

SERIES PLR

DC-DC CONVERTERS

Wide Input Range/up to 3.33:1

Isolated Regulated up to 5 Watt

DC-DC Converters

Fully Regulated

All Units Shielded

This series of Low Profile 0.300", high efficiency, wide input range, encapsulated regulators come in 85 different models. These units feature a 500 VOLT DC input to output isolation in both single and dual output models. The PLR Series will operate from -25° C to +70° C with no heat sink or electrical derating. These units are excellent for applications where input voltage varies dramatically, yet a high efficiency and output voltage regulation must be maintained.

TYPICAL CHARACTERISTICS:

- **Test conditions:** 25° C ambient.
- **Operating temperature:** -25° C to +70° C ambient.
- **Output voltage tolerance:** ±1% at typical input voltage
- **Output voltage temperature coefficient:** 0.02%/°C
- **Storage temperature:** -55° C to +125° C
- **Short circuit protection:** Temporary
- **Operating frequency:** 40 KHz, typical

OPTIONS AVAILABLE

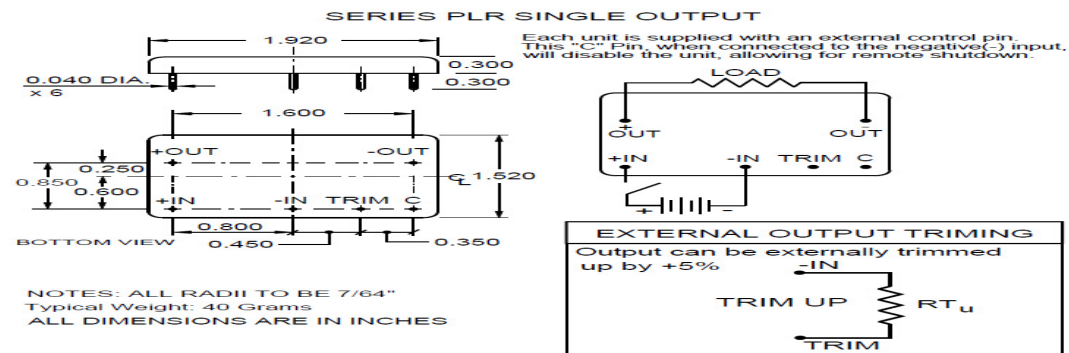
- Per Mil. Std. 883
- Expanded operating temp. (-55° C to +85° C)
- Stabilization Bake (125° C ambient)
- Temperature Cycle (-55° C to +125° C)
- Hi Temp, full power burn in (100% power, 125° C case temp)

FEATURES

- Voltage regulation over input range of

Unit	Low	High
PLRE	5V	15V
PLRF	8V	24V
PLRA	18V	36V
PLRB	36V	60V
PLRC	18V	60V

- 0.300" Height
- Encapsulated semiconductors, conservatively rated for maximum reliability.
- Load regulation (see table for typical variation at different loads)
- Line regulation = Typical values
- 5-15V DC = ±1.5%
- 8-24V DC = ±1.5%
- 18-36V DC = ±1.0%
- 36-60V DC = ±1.0%
- 18-60V DC = ±1.5%
- High efficiency - up to 80%
- Will operate over a temperature range of -25° C to +70° C with no heat sink or electrical derating
- 6 sided shielding
- Isolation - 100 megohms at 500 Volts DC
- External output trimming pin standard, +5%
- Single and dual isolated outputs
- Each unit is supplied with an external control pin. This "C" pin, when connected to the negative (-) input, will disable the unit, allowing for remote shutdown.



[Larger Size Drawing](#) ^[1]

Use 50 K Ohm trim pot rated 1/4 Watt between trim pin and negative input, trim down to raise output voltage to a maximum of 5%. Do not go beyond 5%, further reducing the resistance value could damage the module.

