Wide input 3W DC/DC convertor

i3 Series

Features

- Wide 10V to 72V DC input voltage range
- Single or Dual output
- PCB mounting
- Very low noise
- Very high efficiency
- Short circuit protected
- Overpower protected
- No minimum load required
- 5 year warranty

The i3 Series offers a single convertor for 4 nominal input voltages. Especially suitable for high reliability telecommunications, industrial Process Control, IT equipment, distributed power systems etc. Particularly where a very wide input range (10V to 72V DC) is required, such as when the DC power source is an “unknown quantity”.

AS/NZS ISO 9001 BUREAU VERITAS Certification

SPECIFICATIONS

DC Outputs: (See Selector Guide)	One or two, both regulated, common zero.
DC Output Power:	3 Watts maximum (continuous)
Ripple And Noise: (See Selector Guide)	Typically <70mV RMS, <200mV P-P (24V O/P)
Minimum Load:	0 A. No minimum load is required for normal performance.
Load Regulation: (See curves)	< 2% For all loads from 10% to full load
Line Regulation: (See curves)	< 0.02% For all input voltages from 10 to 56 V DC
Line Regulation: (See curves)	< 0.03% For all input voltages from 9 to 72 V DC
Voltage Setting accuracy:	<±4% at 24V input, full load.
Temperature Coefficient:	< 0.1% per °C after 1 Hr. Any change in output voltage due towarm-up drift and temperature does not exceed regulation limits.
Isolation, Input to Output	20MΩ, 3,500V DC, 2500V RMS. Capacitance: < 57pF
Short Circuit and Over Current protection:	100% to 120% of full power, indefinite short circuit period.
Reverse Input Protection:	Reversed Input Polarity Blows external input fuse (1/2A SF)
Operating Temperature:	-35°C to 65°C, no de-rating, Relative Humidity: 5% to 95%
Shipping and Storage:	-35°C to 105°C , Relative Humidity: 5% to 95%
Withstand Vibration :	5.2G, 3 axes to 400Hz Under operation
Withstand Shock:	28G 3 axes Under operation
Standards, Safety:	IEC 950, AS 3260, UL 1950, CSA22.2 No. 950
Standards, EMI:	CISPR 22, AS 3548, FCC, VDE 0871, all Class A conducted(with a single 100µF low ESR external input capacitor).
Input Ripple Current	< 400mA P-P at 18V input, 150KHz
Efficiency: (See Curves)	No Load dissipation < 500mW at 9V in, < 700mW at 72V in
Step Load Response:	10% to 70% step load < 6% peak or dip, Settling Time < 1ms

Common Mode Noise Filtering:

For efficient reduction of common-mode noise, a 1000pF Y-rated capacitor may be connected, if required, between one pole of the input and the output common. For best results, tracking on the motherboard should be short to minimize stray inductance.

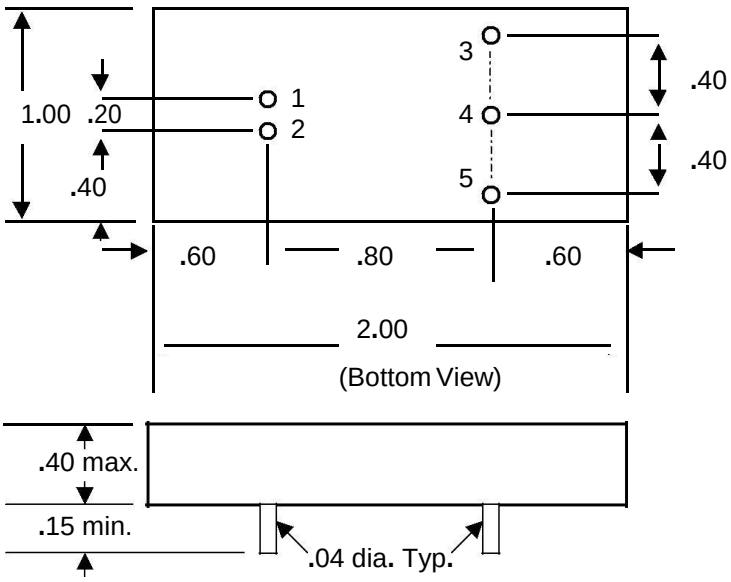
Selector Guide

Output	Model	Max. Load (either O/P)[1]	Ripple (RMS, P-P)[2]
± 5V	i3D05	600 mA	75mV
± 6V	i3D07	430 mA	100mV
± 12V[3]	i3D12	250 mA	120mV
± 15V[3]	i3D15[3]	200 mA	150mV
± 24V[3]	i3D24[3]	125 mA	200mV
± 28V[3]	i3D28[3]	107 mA	200mV
3.3V	i3S03	910 mA	75mV
5V	i3S05	600 mA	75mV
6V	i3S07	430 mA	100mV
12V	i3S12	250 mA	120mV
15V	i3S15	200 mA	150mV
24V	i3S24	125 mA	200mV

Notes:

1. On **dual** models, up to the full power may be drawn from **either** output, but the **total power** should not exceed **3 watts**.
2. **Output Ripple** is specified at worst-case input voltage, **full load** and for **dual** models, at a load of **1.5 watts on each output.** Ripple isbetter than approximately linearly related to load current where the dual loads are unbalanced.
3. These **dual** models can be used as 24V, 30V, 48V or 56V **single** output by removing the centre output pin (if desired).

