PICO Electronics

Series JR
DC to DC Converters
Single and Dual Output

Wide Input Range up to 3.33:1
Isolated, Regulated up to 15 Watt DC to DC Converters
Full Regulated All Units Shielded

This series of high efficiency, wide input range, encapsulated regulators come in 51 different models. These units feature a 500 VOLT DC input to output isolation in both single and dual output models. The JR Series will operate over a temperature range of -25º C TO +70º 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.

FEATURES

- Single and dual isolated outputs
- Voltage regulation over input range of

Unit	Low	High
JRA	18V	36V
JRB	36V	60V
JRC	18V	60V

- Encapsulated semiconductors, conservatively rated for maximum reliability.
- Load regulation (see table for typical variation at different loads)
- Line regulation = Typical values

  18-36V DC = ±1.0%

  36-60V DC = ±1.0%

  18-60V DC = ±2.0%

- High efficiency - up to 84%
- Will operate over a temperature range of -25º C to +70º C with no heat sink or electrical derating
- 6 sided shielding
- Isolation - 100 megohms at 500 volts DC
- External output trimming pin standard +5%
- 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.

TYPICAL CHARACTERISTICS:

Test conditions: 25º C ambient
Operating temperature: -25º C to +70º C ambient
Output voltage tolerance: ± 2% at typical input voltage
Output voltage temperature coefficient: 0.02% / º C
Storage temperature: -55º C to 125º C
Short circuit protection: Temporary
Operating frequency: 40Khtz, typical

OPTIONS AVAILABLE

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

SERIES JR - SINGLE OUTPUT

Pico Part Number	Input Voltage Range	Output Voltage DC	Max. Load Current mA	Max. Output Power (watts)	EFF.@ Full Load Typical (%)*	Input Current Full Load Typical (mA)*	Out Volt Ripple @ Full LD. 1-1MHz BW mv p-p	Out Volt Tolerance (± %)*	** VLD. Reg. 25%-100% Load (± %)*	Line Regu-lation (± %)	Price (US $)
JRA3.3S	18-36	3.3	4545	15	78	712	100	1.00	3.00	3.00	
JRA5S	18-36	5	3000	15	78	710	50	0.75	2.00	1.50	201.97
JRA5.2S	18-36	5.2	2885	15	78	710	50	0.75	2.00	1.50	201.97
JRA9S	18-36	9	1667	15	78	710	40	0.50	1.50	0.50	201.97
JRA12S	18-36	12	1250	15	78	710	40	0.50	1.00	0.50	201.97
JRA15S	18-36	15	1000	15	78	710	40	0.50	1.00	0.50	201.97
JRA24S	18-36	24	625	15	83	670	40	0.50	1.00	0.25	201.97
JRA28S	18-36	28	536	15	84	660	40	0.75	0.50	0.25	201.97
JRA48S	18-36	48	313	15	84	660	50	0.75	0.50	0.25	201.97
JRA100S	18-36	100	150	15	84	660	75	0.50	0.75	0.25	271.33
JRB3.3S	36-60	3.3	4545	15	78	401	100	1.00	3.00	3.00	235.63
JRB5S	36-60	5	3000	15	78	400	50	0.75	2.00	0.75	235.63
JRB5.2S	36-60	5.2	2885	15	78	400	50	0.75	2.00	0.75	235.63
JRB9S	36-60	9	1667	15	78	400	40	0.50	1.50	0.50	235.63
JRB12S	36-60	12	1250	15	80	390	40	0.50	1.00	0.50	235.63
JRB15S	36-60	15	1000	15	81	385	40	0.50	1.00	0.50	235.63
JRB24S	36-60	24	625	15	83	375	40	0.50	1.00	0.25	235.63
JRB28S	36-60	28	536	15	84	370	40	0.50	0.50	0.25	235.63
JRB48S	36-60	48	313	15	84	370	50	0.50	0.50	0.25	235.63
JRB100S	36-60	100	150	15	84	370	75	0.50	0.50	0.25	316.56
JRC3.3S	18-60	3.3	4545	15	78	493	100	1.00	3.00	3.00	252.46
JRC5S	18-60	5	3000	15	78	495	50	0.75	2.00	1.50	252.46
JRC5.2S	18-60	5.2	2885	15	78	495	50	0.75	2.00	1.50	252.46
JRC9S	18-60	9	1667	15	78	495	40	0.50	1.50	0.75	252.46
JRC12S	18-60	12	1250	15	80	480	40	0.50	1.00	0.75	252.46
JRC15S	18-60	15	1000	15	81	475	40	0.50	1.00	0.75	252.46
JRC24S	18-60	24	625	15	83	465	40	0.50	1.00	0.50	252.46
JRC28S	18-60	28	536	15	84	460	40	0.50	0.50	0.50	252.46
JRC48S	18-60	48	313	15	84	460	50	0.50	0.50	0.50	252.46
JRC100S	18-60	100	150	15	84	460	75	0.50	0.50	0.50	339.17

