

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:** $\pm 1\%$ 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

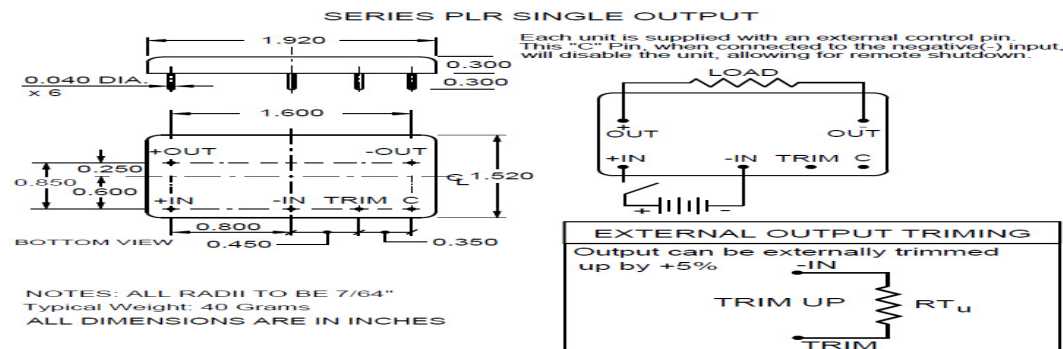
- 0.300" Height
- Encapsulated semiconductors, conservatively rated for maximum reliability.
- Load regulation (see table for typical variation at different loads)
- Line regulation = Typical values
- 5-15V DC = $\pm 1.5\%$
- 8-24V DC = $\pm 1.5\%$
- 18-36V DC = $\pm 1.0\%$
- 36-60V DC = $\pm 1.0\%$
- 18-60V DC = $\pm 1.5\%$
- 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.

SERIES PLR - SINGLE OUTPUT

PICO Part Number	Input Volt. Range	Output Volt. DC	Max. Load Current (mA)	Max. Output Power (watts)	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 \$)
PLRE3.3S	5-15	3.3	909	3	75	400	200	1.00	3.00	2.75	231.42
PLRE5S	5-15	5	600	3	78	385	175	0.75	1.75	2.00	231.42
PLR5.2S	5-15	5.2	577	3	78	385	175	0.75	1.75	2.00	231.42
PLRE9S	5-15	9	444	4	78	515	125	0.50	1.50	1.50	231.42
PLRE12S	5-15	12	333	4	79	505	125	0.50	1.25	1.25	231.42
PLRE15S	5-15	15	267	4	79	505	125	0.50	1.25	1.25	231.42
PLRE24S	5-15	24	167	4	80	500	125	0.50	1.00	1.25	231.42
PLRE28S	5-15	28	143	4	80	500	125	0.50	1.00	1.00	231.42
PLRE48S	5-15	48	83	4	80	500	300	0.50	1.00	1.00	231.42
PLRE100S	5-15	100	40	4	80	500	300	0.50	1.00	1.00	310.91
PLRF3.3S	8-24	3.3	1212	4	75	333	200	1.00	3.00	2.75	231.42
PLRF5S	8-24	5	1000	5	78	400	150	0.75	1.75	2.00	231.42
PLRF5.2S	8-24	5.2	961	5	78	400	150	0.75	1.75	2.00	231.42
PLRF9S	8-24	9	556	5	78	400	125	0.50	1.50	1.50	231.42
PLRF12S	8-24	12	417	5	79	395	125	0.50	1.25	1.25	231.42
PLRF15S	8-24	15	333	5	79	395	125	0.50	1.25	1.25	231.42
PLRF24S	8-24	24	208	5	80	390	125	0.50	1.00	1.25	231.42
PLRF28S	8-24	28	179	5	80	390	125	0.50	1.00	1.00	231.42
PLRF48S	8-24	48	104	5	80	390	250	0.50	1.00	1.00	231.42
PLRF100S	8-24	100	50	5	80	390	300	0.50	1.00	1.00	310.91