SERIES PLR - DUAL OUTPUT

PICO Part Number	Input Volt. Range	Output Volt. DC Per Output	Max. Load Current (mA) Per Output	Max. Output Power (watts) Per Output	Eff. @ Full Load Typical (%)*	Input Current Full Load Typical (mA)*	Output Volt. Ripple@ Full LD. 1-1 MHz BW mv p-p	Output Volt. Tolerance (± %)*	** V LD. Reg. 25%-100% Load (± %)*	Line Regulation (± %)*	Price (US \$)
PLRE5D	5-15	5	300	1.5	78	385	175	0.75	1.75	2.00	284.02
PLRE9D	5-15	9	222	2.0	78	515	125	0.50	1.50	1.50	284.02
PLRE12D	5-15	12	167	2.0	79	505	125	0.50	1.25	1.25	284.02
PLRE15D	5-15	15	134	2.0	79	505	125	0.50	1.25	1.25	284.02
PLRE24D	5-15	24	84	2.0	80	500	125	0.50	1.00	1.25	284.02
PLRE28D	5-15	28	72	2.0	80	500	125	0.50	1.00	1.00	284.02
PLRE48D	5-15	48	42	2.0	80	500	300	0.50	1.00	1.00	305.26
PLRF5D	8-24	5	500	2.5	78	400	100	0.75	1.75	2.00	284.02
PLRF9D	8-24	9	278	2.5	78	400	125	0.50	1.50	1.50	284.02
PLRF12D	8-24	12	208	2.5	79	395	125	0.50	1.25	1.25	284.02
PLRF15D	8-24	15	167	2.5	79	395	125	0.50	1.25	1.25	284.02
PLRF24D	8-24	24	104	2.5	80	390	125	0.50	1.00	1.25	284.02
PLRF28D	8-24	28	89	2.5	80	390	125	0.50	1.00	1.00	284.02
PLRF48D	8-24	48	52	2.5	80	390	250	0.50	1.00	1.00	305.26
PLRA5D	18-36	5	500	2.5	76	245	100	0.75	2.00	1.00	284.02
PLRA9D	18-36	9	278	2.5	76	245	100	0.50	2.00	0.50	284.02
PLRA12D	18-36	12	208	2.5	77	240	100	0.50	2.00	0.50	284.02
PLRA15D	18-36	15	167	2.5	79	235	100	0.50	1.50	0.50	284.02
PLRA24D	18-36	24	104	2.5	80	230	100	0.50	1.50	0.50	284.02
PLRA28D	18-36	28	89	2.5	80	230	100	0.50	1.50	0.50	284.02
PLRA48D	18-36	48	52	2.5	80	230	250	0.50	1.00	0.50	305.26
PLRB5D	36-60	5	500	2.5	74	140	100	0.75	1.75	0.50	326.10
PLRB9D	36-60	9	278	2.5	74	140	100	0.50	1.50	0.50	326.10
PLRB12D	36-60	12	208	2.5	74	140	100	0.50	1.00	0.25	326.10
PLRB15D	36-60	15	167	2.5	76	135	100	0.50	1.00	0.25	326.10
PLRB24D	36-60	24	104	2.5	76	135	100	0.50	0.75	0.25	326.10
PLRB28D	36-60	28	89	2.5	76	135	100	0.50	0.75	0.25	326.10
PLRB48D	36-60	48	52	2.5	76	135	200	0.50	0.75	0.25	350.48

PLRC5D	18-60	5	500	2.5	75	170	100	0.75	2.00	1.50	347.14
PLRC9D	18-60	9	278	2.5	75	170	100	0.50	1.50	1.00	347.14
PLRC12D	18-60	12	208	2.5	75	170	100	0.50	1.00	0.75	347.14
PLRC15D	18-60	15	167	2.5	77	165	100	0.50	1.00	0.75	347.14
PLRC24D	18-60	24	104	2.5	78	165	100	0.50	0.75	0.75	347.14
PLRC28D	18-60	28	89	2.5	78	165	100	0.50	0.75	0.75	347.14
PLRC48D	18-60	48	52	2.5	78	165	225	0.50	0.75	0.75	373.09

* Measurements taken with input voltage set at mid value.
 ** 10% minimum load required.

Technical Drawing Details:
Top View Dimensions: 1.920 (total width), 0.300 (pin spacing), 0.650 (module width), 0.250 (pin offset), 0.650 (module width), 0.600 (module width), 0.800 (module width), 0.450 (module width), 0.350 (module width), 1.520 (module height).
Bottom View Labels: +OUT-OUT, -IN, TRIM, C.
Notes: ALL RADII TO BE 7/64" Typical Weight: 40 Grams ALL DIMENSIONS ARE IN INCHES

Each unit is supplied with an external control pin. This "C" Pin, when connected to the negative(-) input, will disable the unit, allowing for remote shutdown.

EXTERNAL OUTPUT TRIMMING
 Output can be externally trimmed up by +5%

[Larger Size Drawing](#) ^[2]

Use 50 K Ohm trim pot rated 1/4 Watt between trim pin and negative input, trim down to raise output voltage to a maximum of 5%. Do not go beyond 5%, further reducing the resistance value could damage the module.

Ordering Instructions:

- No minimum.
 Net 30 days F.O.B. Pelham, NY

Delivery--stock to one week for sample orders.

For immediate engineering assistance or to place an order:
Call Toll Free: 800-431-1064

PICO Electronics, Inc.

143 Sparks Ave. Pelham, NY 10803
 Tel: 914-738-1400 or Fax: 914-738-8225

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