

P6LG-xxxxELF



PM4-SERIES

Rev.06-2010

- ✓ 1 Watt
- ✓ Regulated
- ✓ **Single** Output
- ✓ **SIP7** Case
- ✓ **3 kV** DC I/O Isolation
- ✓ Low Ripple and Noise

The PM4 series P6LG-xxxxELF is a family of cost effective 1 W regulated single output DC/DC converters. These converters are in an ultra miniature SIP7 case. Devices are encapsulated. High performance features: Regulated Output, 3000VDC input/output isolation, high efficiency operation, output voltage accuracy of $\pm 2\%$ maximum, input range of $\pm 10\%$ tolerance and low output ripple and noise.

All specifications typical at $T_a=25^\circ\text{C}$, nominal input voltage and full load unless otherwise specified

Input Specifications

| | |
|---|-------------|
| Voltage Range | $\pm 10\%$ |
| Input Filter | Capacitors |
| Input Reflected Ripple Current ¹ | 20 mA pk-pk |

Output Specifications

| | |
|------------------------------------|--|
| Voltage Accuracy | $\pm 2\%$ |
| Short Circuit Protection | Short Term |
| Line Regulation | $\pm 0.5\%$ |
| Load Regulation (0% - 100%) | $\pm 0.5\%$ (3.3Vout Models: $\pm 1.0\%$) |
| Ripple and Noise (20Mhz bandwidth) | 50 mV pk-pk |
| Temperature Coefficient | $\pm 0.02\% / ^\circ\text{C}$ |

General Specifications

| | |
|---|-------------------|
| Efficiency | See Table |
| I/O Isolation Voltage (3 sec.) | 3000 VDC |
| I/O Isolation Capacity | 60 pF, typ. |
| I/O Isolation Resistance | 1000 M Ohm |
| Switching Frequency | 50 kHz (Variable) |
| Humidity | 95% rel H |
| Reliability Calculated MTBF (MIL-HDBK-217F) | > 4.261 Mhrs |

Physical Specifications

| | |
|------------------|--|
| Case Material | Non Conductive Black Plastic (UL94V-0 rated) |
| Potting Material | Epoxy (UL94V-0 rated) |
| Weight | ~ 2.7g, typ. |

Environment Specifications

| | |
|--------------------------|--|
| Operating Temperature | -40 to +85 °C (ambient) |
| Maximum Case Temperature | 100 °C |
| Storage Temperature | -40 to +125 °C |
| Cooling | Free Air Convection (10 mm distance required) |
| RoHS Conform | Soldering 260 °C, max. (1.5 mm from case 10s.) |

Selection Guide

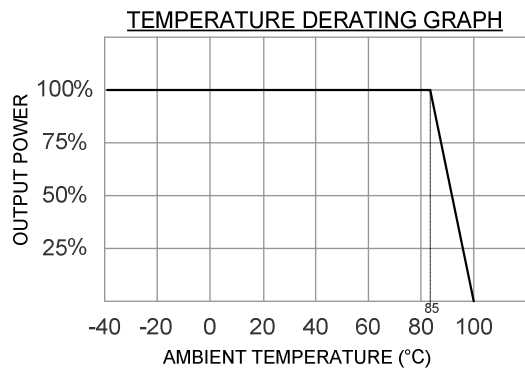
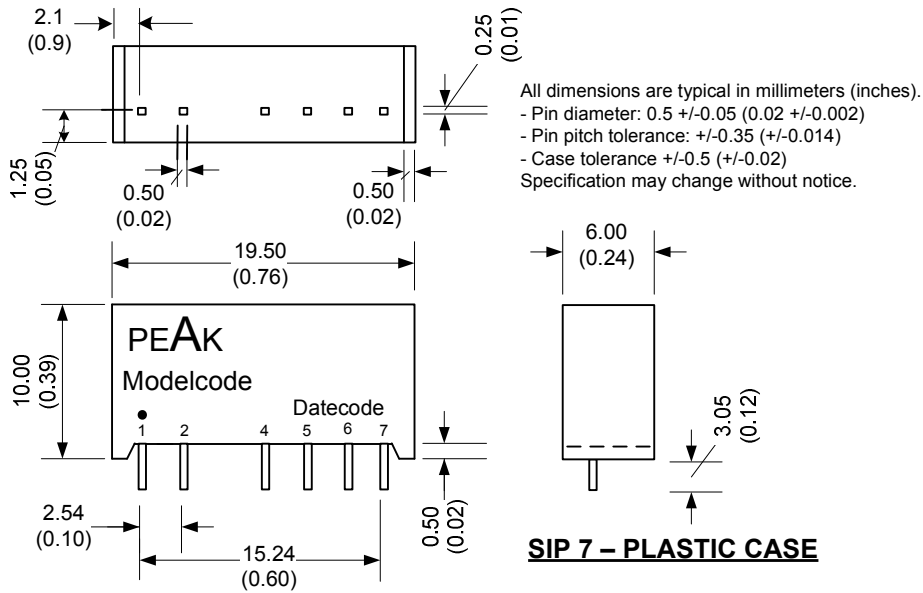
Single Output