DIMENSIONS (inches)



PIN ASSIGNMENTS

SINGLE OUTPUT

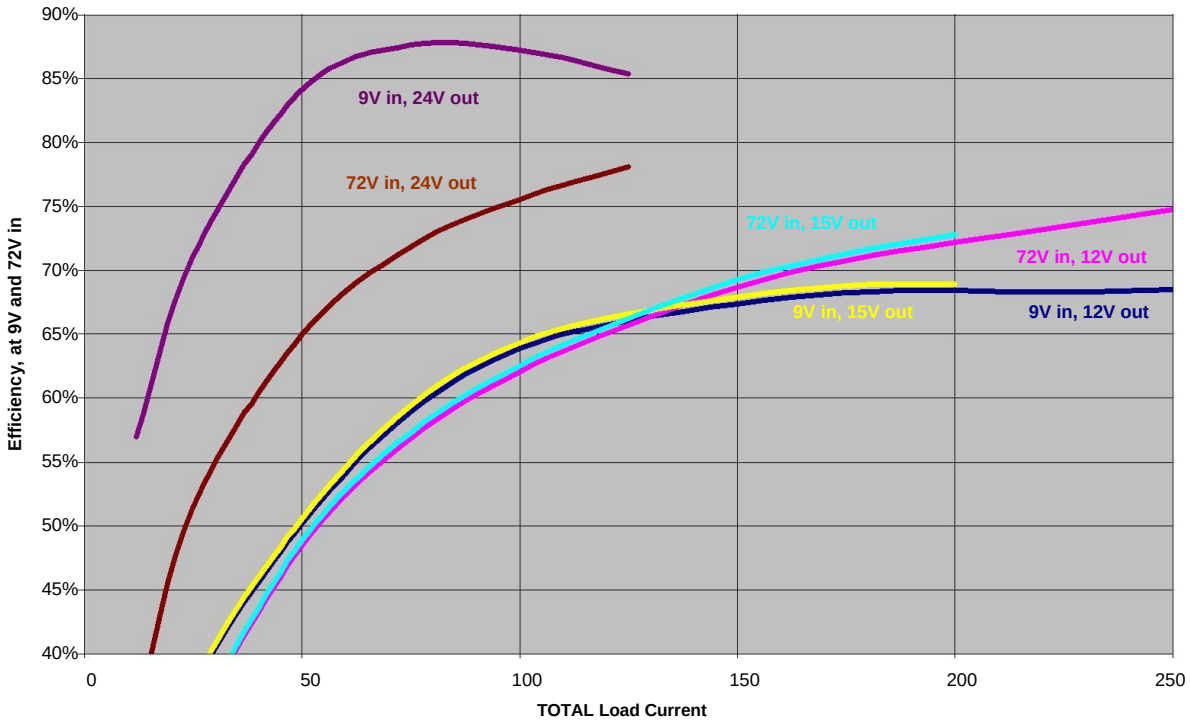
1. + V in
2. – V in
3. + V out
4. No Pin
5. – V out

