Proven Reliability

GP SERIES

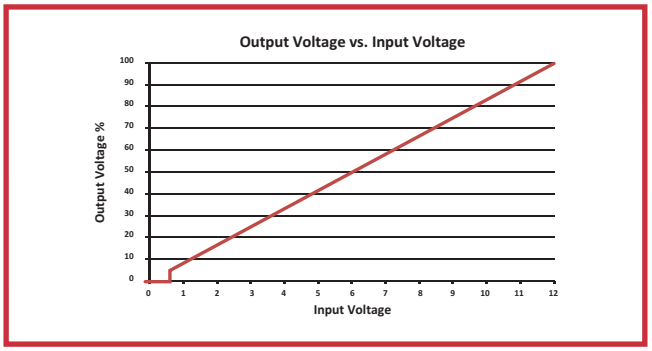
ISOLATED, PROPORTIONAL DC TO HV DC CONVERTERS

100V to 6kV at 1W



PRODUCT DESCRIPTION

The GP Series is a line of miniature DC to HV DC converters providing 100V to 6kV, positive or negative in a compact PC mount package. This line features low power consumption, making it ideal for portable, battery powered applications. The isolated output is proportional to the input, and is linear from approximately 0.7 volts in. A low noise quasi-sinewave oscillator and shielded transformer provide clean, reliable DC to HV DC conversion with low EMI and RFI. The isolated output allows for user selectable output polarity. No minimum load is required.



APPLICATIONS

- Portable, Battery Powered
- Sustaining Ion Pumps
- Vacuum Gauges
- Photomultiplier Tubes
- Spectrometry
- Electrostatic Chuck
- Non-impact Printers
- Field Generation
- Piezo Devices
- Electrophoresis

OPTIONS

- External Mounting Enclosure (AB Suffix)

PRODUCT SELECTION TABLE

MODEL	OUTPUT VOLTAGE*2	OUTPUT CURRENT*1
GP01	100V	10mA
GP02	200V	5mA
GP03	300V	3.3mA
GP05	500V	2mA
GP06	600V	1.67mA
GP08	800V	1.25mA
GP10	1kV	1mA
GP12	1.2kV	840uA
GP15	1.5kV	660uA
GP20	2kV	500uA
GP25	2.5kV	400uA
GP30	3kV	340uA
GP40*5	4kV	250uA
GP50*5	5kV	200uA
GP60*5	6kV	166uA

FEATURES

- Proportional Input/Output
- Compact, PCB Mount Package
- Low Power Consumption
- Low Ripple, Low EMI / RFI
- Short Circuit Protected
- Input/Output Isolation
- Low Leakage Current
- Low Input/Output Coupling Capacitance
- No External Components Required
- No Minimum Load Required
- MTBF: >2.31 million hrs per Bellcore TR-332
- UL Certified Encapsulant, Meets 94V-0 Flammability
- RoHS Compliant

ISO 9001:2008 CERTIFIED ISO 14001:2004 CERTIFIED RoHS COMPLIANT IPC Certified J-STD-001 Application Specialist