| Order # | Input Voltage (VDC) | Input Current No Load (mA) | Input Current Full Load (mA) | Output Voltage (VDC) | Output Current Full Load (mA) | Efficiency (%) | Capacitor Load (uF) ² |
|-----------------------------|---------------------|----------------------------|------------------------------|----------------------|-------------------------------|----------------|----------------------------------|
| <u>SINGLE OUTPUT</u> | | | | | | | |
| P6LG-053R3ELF | 5 | 30 | 385 | 3.3 | 333 | 57 | 220 |
| P6LG-0505ELF | 5 | 30 | 307 | 5 | 200 | 65 | 220 |
| P6LG-057R2ELF | 5 | 30 | 307 | 7.2 | 138.9 | 65 | 220 |
| P6LG-0509ELF | 5 | 35 | 307 | 9 | 111.1 | 65 | 220 |
| P6LG-0512ELF | 5 | 35 | 294 | 12 | 83.3 | 68 | 220 |
| P6LG-0515ELF | 5 | 35 | 294 | 15 | 66.7 | 68 | 220 |
| P6LG-123R3ELF | 12 | 20 | 160 | 3.3 | 333 | 57 | 220 |
| P6LG-1205ELF | 12 | 20 | 132 | 5 | 200 | 63 | 220 |
| P6LG-127R2ELF | 12 | 20 | 128 | 7.2 | 138.9 | 65 | 220 |
| P6LG-1209ELF | 12 | 20 | 126 | 9 | 111.1 | 66 | 220 |
| P6LG-1212ELF | 12 | 20 | 122 | 12 | 83.3 | 68 | 220 |
| P6LG-1215ELF | 12 | 20 | 126 | 15 | 66.7 | 66 | 220 |
| P6LG-243R3ELF | 24 | 10 | 76 | 3.3 | 333 | 60 | 220 |
| P6LG-2405ELF | 24 | 10 | 64 | 5 | 200 | 65 | 220 |
| P6LG-247R2ELF | 24 | 10 | 64 | 7.2 | 138.9 | 65 | 220 |
| P6LG-2409ELF | 24 | 10 | 61 | 9 | 111.1 | 68 | 220 |
| P6LG-2412ELF | 24 | 10 | 61 | 12 | 83.3 | 68 | 220 |
| P6LG-2415ELF | 24 | 10 | 61 | 15 | 66.7 | 68 | 220 |

If you need other specifications, please enquire.

Notes:

Package / Pinning / Derating



| PIN CONNECTIONS | |
|-----------------|--------------|
| # | SINGLE (3KV) |
| 1 | +Vin |
| 2 | - Vin |
| 4 | Omitted |
| 5 | - Vout |
| 6 | Omitted |
| 7 | +Vout |

App Notes:

- ¹ = Measured Input reflected ripple current with a simulated source inductance of 12uH.
- ² = Tested by minimal Vin and constant resistive load.