DUAL OUTPUT

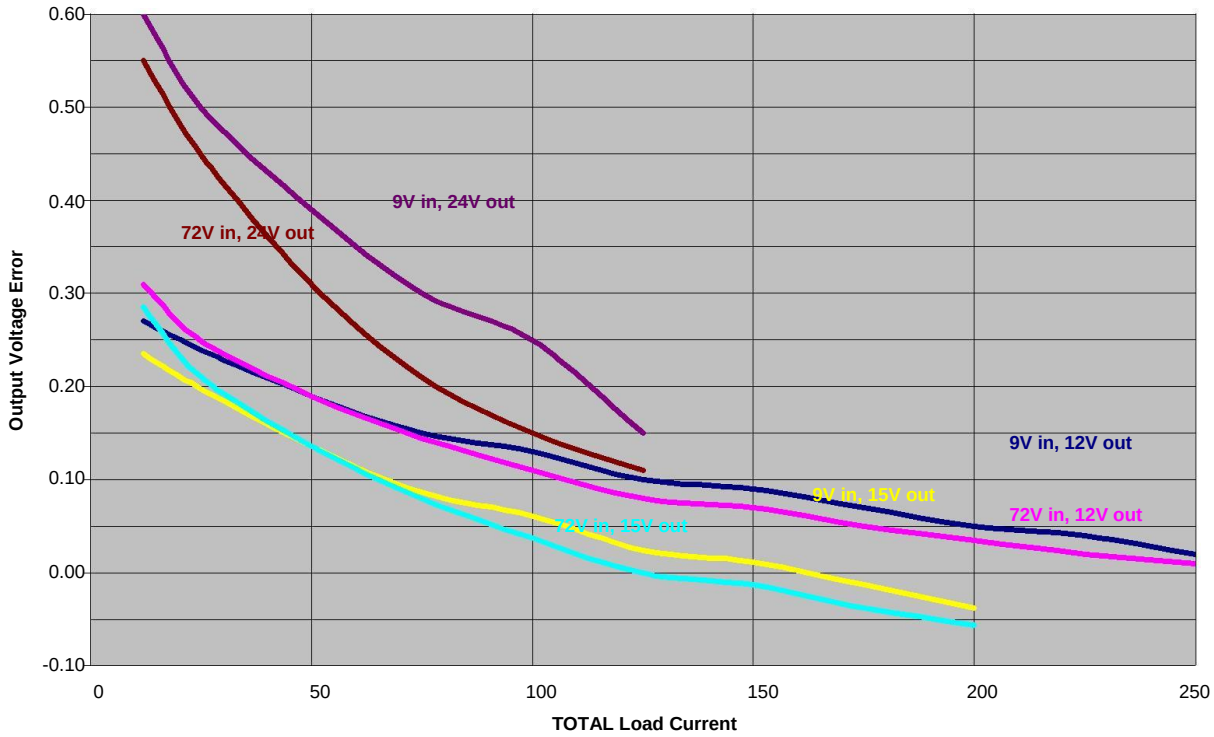
1. + V in
2. – V in
3. + V out
4. out COM
5. – V out

Suggested holes size: .05 (1.27mm)

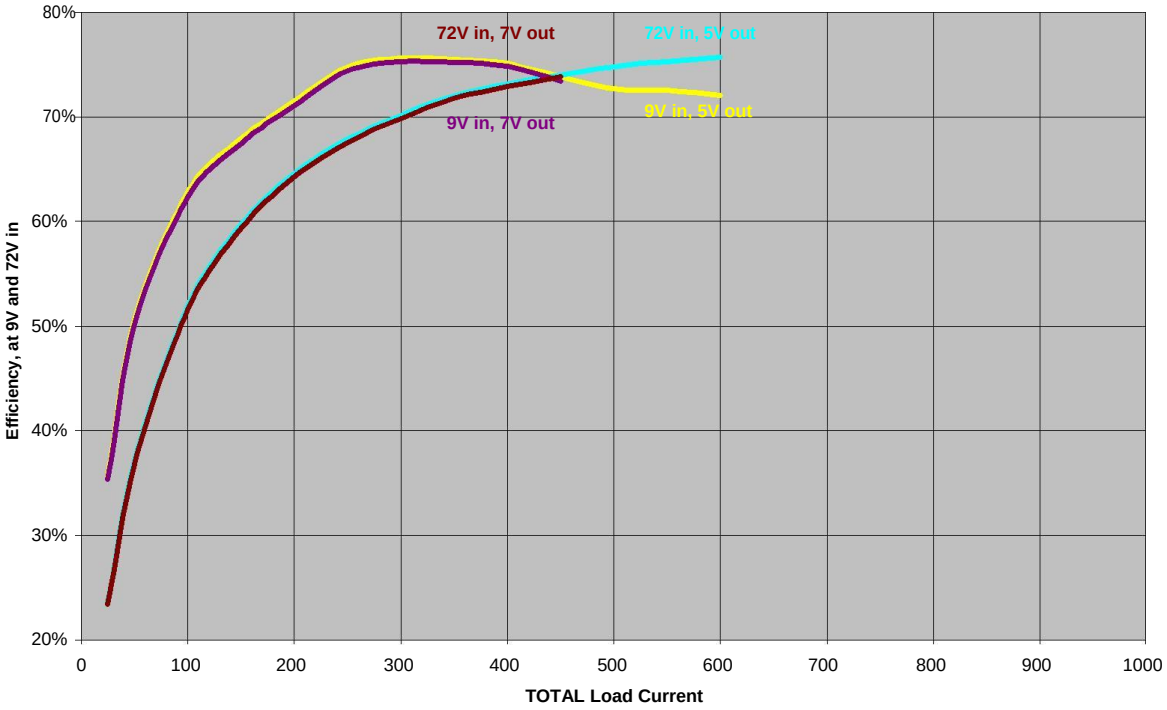
Typical Efficiency, 12, 15 and 24V Models



Typical Load & Line Regulation, 12, 15 and 24V Models



Typical Efficiency, 5 and 7V Models



Typical Load & Line Regulation, 3, 5 & 7V Models