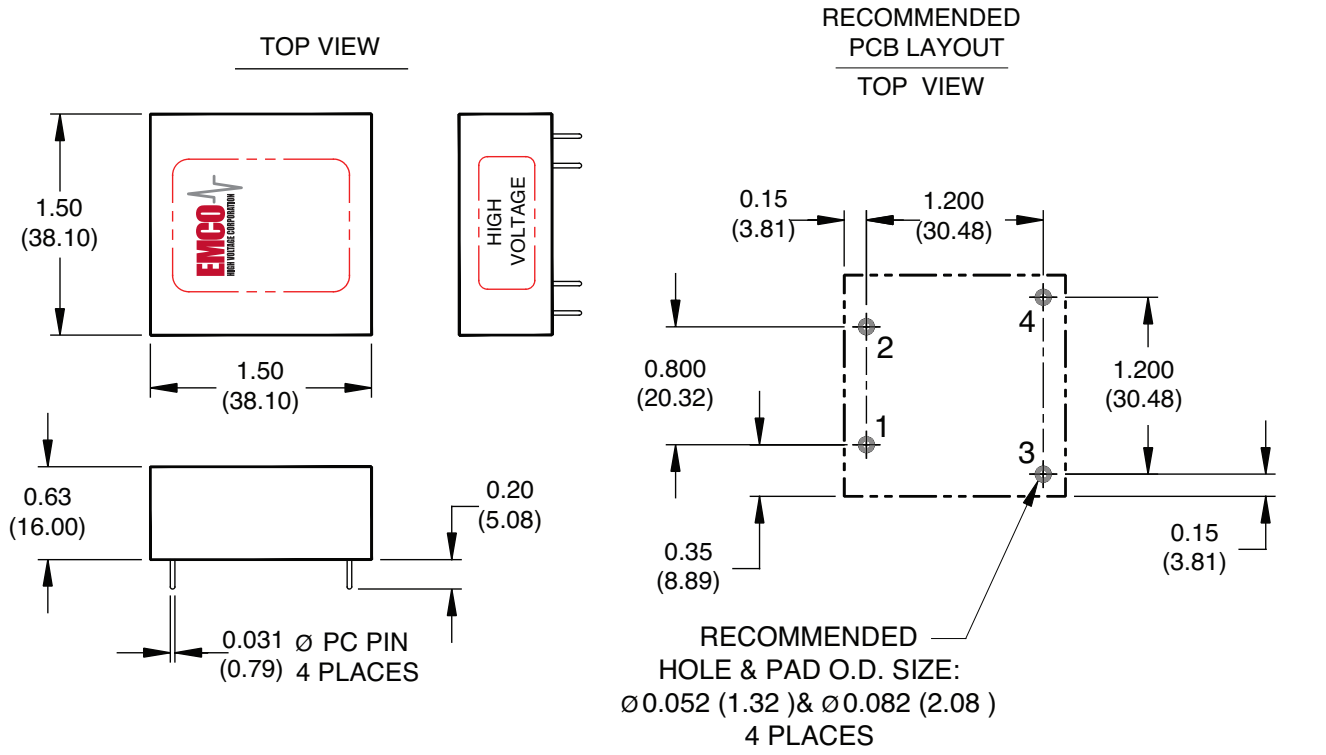
ELECTRICAL SPECIFICATIONS*3

REVERSIBLE MODEL	OUTPUT VOLTAGE*2	OUTPUT CURRENT*1	INPUT CURRENT (NO LOAD)	INPUT CURRENT (FULL LOAD)	RIPPLE
GP01	0 to 100V	10mA	<45mA	<150mA	<0.75%
GP02	0 to 200V	5mA	<45mA	<150mA	<1.75%
GP03	0 to 300V	3.3mA	<45mA	<125mA	<0.50%
GP05	0 to 500V	2mA	<15mA	<125mA	<0.50%
GP06	0 to 600V	1.67mA	<15mA	<125mA	<0.50%
GP08	0 to 800V	1.25mA	<25mA	<125mA	<0.75%
GP10	0 to 1kV	1mA	<15mA	<125mA	<0.75%
GP12	0 to 1.2kV	840uA	<15mA	<125mA	<0.75%
GP15	0 to 1.5kV	660uA	<20mA	<125mA	<0.75%
GP20	0 to 2kV	500uA	<30mA	<130mA	<0.75%
GP25	0 to 2.5kV	400uA	<30mA	<130mA	<1.0%
GP30	0 to 3kV	340uA	<40mA	<130mA	<1.0%
GP40*5	0 to 4kV	250uA	<50mA	<130mA	<1.0%
GP50*5	0 to 5kV	200uA	<75mA	<150mA	<1.5%
GP60*5	0 to 6kV	166uA	<85mA	<175mA	<1.0%

ELECTRICAL SPECIFICATIONS*3

PARAMETER	VALUE
INPUT VOLTAGE	0 to 12V
TURN-ON VOLTAGE	<0.7V
ISOLATION	< +/-3.5kV BIAS
INPUT CAPACITANCE	120uF
RESPONSE TIME	<20ms
OUTPUT VOLTAGE TOLERANCE	+/-3% (Full Load, 100% output voltage)
REGULATION	<10% VARIATION OVER LOAD RANGE
FREQUENCY	60-400kHz
OPERATING TEMPERATURE*4	-20°C to +70°C (CASE)
STORAGE TEMPERATURE	-20°C to +105°C

