

### GLOBAL PERFORMANCE SWITCHERS

#### FEATURES:

- Industry's smallest 15 W medically approved switcher
- Compact size (3.00" x 2.10" x 0.92")
- Wide-range ac input: 90-264 Vac
- Less than 75  $\mu$ A leakage current @ 120 Vac
- Approved to UL2601-1, EN60601-1
- EMI to FCC, CISPR 11 Class B
- Overvoltage protection standard
- RoHS compliant models available (G suffix)
- $\text{C}\text{E}$  marked to LVD



#### SPECIFICATIONS

Ac Input 90-264 Vac, 47-63 Hz single phase. Class I or class II grounding.	Temperature Coefficient 0.03% / °C typical.																								
Input Current Maximum input current at 90 Vac, 60 Hz with full rated output load not to exceed 0.6 A.	EMI/EM Compliance All models include built-in EMI filtering to meet the following EMC requirements of IEC601-1-2.																								
Input Protection Internal ac fuse provided on all units. Designed to blow only if a catastrophic failure occurs in the unit -- Fuse does not blow on unsustained overload or short circuit.	<table border="1"> <thead> <tr> <th>Performance Requirement</th> <th>EMC Standard</th> <th>Typical Margin</th> </tr> </thead> <tbody> <tr> <td>Conducted Emissions</td> <td>EN55011, Class B; FCC Class B</td> <td>2 dB Class II Gnd 6 dB Class I Gnd</td> </tr> <tr> <td>Surge Discharge</td> <td>EN61000-4-2, Level 3</td> <td>2 kV</td> </tr> <tr> <td>RF Field Susceptibility</td> <td>EN61000-4-3, Level 3</td> <td>2 V</td> </tr> <tr> <td>Fast Transients/Bursts</td> <td>EN61000-4-4, Level 3</td> <td>500 V</td> </tr> <tr> <td>Surge Susceptibility</td> <td>EN61000-4-5, Level 3</td> <td>500 V</td> </tr> <tr> <td>Conducted RF Susceptibility</td> <td>EN61000-4-6</td> <td>25%</td> </tr> <tr> <td>Voltage Sags &amp; Surges</td> <td>EN61000-4-11</td> <td>5%</td> </tr> </tbody> </table>	Performance Requirement	EMC Standard	Typical Margin	Conducted Emissions	EN55011, Class B; FCC Class B	2 dB Class II Gnd 6 dB Class I Gnd	Surge Discharge	EN61000-4-2, Level 3	2 kV	RF Field Susceptibility	EN61000-4-3, Level 3	2 V	Fast Transients/Bursts	EN61000-4-4, Level 3	500 V	Surge Susceptibility	EN61000-4-5, Level 3	500 V	Conducted RF Susceptibility	EN61000-4-6	25%	Voltage Sags & Surges	EN61000-4-11	5%
Performance Requirement	EMC Standard	Typical Margin																							
Conducted Emissions	EN55011, Class B; FCC Class B	2 dB Class II Gnd 6 dB Class I Gnd																							
Surge Discharge	EN61000-4-2, Level 3	2 kV																							
RF Field Susceptibility	EN61000-4-3, Level 3	2 V																							
Fast Transients/Bursts	EN61000-4-4, Level 3	500 V																							
Surge Susceptibility	EN61000-4-5, Level 3	500 V																							
Conducted RF Susceptibility	EN61000-4-6	25%																							
Voltage Sags & Surges	EN61000-4-11	5%																							
Inrush Current Inrush is limited by internal thermistors. The inrush at 240 Vac, averaged over the first ac half-cycle under cold start conditions will not exceed 37 A.	Medical Safety Approvals All models are Certified to be in compliance with the applicable requirements of UL2601-1, IEC60601-1, CSA-C22.2 No. 601-1, EN60601-1.																								
Efficiency 69-85% depending on model.	Leakage Current The maximum leakage current for GSM15 series will be as follows;																								
Overload Protection Fully protected against short circuit and output overload. Short circuit protection is cycling type power limit. Factory set to begin power limiting at 23 W.	132Vac/60Hz UL2601-1 test method																								
Overvoltage Protection Built in OVP on all models. Approximately 120-140% of output voltage.	<table border="1"> <thead> <tr> <th></th> <th>GND</th> <th>Connection Normal</th> <th>Single Fault</th> </tr> </thead> <tbody> <tr> <td></td> <td>Class I</td> <td>75 <math>\mu</math>A</td> <td>105 <math>\mu</math>A</td> </tr> <tr> <td></td> <td>Class II</td> <td>39 <math>\mu</math>A</td> <td>54 <math>\mu</math>A</td> </tr> </tbody> </table>		GND	Connection Normal	Single Fault		Class I	75 $\mu$ A	105 $\mu$ A		Class II	39 $\mu$ A	54 $\mu$ A												
	GND	Connection Normal	Single Fault																						
	Class I	75 $\mu$ A	105 $\mu$ A																						
	Class II	39 $\mu$ A	54 $\mu$ A																						
Output Noise 0.5% rms, 1% Pk-Pk, 20 MHz Bandwidth, differential mode. Measured with noise probe directly across output terminals of the power supply.	264Vac/50Hz IEC60601-1 test method																								
Transient Response Main Output - 500 $\mu$ s max. response time for return to within 0.5% of final value for a 50% load step change, $\Delta i / \Delta t < 0.2$ A/ $\mu$ s. Maximum voltage deviation is 3.5%.	<table border="1"> <thead> <tr> <th></th> <th>GND</th> <th>Connection Normal</th> <th>Single Fault</th> </tr> </thead> <tbody> <tr> <td></td> <td>Class I</td> <td>128 <math>\mu</math>A</td> <td>180 <math>\mu</math>A</td> </tr> <tr> <td></td> <td>Class II</td> <td>66 <math>\mu</math>A</td> <td>94 <math>\mu</math>A</td> </tr> </tbody> </table>		GND	Connection Normal	Single Fault		Class I	128 $\mu$ A	180 $\mu$ A		Class II	66 $\mu$ A	94 $\mu$ A												
	GND	Connection Normal	Single Fault																						
	Class I	128 $\mu$ A	180 $\mu$ A																						
	Class II	66 $\mu$ A	94 $\mu$ A																						
Hold-up Time 10 ms minimum from loss of ac input voltage at full load, nominal line (120 Vac).																									

