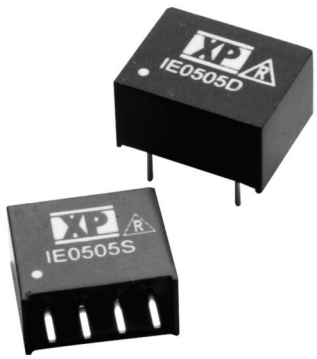
1 Watt
IE Series



- Single Output
- SIP or DIP Package
- 1000 VDC Isolation
- Optional 3000 VDC Isolation
- Small Package Sizes
- –40 °C to +85 °C Operation
- 3 Year Warranty

Specification

Input

Input Voltage Range	• Nominal ±10%
Input Reflected Ripple Current	• 20 mA pk-pk through 12 µH inductor 5Hz to 20 MHz
Input Reverse Voltage Protection	• None

Output

Output Voltage	• See table
Minimum Load	• None[5]
Line Regulation	• 1.2%/1% Δ Vin
Load Regulation	• 10% for a 20-100% load change[5] (3.3 V models ±20%)
Setpoint Accuracy	• ±3%
Ripple & Noise	• 100 mV pk-pk max, 20 MHz bandwidth
Temperature Coefficient	• 0.02%/°C
Maximum Capacitive Load	• 220 µF

General

Efficiency	• See table
Isolation Voltage	• 1000 VDC minimum (3000 VDC -H option)
Isolation Resistance	• 10^9 Ω
Isolation Capacitance	• 60 pF typical
Switching Frequency	• 40-150 KHz variable
MTBF	• >1.1 MHrs to MIL-HDBK-217F at 25 °C, GB

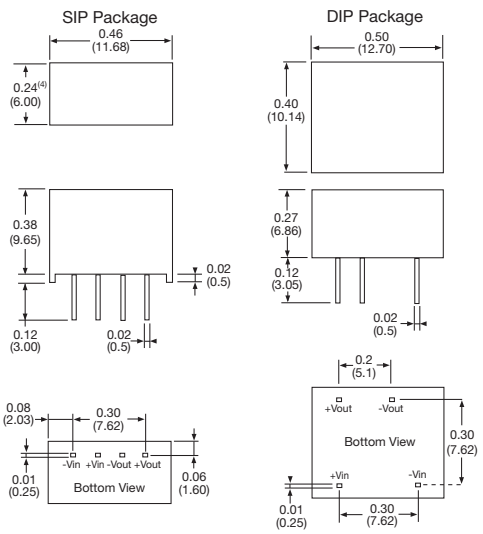
Environmental

Operating Temperature	• -40 °C to +85 °C
Storage Temperature	• -40 °C to +125 °C
Case Temperature	• 100 °C max
Cooling	• Convection-cooled

Notes

1. For DIP package, replace 'S' in model number with 'D'.
2. Add suffix '-H' to model number for 3000 VDC isolation.
3. For 48 VDC in, specify model number as IE48XXS (not available in DIP package).
4. 48 VDC input models dimension is 0.29 (7.5).
5. Operation at no load will not damage unit but it may not meet all specifications.
6. All dimensions in inches (mm).
7. Pin pitch tolerance: ±0.014 (±0.35)
8. Case tolerance: ±0.02 (±0.5)
9. Weight: SIP 0.003 lbs (1.4 g), DIP 0.004 lbs (1.8 g)

Input Voltage[3]	No Load Input Current	Output Voltage	Output Current	Efficiency	Model Number[1,2]
3.3 VDC	25 mA	3.3 V	300 mA	71%	IE0303S†
	25 mA	5.0 V	200 mA	75%	IE0305S†
	30 mA	9.0 V	111 mA	74%	IE0309S†
	45 mA	12.0 V	84 mA	74%	IE0312S†
	40 mA	15.0 V	66 mA	77%	IE0315S†
	40 mA	24.0 V	42 mA	77%	IE0324S†
5 VDC	25 mA	3.3 V	300 mA	72%	IE0503S†^
	25 mA	5.0 V	200 mA	75%	IE0505S†^
	25 mA	9.0 V	111 mA	77%	IE0509S†^
	25 mA	12.0 V	84 mA	78%	IE0512S†^
	25 mA	15.0 V	66 mA	78%	IE0515S†^
	25 mA	24.0 V	42 mA	80%	IE0524S†^
12 VDC	16 mA	3.3 V	300 mA	72%	IE1203S†^
	16 mA	5.0 V	200 mA	75%	IE1205S†^
	16 mA	9.0 V	111 mA	77%	IE1209S†^
	16 mA	12.0 V	84 mA	80%	IE1212S†^
	16 mA	15.0 V	66 mA	78%	IE1215S†^
	16 mA	24.0 V	42 mA	78%	IE1224S†^
24 VDC	10 mA	3.3 V	300 mA	72%	IE2403S†^
	10 mA	5.0 V	200 mA	75%	IE2405S†^
	10 mA	9.0 V	111 mA	77%	IE2409S†^
	10 mA	12.0 V	84 mA	80%	IE2412S†^
	10 mA	15.0 V	66 mA	78%	IE2415S†^
	10 mA	24.0 V	42 mA	80%	IE2424S†^

† Available from Farnell & element14. See pages 284-290.
^ Available from Newark. See pages 291-296.

Mechanical Details