GP01 thru GP60 MECHANICAL SPECIFICAIONS

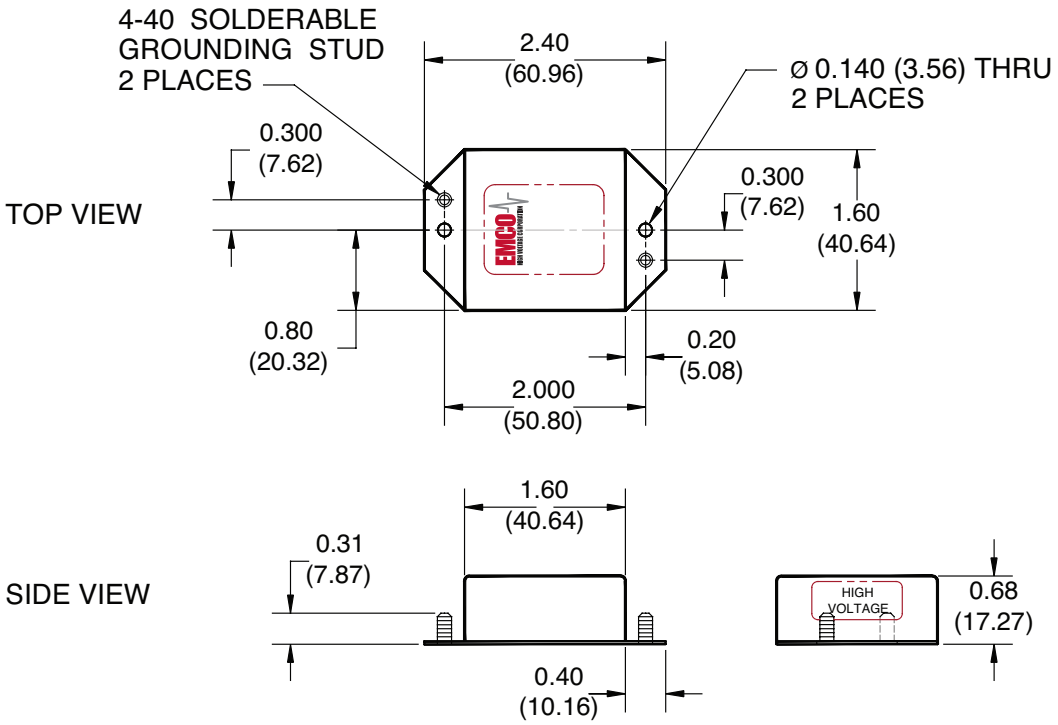


DIMENSIONS ARE IN INCHES (METRIC EQUIVALENTS ARE IN PARENTHESIS)
DIMENSIONAL TOLERANCES: .XX = ± 0.02 (0.51), .XXX = ± 0.005 (0.127)

PARAMETER	VALUE
WEIGHT	Weight: 1.40 OZ (40 Grams)
VOLUME	1.4 cubic Inches (23 cubic centimeters)
DIMENSIONS	1.5L (38.1L) x 1.5W (38.1L) x 0.63H (16.0H)
CASE MATERIAL	Diallyl Phthalate (DAP)

PIN #	FUNCTION
1	(+) Input
2	(-) Input
3	(+) Output
4	(-) Output

EXTERNAL EMI/RFI SHIELD



DIMENSIONS ARE IN INCHES (METRIC EQUIVALENTS ARE IN PARENTHESIS)
DIMENSIONAL TOLERANCES: .XX = ± 0.02 (0.51), .XXX = ± 0.005 (0.127)

PARAMETER	VALUE
BOX SIZE	See Table
MATERIAL	0.03 (0.76mm) Aluminum
MOUNTING	Two Tabs With Thru-Holes

PARAMETER	VALUE
GROUND	Black Anodized Aluminum
DIMENSIONS WITH TAB	2.4L (60.96) x 1.6W (40.64) x 0.68H (17.27)
DIMENSIONS WITHOUT TAB	1.6L (40.64) x 1.6W (40.64) x 0.68H (17.27)

SHIELD DESCRIPTION

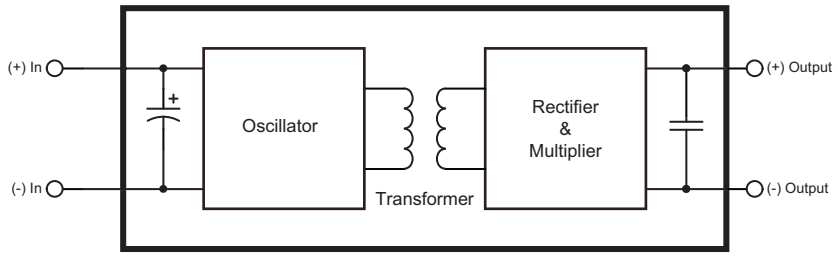
The “AB” Series provides low cost EMI/RFI shielding and rugged mounting for XP EMCO High Voltage DC to DC converters. These five-sided aluminum enclosures feature a durable, non-conductive black anodized finish. The enclosures are manufactured at our own sheet metal fabrication facility, which allows for low cost and stock delivery. Add an “AB” suffix to the model number for a factory-installed enclosure (e.g. E10AB). Contact our sales department by phone, fax or email for immediate attention.

APPLICATION INFORMATION

On models with outputs of 3kV or higher, special care must be taken to ensure adequate spacing and insulation between the metal can and the high voltage output. Single sided layout, encapsulants or conformal coating may be required.

Case grounding stud must be connected to ground. Case ground is not internally connected to (-) input.

BLOCK DIAGRAM



OPTION CODE TABLE

OPTION		ORDER CODE	MODELS
OPTIONS	Shielding and Mounting Enclosure	AB	ALL

HOW TO ORDER

PART NUMBER SELECTOR:

Model Number:

GP10AB

Model

Output Voltage (See table)

Shielding & Mounting Enclosure (Optional)

EXAMPLE: **GP10AB** (**GP**-Model, **10**-Output Voltage, **AB**-Shielding & Mounting Enclosure)

* Notes:

1. At maximum rated output voltage.
2. Output voltage is load dependent. Under light or no load conditions, reduce input voltage so maximum rated output voltage is not exceeded.
3. Specifications after 30 minute warm up, full load, at 25C unless otherwise indicated.
4. Proper thermal management techniques are required to maintain safe case temperature at maximum power output.
5. Models GP40, GP50 & GP60 do not have internal bleeder resistors on the output. Provisions must be made externally to discharge the output capacitors if this feature is desired.

XP EMCO reserves the right to make changes on products and literature, including specifications, without notice. XP EMCO standard product models are not recommended for "copy-exact" applications or any other application restricting product changes. "Copy-exact" options are available. Please contact an XP EMCO sales representative for more details.