vout1	-24	1.5	43	1.5	43
		-Vout2	-48	0.7	22	0.7	22
		-Vout3	-72	0.6	14	0.6	14
3S8A_1272T1.5U	12	-Vout1	-24	1.5	43	1.5	43
		-Vout2	-48	0.7	22	0.7	22
		-Vout3	-72	0.6	14	0.6	14

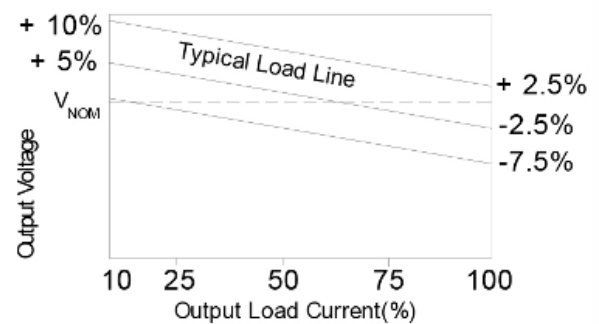
Add suffix „P“ for short circuit protection, f.ex. 3S8A_0472T1.5UP

Typical characteristics

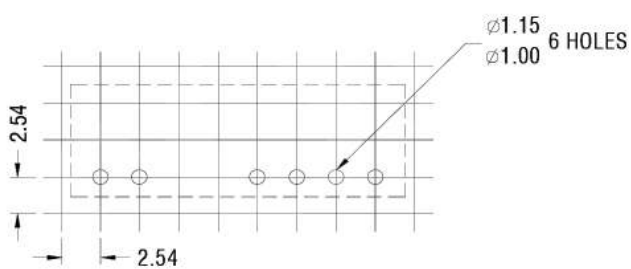
Derating graph



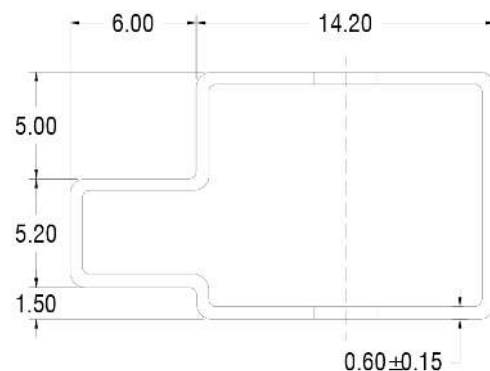
Tolerance envelope graph



Footprint



Tube outline

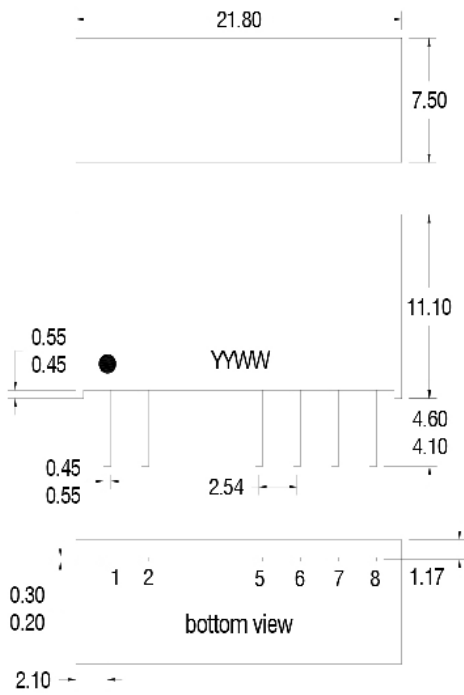


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Mechanical Dimensions

PIN connections



8 PIN SIP	
Pin	Function
1	+Vin
2	-Vin
5	+Vout
6	-Vout1
7	-Vout2
8	-Vout3

Note:
Unit: mm[inch]
General tolerances: ± 0.25 mm [± 0.010 inch]
Pin tolerances: ± 0.25 mm [± 0.010 inch]
All pins on a 2.54mm pitch.