PLRA3.3S	18-36	3.3	1212	4	76	195	150	1.00	3.00	1.50	231.42
PLRA5S	18-36	5	1000	5	76	245	100	0.75	2.00	1.00	231.42
PLRA5.2S	18-36	5.2	961	5	76	245	100	0.75	2.00	1.00	231.42
PLRA9S	18-36	9	556	5	76	245	100	0.50	2.00	0.50	231.42
PLRA12S	18-36	12	417	5	77	240	100	0.50	2.00	0.50	231.42
PLRA15S	18-36	15	333	5	79	235	100	0.50	1.50	0.50	231.42
PLRA24S	18-36	24	208	5	80	230	100	0.50	1.50	0.50	231.42
PLRA28S	18-36	28	179	5	80	230	100	0.50	1.50	0.50	231.42
PLRA48S	18-36	48	104	5	80	230	250	0.50	1.00	0.50	231.42
PLRA100S	18-36	100	50	5	80	230	300	0.50	1.00	1.00	310.91
PLRB3.3S	36-60	3.3	1212	4	74	113	150	1.00	3.00	1.50	273.50
PLRB5S	36-60	5	1000	5	74	140	100	0.75	1.75	0.50	273.50
PLRB5.2S	36-60	5.2	961	5	74	140	100	0.75	1.75	0.50	273.50
PLRB9S	36-60	9	556	5	74	140	100	0.50	1.50	0.50	273.50
PLRB12S	36-60	12	417	5	74	140	100	0.50	1.00	0.25	273.50
PLRB15S	36-60	15	333	5	76	135	100	0.50	1.00	0.25	273.50
PLRB24S	36-60	24	208	5	76	135	100	0.50	0.75	0.25	273.50
PLRB28S	36-60	28	179	5	76	135	100	0.50	0.75	0.25	273.50
PLRB48S	36-60	48	104	5	76	135	200	0.50	0.75	0.25	273.50
PLRB100S	36-60	100	50	5	76	135	300	0.50	1.00	1.00	367.43
PLRC3.3S	18-60	3.3	1212	4	74	139	150	1.00	3.00	1.75	294.54
PLRC5S	18-60	5	1000	5	75	170	100	0.75	2.00	1.50	294.54
PLRC5.2S	18-60	5.2	961	5	75	170	100	0.75	2.00	1.50	294.54
PLRC9S	18-60	9	556	5	75	170	100	0.50	1.50	1.00	294.54
PLRC12S	18-60	12	417	5	75	170	100	0.50	1.00	0.75	294.54
PLRC15S	18-60	15	333	5	77	165	100	0.50	1.00	0.75	294.54
PLRC24S	18-60	24	208	5	78	165	100	0.50	0.75	0.75	294.54
PLRC28S	18-60	28	179	5	78	165	100	0.50	0.75	0.75	294.54
PLRC48S	18-60	48	104	5	78	165	225	0.50	0.75	0.75	294.54
PLRC100S	18-60	100	50	5	78	165	300	0.50	1.00	1.00	395.70

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



[Larger Size Drawing](#)

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.

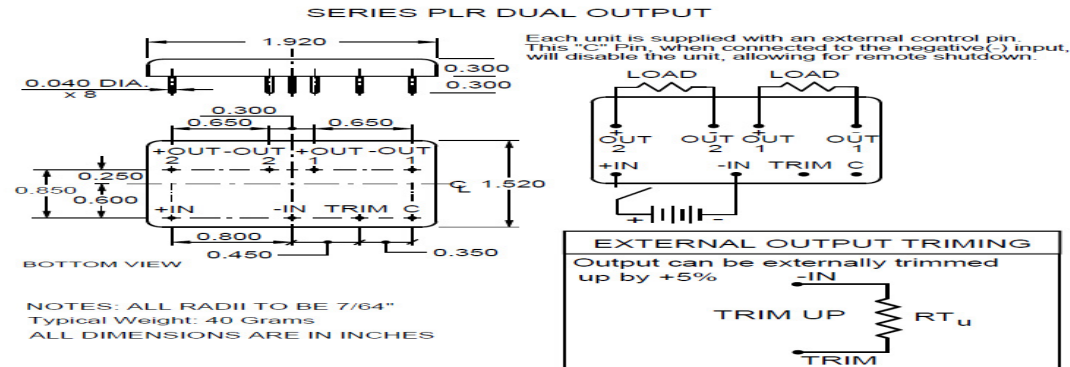
SERIES PLR - DUAL OUTPUT

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.



[Larger Size Drawing](#)

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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