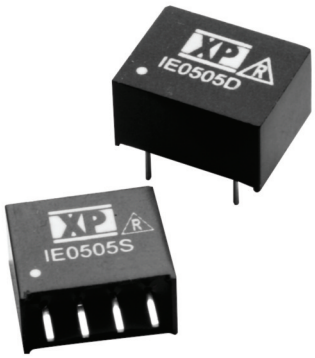
# 1 Watt
# IE Series






- 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%, 15 V model ±8%) |
| 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 |
| 15 VDC | 9 mA | 5.0 V | 200 mA | 78% | IE1505S |
| 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 |

## Mechanical Details