All specifications are typical at nominal input, full load at 25°C unless otherwise stated

Medical Model	Voltage Output	Min.	Normal (A)	Peak (B)	Initial Set Point	OVP Setpoint	Total Regulation	Ripple and Noise
GSM15-5	5.1 V	0 A	2.35 A	3 A	2.5%	7.2 V	2%	1%
GSM15-12	12 V	0 A	1.25 A	1.5 A	2.5%	16 V	2%	1%
GSM15-15	15 V	0 A	1.0 A	1.2 A	2.5%	21 V	2%	1%
GSM15-24	24 V	0 A	0.625 A	0.75 A	2.5%	32 V	2%	1%
GSM15-28	28 V	0 A	0.54 A	0.64 A	2.5%	280 V	2%	1%

Notes:

- A. Rating with unrestricted convection cooling.
- B. Peak Power for 60 sec. 10% duty cycle or continuous rating with 150 LFM of airflow.
- C. Output voltages preset at factory, not user adjustable.
- D. Add "G" suffix to model number for RoHS compliant model.

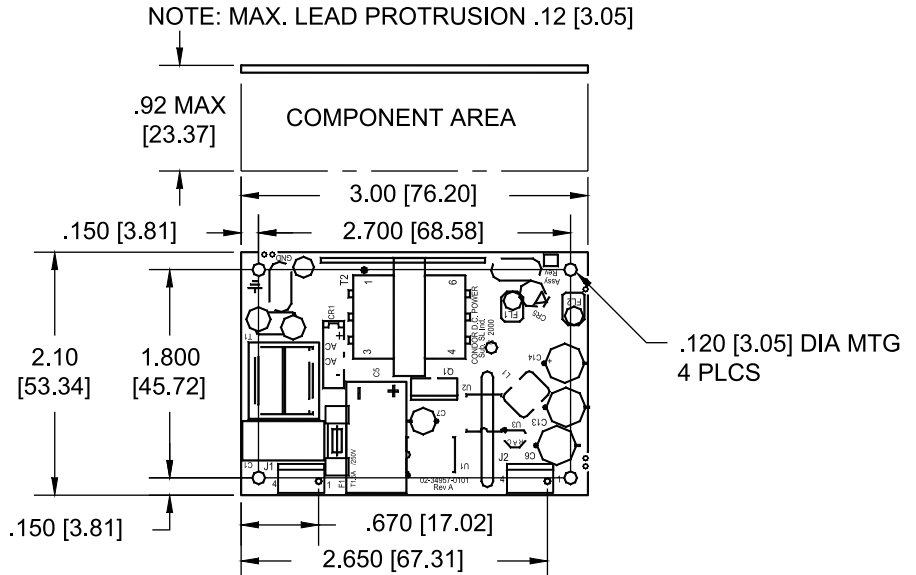
## GSM15 MECHANICAL SPECIFICATIONS

INPUT: J1 AMP P/N 640456-4  
 PIN 1) AC LINE  
 PIN 2) N/C  
 PIN 3) N/C  
 PIN 4) AC NEUTRAL  
 GND: 0.098 DIA. THRU HOLE

OUTPUT: J2 AMP P/N 640456-4  
 PIN 1) COMMON Return  
 PIN 2) COMMON Return  
 PIN 3) OUTPUT #1 + Vout  
 PIN 4) OUTPUT#1 +Vout

MATING CONNECTOR AMP P/N  
 MTA – 100 Receptacle

NOTE: 3A MAXIMUM RECOMMENDED  
 CURRENT PER CONNECTOR PIN



Overall Dimensions:  
 3.00 x 2.10 x .92 inches  
 76.20mm x 53.34mm x 23.37mm  
 Weight: 0.25 LBS. [113 kg]  
 MAX.

ENVIRONMENTAL SPECIFICATIONS	OPERATING	NON-OPERATING
Temperature (A)	0 to 50° C	-40 to +85°C
Humidity (A)	0 to 95% RH	0 to 95% RH
Shock (B)	20 g <sub>pk</sub>	40 g <sub>pk</sub>
Altitude	-500 to 10,000 ft	-500 to 40,000 ft
Vibration (C)	1.5 g <sub>rms</sub> 0.003 g <sup>2</sup> /Hz	5 g <sub>rms</sub> 0.026 g <sup>2</sup> /Hz

- A. Units should be allowed to warm up/operate under non-condensing conditions before application of power.
- B. Shock testing—half-sinusoidal, 10 ± 3 ms duration, ± direction, 3 orthogonal axes, total 6 shocks.
- C. Random vibration—10 to 2000Hz, 6dB/octave roll-off from 350 to 2000Hz, 3 orthogonal axes. Tested for 10 min./axis operating and 1 hr./axis non-operating.