

1.5 Watt

IN Series



- Regulated Dual Output
- DIP-24 Package
- 1000 VDC Isolation
- Optional Isolation Up To 6000 VDC
- Continuous Short Circuit Protection
- MTBF >3 Mhrs
- 3 Year Warranty

Specification

Input

Input Voltage Range	• Nominal $\pm 10\%$
Input Filter	• Pi network
Input Reflected Ripple Current	• 35 mA pk-pk through 12 μ H inductor 5 Hz to 20 MHz
Input Reverse Voltage Protection	• None

Output

Output Voltage	• See table
Minimum Load	• None ⁽²⁾
Voltage Balance	• $\pm 1\%$
Line Regulation	• $\pm 0.5\%$ max
Load Regulation	• $\pm 0.5\%$ max
Setpoint Accuracy	• $\pm 2\%$ max
Ripple & Noise	• 75 mV pk-pk max, 20 MHz bandwidth
Temperature Coefficient	• $0.02\%/^{\circ}\text{C}$
Short Circuit Protection	• Continuous with auto recovery (foldback)
Maximum Capacitive Load	• $\pm 1000 \mu\text{F}$ for $\pm 5\text{ V}$ output $\pm 470 \mu\text{F}$ for $\pm 9\text{ V}$ to $\pm 15\text{ V}$ output $\pm 220 \mu\text{F}$ for $\pm 24\text{ V}$ output

General

Efficiency	• See table
Isolation Voltage	• 1000 VDC (6000 VDC max, see note 1)
Isolation Resistance	• $10^9 \Omega$
Isolation Capacitance	• 60 pF typical
Switching Frequency	• 350 kHz typical
MTBF	• >3 Mhrs to MIL-HDBK-217F at 25 $^{\circ}\text{C}$, GB

Environmental

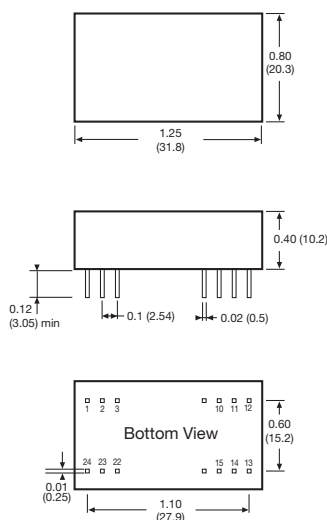
Operating Temperature	• -40°C to $+85^{\circ}\text{C}$
Storage Temperature	• -40°C to $+125^{\circ}\text{C}$
Case Temperature	• $+100^{\circ}\text{C}$ max
Cooling	• Convection-cooled

Safety

Safety Approvals	• CE & UKCA meets all applicable directives & legislation.
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Input Voltage	Output Voltage	Output Current	Efficiency	Model Number ⁽¹⁾
5 VDC	$\pm 5.0\text{ V}$	$\pm 150\text{ mA}$	65%	IN0505D
	$\pm 9.0\text{ V}$	$\pm 84\text{ mA}$	67%	IN0509D
	$\pm 12.0\text{ V}$	$\pm 63\text{ mA}$	70%	IN0512D
	$\pm 15.0\text{ V}$	$\pm 50\text{ mA}$	67%	IN0515D
	$\pm 24.0\text{ V}$	$\pm 32\text{ mA}$	66%	IN0524D
12 VDC	$\pm 5.0\text{ V}$	$\pm 150\text{ mA}$	68%	IN1205D
	$\pm 9.0\text{ V}$	$\pm 84\text{ mA}$	70%	IN1209D
	$\pm 12.0\text{ V}$	$\pm 63\text{ mA}$	75%	IN1212D
	$\pm 15.0\text{ V}$	$\pm 50\text{ mA}$	72%	IN1215D
	$\pm 24.0\text{ V}$	$\pm 32\text{ mA}$	71%	IN1224D
24 VDC	$\pm 5.0\text{ V}$	$\pm 150\text{ mA}$	70%	IN2405D
	$\pm 9.0\text{ V}$	$\pm 84\text{ mA}$	73%	IN2409D
	$\pm 12.0\text{ V}$	$\pm 63\text{ mA}$	78%	IN2412D
	$\pm 15.0\text{ V}$	$\pm 50\text{ mA}$	75%	IN2415D
	$\pm 24.0\text{ V}$	$\pm 32\text{ mA}$	74%	IN2424D

Mechanical Details



Pin Connections		
Pin	Standard	'-H' Versions
1	+Vin	+Vin
2	-Vout	+Vin
3	Common	No Pin
10	Common	Common
11	+Vout	Common
12	-Vin	No Pin
13	-Vin	-Vout
14	+Vout	No Pin
15	Common	+Vout
22	Common	No Pin
23	-Vout	-Vin
24	+Vin	-Vin

Notes

1. Add suffix '-H' to model number for 3 kVDC isolation, '-H4' for 4 kVDC isolation, '-H5' for 5.2 kVDC isolation and '-H6' for 6 kVDC isolation.
2. Operation at no load will not damage unit but it may not meet all specifications.
3. All dimensions in inches (mm).
4. Pin pitch tolerance: ± 0.014 (± 0.35)
5. Case tolerance: ± 0.02 (± 0.5)
6. Weight: 0.02 lbs (12.2 g)