

# Miniature DC to HV DC Converters

0 to + or -100 through 0 to + or -6,000 VDC @ 1.5 Watts  
G Series

www.emcohighvoltage.com  
**EMCO**  
High Voltage Corporation

1.5 in<sup>3</sup>



The G Series is a line of miniature, versatile component level building blocks that provide up to 6,000 VDC, positive or negative, in a compact PC mount package. The isolated output is directly proportional to the input, and is linear from approximately 0.7 volts in. Excellent filtering techniques and a low noise quasi-sine-wave oscillator provide clean, reliable DC to HV DC conversion with low ripple, and low EMI/RFI. The isolated output allows for user selectable output polarity. An output center-tap

option which, when grounded, provides both positive and negative outputs from one compact, low cost module. The pin pattern on the G Series allows for a direct drop-in replacement for many larger high voltage modules. Positive and negative outputs are typically balanced within 20%. The GPMT model has been specifically designed for biasing PMT's. Contact our Applications Department for immediate technical assistance.

## FEATURES

- Low Ripple
- Miniature Case Size
- Low EMI/RFI Sinewave Oscillator
- Proportional Input/Output
- User-Selectable Output Polarity
- Low Cost/High Performance
- MTBF: >2.29 million hrs per Bellcore TR-332

## OPTIONS

- Output Center Tap, See CT Series
- External Mounting Box, See AB Series
- Low Power Consumption, See GP Series
- Low Outgassing Epoxy

## APPLICATIONS

- Non-impact Printers
- Sustaining Ion Pumps
- Piezo Devices
- Vacuum Gauges
- Photomultiplier Tubes
- Spectrometry
- Electrostatic Chucks
- Lamp Ignition and Drive
- Displays (see AC output option)

## PHYSICAL CHARACTERISTICS

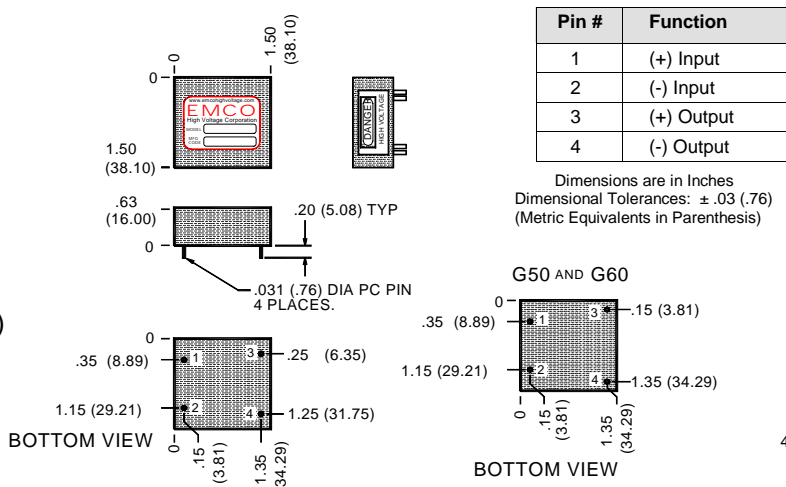
SIZE: 1.5 x 1.5 x 0.63 (38.1 x 38.1 x 16.0)  
WEIGHT: 1.5 Ounces (43 Grams) Approx.  
PACKAGING: Fully Encapsulated  
CASE MATERIAL: Glass-filled Epoxy  
PINS: .031 (.79) Diameter, 0.2 (5.1) Long

## ELECTRICAL SPECIFICATIONS

INPUT VOLTAGE: 0 to 12 Volts  
TYPICAL TURN-ON VOLTAGE: 0.7 Volts  
OUTPUT VOLTAGE: See Table  
OUTPUT CURRENT: See Table  
RIPPLE: See Table  
LOAD REGULATION: 10% (No Load to Full Load)  
Typical  
ISOLATION: 3,500 Volts (Input to Output)  
OPERATING TEMP: -10° to +60° C

MODEL	INPUT CURRENT (NO LOAD)	INPUT CURRENT (FULL LOAD)	OUTPUT VOLTAGE	OUTPUT*2 CURRENT	RIPPLE P-P
G01	<100 mA	<250 mA	0 to +/-100V	0 to 15 mA	<1.75%
G02	<100 mA	<250 mA	0 to +/-200V	0 to 7.5 mA	<0.75%
G03	<100 mA	<250 mA	0 to +/-300V	0 to 5 mA	<0.75%
G05	<100 mA	<250 mA	0 to +/-500V	0 to 3 mA	<0.02%
G06	<100 mA	<250 mA	0 to +/-600V	0 to 2.5 mA	<0.1%
G10	<100 mA	<250 mA	0 to +/-1,000V	0 to 1.5 mA	<0.1%
G12	<150 mA	<275 mA	0 to +/-1,200V	0 to 1.25 mA	<0.1%
G15	<125 mA	<275 mA	0 to +/-1,500V	0 to 1 mA	<0.5%
G20	<165 mA	<275 mA	0 to +/-2,000V	0 to 0.75 mA	<0.5%
G25	<125 mA	<275 mA	0 to +/-2,500V	0 to 0.6 mA	<1.0%
G30	<125 mA	<300 mA	0 to +/-3,000V	0 to 0.5 mA	<2.0%
G40*1	<125 mA	<300 mA	0 to +/-4,000V	0 to 0.37 mA	<1.0%
G50*1	<125 mA	<300 mA	0 to +/-5,000V	0 to 0.3 mA	<2.0%
G60*1	<125 mA	<300 mA	0 to +/-6,000V	0 to 0.25 mA	<2.0%
Photomultiplier Model					
GPMT	<35 mA	<75 mA	0 to +/-1,250	0 to 350 uA	<.05%

\*Notes 1. Models G40, G50 & G60 do not have internal bleeder resistors on the output. Provisions must be made externally to discharge the output capacitors if this feature is desired.  
2. At Maximum Rated Output Voltage.



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We reserve the right to make changes without notification