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

SERIES JR - DUAL OUTPUT

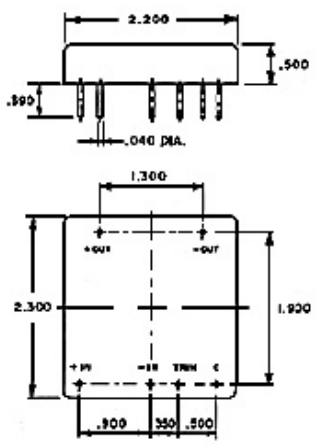
Pico Part Number	Input Voltage Range	Output Voltage DC Per Output	Max. Load Current mA Per Output	Max. Output Power (watts) Per Output	EFF.@ Full Load Typical (%)*	Input Current Full Load Typical (mA)*	Out Volt Ripple @ Full LD. 1-1MHz BW mv p-p	Out Volt Tolerance (± %)*	** VLD. Reg. 25%-100% Load (± %)*	Line Regu-lation (± %)	Price (US $)
JRA5D	18-36	5	1500	7.5	78	710	50	0.75	2.00	1.50	237.03
JRA9D	18-36	9	833	7.5	78	710	40	0.50	1.50	0.50	237.03
JRA12D	18-36	12	625	7.5	78	710	40	0.50	1.00	0.50	237.03
JRA15D	18-36	15	500	7.5	78	710	40	0.50	1.00	0.50	237.03
JRA24D	18-36	24	313	7.5	83	670	40	0.50	1.00	0.25	237.03
JRA28D	18-36	28	268	7.5	84	660	40	0.75	0.75	0.25	237.03
JRA48D	18-36	48	156	7.5	84	660	50	0.75	0.75	0.25	254.75

JRB5D	36-60	5	1500	7.5	78	400	50	0.75	2.00	0.75	270.69
JRB9D	36-60	9	833	7.5	78	400	40	0.50	1.50	0.50	270.69
JRB12D	36-60	12	625	7.5	80	390	40	0.50	1.00	0.50	270.69
JRB15D	36-60	15	500	7.5	81	385	40	0.50	1.00	0.50	270.69
JRB24D	36-60	24	313	7.5	83	375	40	0.50	1.00	0.25	270.69
JRB28D	36-60	28	268	7.5	84	370	40	0.50	0.50	0.25	270.69
JRB48D	36-60	48	156	7.5	84	370	50	0.50	0.50	0.25	290.93
JRC5D	18-60	5	1500	7.5	78	495	50	0.75	2.00	1.50	287.52
JRC9D	18-60	9	833	7.5	78	495	40	0.50	1.50	0.75	287.52
JRC12D	18-60	12	625	7.5	80	480	40	0.50	1.00	0.75	287.52
JRC15D	18-60	15	500	7.5	81	475	40	0.50	1.00	0.75	287.52
JRC24D	18-60	24	313	7.5	83	465	40	0.50	1.00	0.50	287.52
JRC28D	18-60	28	268	7.5	84	460	40	0.50	0.50	0.50	287.52
JRC48D	18-60	48	156	7.5	84	460	50	0.50	0.50	0.50	309.02

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

Series JR Single Output

Series JR Single Output
C: is control pin
NOTE: all radii typ. 7/64"

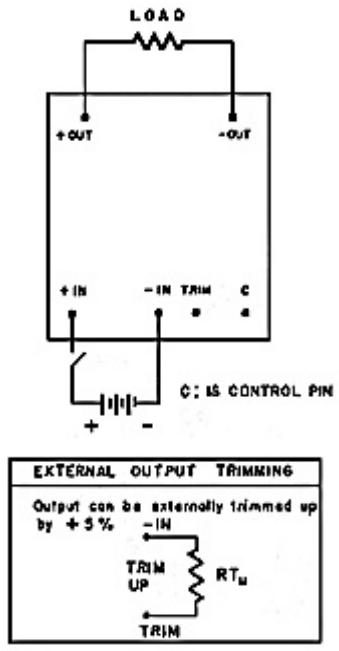


bottom view

Larger Size Drawing [1]

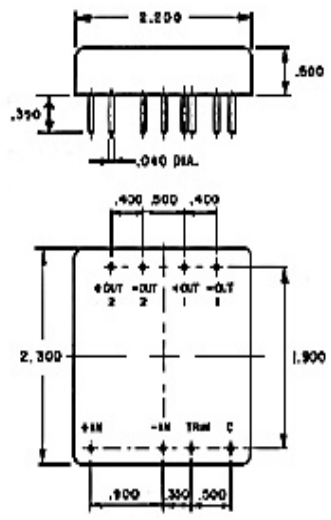
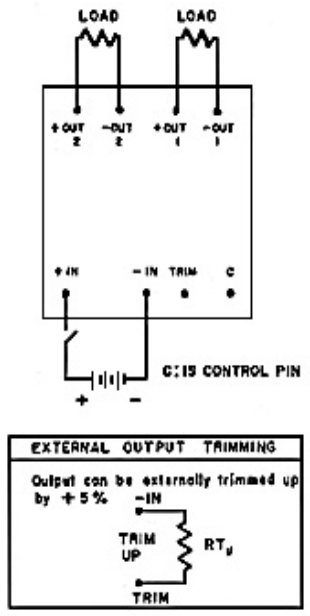
Use 50 K Ohm trim rated 1/4 Watt between trim pin and negative input. Trim down to raise output voltage to a maximum of 5%. Do not go beyond the 5%. Reducing the resistance value further could damage the module.

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 Schematic [2]

Typical Weight: 115 Grams

Series JR Dual Output	Series JR Dual Output C: is control pin NOTE: all radii typ. 7/64"	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.
	 bottom view Larger Size Schematic [3] Use 50 K Ohm trim pot rated 1/4 Watt between trim pin and negative voltage. Trim down to raise output voltage to a maximum of 5%. Do not go beyond 5%. Reducing the resistance value further could damage the module.	 Larger Size Schematic [4]
Typical Weight: 115 Grams		

For immediate engineering assistance or to place an order:
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