Murata Power Solutions

# PWR5105C

## 9 Watts Regulated DC/DC Converters

**OBSOLETE PRODUCT**

Contact factory for replacement model

ISO9001 CERTIFIED

RoHS COMPLIANT 2002/95/EC

For full details go to **www.murata-ps.com/rohs**

### FEATURES

- RoHS compliant
- Low cost
- Low noise
- Linear output regulation
- Wide operating temperature range: –40°C to +100°C
- ±15Vdc outputs
- Input and output filtering
- Six-sided shielding
- Barrier leakage current 100% tested at 240Vac

### APPLICATIONS

- Process control
- Telecommunications
- Portable equipment
- Medical systems
- Airborne and shipboard electronic circuits
- Automatic test equipment

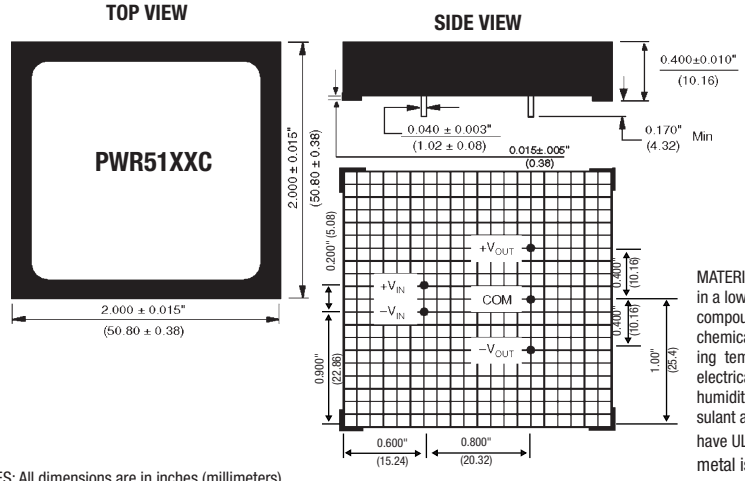
### DESCRIPTION

The PWR5105C provides 9W of regulated output power through dual, bipolar ±15Vdc outputs from a quasi-regulated +5V input. This unit is designed for use in such diverse applications as process control, telecommunications, portable equipment, medical systems, airborne and shipboard electronic circuits, and automatic test equipment.

The PWR5105C offers a low-cost alternative to other models currently on the market. This unit incorporates high frequency switching in order to maintain a low EMI and RFI environment. This model incorporates input and output filtering along with six-sided shielding to keep unwanted noise from your circuit.

Surface-mounted devices and manufacturing processes are used in the PWR5105C to give you a device that is environmentally rugged. These manufacturing and design technologies also give superior isolation voltage.

### MECHANICAL




NOTES: All dimensions are in inches (millimeters).
Product is marked with model, date code and job code.
GRID: 0.100 inches (2.54 millimeters)
PIN PLACEMENT TOLERANCE: ±0.015

MATERIAL: Units are encapsulated in a low thermal resistance molding compound that has excellent chemical resistance, wide operating temperature range, and good electrical properties under high humidity environments. The encapsulant and outer shell of the unit have UL94V-0 ratings. Lead base metal is phosphor bronze; lead finish is 100-300 micro-inches matte tin over a barrier layer of 5-40 micro-inches of nickel.

# ELECTRICAL SPECIFICATIONS

Specifications typical at $T_A$ = +25°C, nominal input voltage, rated output current unless otherwise noted.

| PARAMETER | CONDITIONS | MIN | TYP | MAX | UNITS |
|---|---|---|---|---|---|
| **INPUT** | | | | | |
| Nominal Voltage | | | 5 | | $V_{DC}$ |
| Voltage Range | | 4.75 | | 5.25 | $V_{DC}$ |
| Input Current | No Load | | 60 | | mA |
| | Rated Load | | 2400 | 2570 | mA |
| Ripple Current | Rated Load | | 5 | | $mA_{p-p}$ |
| **OUTPUT** | | | | | |
| Rated Voltage | | | ±15 | | $V_{DC}$ |
| Rated Current | | | | ±300 | mA |
| Setpoint Accuracy | Rated Load, Nominal $V_{IN}$ | | ±0.5 | ±1.0% | % |
| Voltage Balance | | | ±0.3 | | % |
| Temperature Coefficient | –25°C to +85°C | | ±0.01 | | %/°C |
| Ripple and Noise | BW = DC to 10MHz | | 6 | 35 | $mV_{p-p}$ |
| Line Regulation | | | 0.02 | | % |
| Load Regulation | | | 0.04 | | % |
| Efficiency | | | 75 | | % |
| **ISOLATION** | | | | | |
| Rated Voltage | | 750 | | | $V_{DC}$ |
| Test Voltage | 60 Hz, 10 Seconds | 750 | | | $mV_{p-p}$ |
| Resistance | | | 10 | | GΩ |
| Capacitance | | | 50 | | pF |
| Leakage Current | 240Vrms, 60Hz | | | 15 | µArms |
| **GENERAL** | | | | | |
| Switching Frequency | | | 50 | | kHz |
| Package Weight | | | 50 | | g |
| **TEMPERATURE** | | | | | |
| Specification | | -25 | +25 | +85 | °C |
| Operation | | -40 | | +100 | °C |
| Storage | | -55 | | +125 | °C |

