

GC SERIES

20 WATTS Single/Dual Output DC/DC CONVERTERS



**SEMICONDUCTOR
CIRCUITS, INC.**

49 RANGE RD., WINDHAM, N.H. 03087

SUBSIDIARY OF ASTEC AMERICA, INC.



The GC series of DC to DC converters feature 9-36, 18-72 and a telecom input range of 36-72Vdc. Available in a compact package with both single and dual outputs, this product is ideal for space critical applications. Advanced thermal management gives the GC a wide operating temperature range.

Special Features

- 20W of output power
- 4:1 Input range
- Special Telecom 2:1 input range (-48 models) featuring thermal shutdown and undervoltage lockout to meet ETS 300 132-2 Paragraph 4.6
- 1.6"x 2.0"x 0.4 " Case size
- 5 year warranty

Safety

UL1950 Recognition Pending
EN60950 Pending
CSA 22.2-950 Pending

Environmental

Operating temperature
Ambient -40°C to +60°C
(Full load, no derating)

Baseplate 105°C max

Storage Temperature
-55°C to +125°C

Humidity 5% to 95%
(Non Condensing)

Specification

Input

Input Range 9-36 Vdc
18-72 Vdc
36-72 Vdc

Input Capacitance
-46 & -48 models 2.2µF (typ)
-18 models 6.7µF (typ)

No load input power 350mW (typ)

Input reflected ripple (P-P)●
-46 and -48 models 105mA (typ)
-18 models 90mA (typ)

Input surge voltage 100V for 100ms

Efficiency 81-88% (typ)

Input Capacitor Required ●

Control

Enable TTL Compatible
(High to enable
or open circuit)

General

I/O isolation 1500Vdc

Isolation resistance 1 x 10⁹
(Ohms)

Isolation Capacitance 100pF

Switching Frequency 200kHz

EMI RFI shielding Six sided

MTBF● Mil HDBK -217 361,000hrs

BELLCORE >1.7 mil hrs

Output

Voltage Tolerance ±1%

Line Regulation ±0.25%

Load Regulation

Single Output ± 0.5%
(10% to 100% load)

Dual Output ±1%
(10% to 100% load balanced)

Ripple and noise 50mV (typ)
(mV P-P)●

Output voltage
adjustment range ±10%

Short Circuit Continuous
Protection Power cycle

Overvoltage Protection Zener Clamp

Transient Response 500 µsec max
(50% step load change to within 1%V_o)

Temperature Coefficient
(case temperature) ± 0.02%/° C

SCCIS023

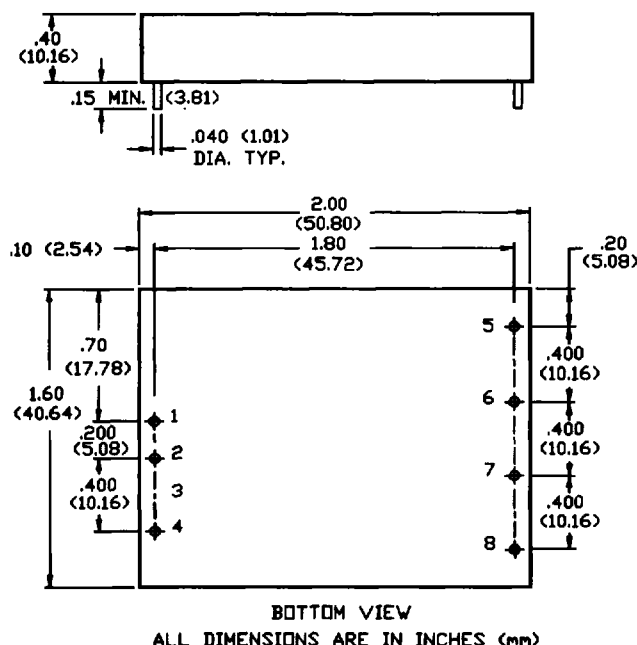
49 Range Rd. Windham, NH 03087

Call: 1-888-GET-DCDC
internet: www.dcdc.com

ORDERING INFORMATION (Consult factory for other voltages)

Input Voltage	Output 1 Voltage	Output 2 Voltage	Model Number
9-36VDC	5V @ 4A		GC11-400-18
9-36VDC	12V@ 1.67A		GC12-167-18
9-36VDC	15V@ 1.34 A		GC13-134-18
9-36VDC	12V@ .840A	-12V@ .840A	GC22-168-18
9-36VDC	15V@ .667A	-15V@ .667A	GC23-133-18
18-72VDC	5V @ 4 A		GC11-400-46
18-72VDC	12V@ 1.67A		GC12-167-46
18-72VDC	15V@ 1.34A		GC13-134-46
18-72VDC	12V@ .840A	-12V@ .840A	GC22-168-46
18-72VDC	15V@ .667A	-15V@ .667A	GC23-133-46
36-75VDC	5V @ 4 A		GC11-400-48
36-75VDC	12V@ 1.67A		GC12-167-48
36-75VDC	15V@ 1.34A		GC13-134-48
36-75VDC	12V@ .840A	-12V@ .840A	GC22-168-48
36-75VDC	15V@ .667A	-15V@ .667A	GC23-133-48

Trim Methods

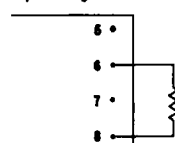


Notes:

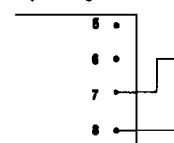
1. 20 MHz bandwidth. An external 0.1uf ceramic capacitor is recommended to be placed from +V out to -V out
 2. Consult factory for filter recommendations to meet FCC, VDE or EIC specifications
 3. All specifications are typical at nominal line, full load, and 25 ° C unless otherwise noted.
 4. All specifications subject to change without notice. Mechanical drawings are for reference only.
 5. Requires a 2.2uf, 100V film capacitor connected across the input pins.
 6. Calculated per MIL HDBK-217E, Ground Benign at 25° C, full load.
- BELLCORE calculated per TR-NWT-00032 method 1 parts count, case 1.

Single Output Models

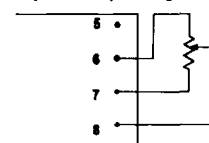
Output voltage decrease



Output voltage increase

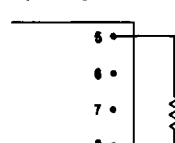


Adjustable output voltage

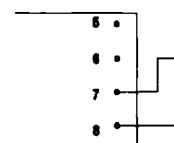


Dual Output Models

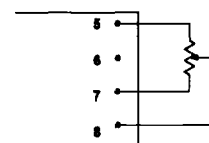
Output voltage decrease



Output voltage increase



Adjustable output voltage



Pin Assignment

Single Output

1. +Vin
2. -Vin
3. No pin
4. Enable
5. No pin
6. Output 1
7. Comm
8. Trim

Dual Output

1. +Vin
2. -Vin
3. No pin
4. Enable
5. Output 1
6. Comm
7. Output 2
8. Trim

Mechanical Specification

Case Material Metal (six sides)
Weight 2.0 Oz/56Grms

**SEMICONDUCTOR
CIRCUITS, INC.**

49 Range Road Windham, NH 03087-2019

(888) 438-3232

(603) 893-2330

Fax: (603) 893-6280

November 6, 1996