Note: Other input to output voltages may be available. Please consult factory.

## ABSOLUTE MAXIMUM RATINGS

Input Voltage..... 5.5$V_{DC}$
Output Short Circuit Duration ..... 15 seconds
Internal Power Dissipation ..... 4W

## ORDERING INFORMATION

Device Family — **PWR**
PWR indicates DC/DC converter
Model Number — **5105**
RoHS Compliant — **C**

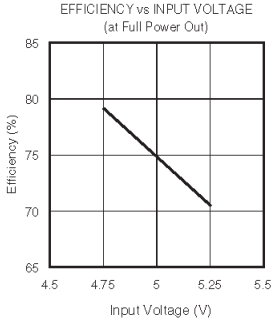
## THROUGH-HOLE SOLDERING INFORMATION

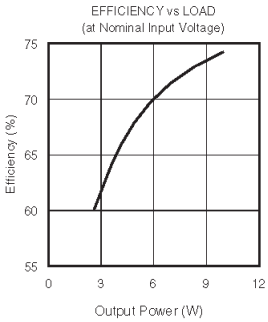
These devices are intended for wave soldering or manual soldering.
**They are not intended to be subject to surface mount processes under any circumstances.**

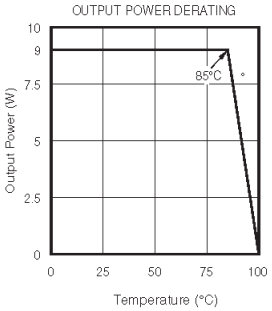
The normal wave soldering process can be used with these devices where the device is subjected to a maximum wave temperature of 260°C for a period of no more than 10 seconds. Within this time and temperature range, the integrity of the device's plastic body will not be compromised and internal temperatures within the converter will not exceed 175°C. Care should be taken to control manual soldering limits identical to that of wave soldering.

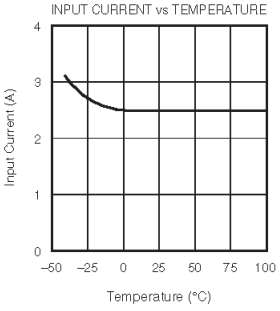
# TYPICAL PERFORMANCE CURVES

Typical at $T_A$ = +25°C, nominal input voltage and rated output current unless otherwise noted.





Murata Power Solutions

Murata Power Solutions, Inc.
11 Cabot Boulevard, Mansfield, MA 02048-1151 U.S.A.
Tel: (508) 339-3000 (800) 233-2765 Fax: (508) 339-6356
**www.murata-ps.com email: sales@murata-ps.com ISO 9001 & ISO 14001 REGISTERED**





| | |
|---|---|
| **USA:** | Mansfield (MA), Tel: (508) 339 3000, email: sales@murata-ps.com |
| **Canada:** | Toronto, Tel: (866) 740 1232, email: toronto@murata-ps.com |
| **UK:** | Milton Keynes, Tel: +44 (0)1908 615232, email: mk@murata-ps.com |
| **France:** | Montigny Le Bretonneux, Tel: +33 (0)1 34 60 01 01, email: france@murata-ps.com |
| **Germany:** | München, Tel: +49 (0)89-544334-0, email: ped.munich@murata-ps.com |
| **Japan:** | Tokyo, Tel: 3-3779-1031, email: sales_tokyo@murata-ps.com<br>Osaka, Tel: 6-6354-2025, email: sales_osaka@murata-ps.com |
| **China:** | Shanghai, Tel: +86 215 027 3678, email: shanghai@murata-ps.com<br>Guangzhou, Tel: +86 208 221 8066, email: guangzhou@murata-ps.com |
| **Singapore:** | Parkway Centre, Tel: +65 6348 9096, email: singapore@murata-ps.com |