

Series SIR

Surface Mount

DC to DC Converters

Single and Dual Output

Wide Input Range up to 3.33:1
Isolated Regulated up to 8 Watt DC-DC Converters
Fully Regulated All Units Shielded

This series of 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 SIR Series will operate over a temperature range of -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.

FEATURES

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

Unit	Low	High
SIRE	5V	15V
SIRF	8V	24V
SIRA	18V	36V
SIRB	36V	60V
SIRC	18V	60V

- 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 82%
- Will operate over a temperature range of -25° C to +70° C with no heat sink or electrical derating.
- 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: 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: 40Khtz, typical

OPTIONS AVAILABLE

- Selected MIL-STD-883
- Expanded operating temp. (-55° C to +85° C)
- Stabilization Bake (125° C ambient)
- Temperature Cycle (-55° C to +125° C)
- High Temp, full power burn in (100% power, 125° C case temp)

SERIES SIR - SINGLE OUTPUT

Pico Surface Mount 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)*	Out Volt Ripple @ Full Ld. 1-1MHz BW mv p-p	Out Volt Tolerance (± %)*	Vld. Reg. 25%-100% Load** (± %)*	Line Regulation (± %)	Price (US \$)
SIRE3.3S	5-15	3.3	1515	5	78	641	150	3.00	2.00	2.00	168.31
SIRE5S	5-15	5	1000	5	78	640	150	0.75	1.50	2.00	168.31
SIRE5.2S	5-15	5.2	961	5	78	640	150	0.75	1.50	2.00	168.31
SIRE9S	5-15	9	667	6	78	770	125	0.50	1.25	1.50	168.31
SIRE12S	5-15	12	500	6	78	770	125	0.50	1.25	1.25	168.31
SIRE15S	5-15	15	400	6	78	770	125	0.50	1.25	1.25	168.31
SIRE24S	5-15	24	250	6	80	750	125	0.50	1.00	1.25	168.31
SIRE28S	5-15	28	214	6	81	740	125	0.50	1.00	1.00	168.31
SIRE48S	5-15	48	125	6	81	740	400	0.50	1.00	1.00	168.31
SIRE100S	5-15	100	60	6	81	740	600	0.50	1.00	1.00	226.11
SIRF3.3S	8-24	3.3	2121	7	75	583	200	3.00	3.00	2.50	168.31
SIRF5S	8-24	5	1600	8	79	635	150	0.75	1.50	2.00	168.31
SIRF5.2S	8-24	5.2	1538	8	79	635	150	0.75	1.50	2.00	168.31
SIRF9S	8-24	9	889	8	79	635	125	0.50	1.25	1.50	168.31
SIRF12S	8-24	12	667	8	79	635	125	0.50	1.25	1.25	168.31
SIRF15S	8-24	15	533	8	79	635	125	0.50	1.25	1.25	168.31
SIRF24S	8-24	24	333	8	80	625	125	0.50	1.00	1.25	168.31
SIRF28S	8-24	28	286	8	81	615	125	0.50	1.00	1.00	168.31
SIRF48S	8-24	48	167	8	82	610	400	0.50	1.00	1.00	168.31
SIRF100S	8-24	100	80	8	82	610	600	0.50	1.00	1.00	226.11

SIRA3.3S	18-36	3.3	2424	8	78	380	150	3.00	2.00	2.00	168.31
SIRA5S	18-36	5	1600	8	78	380	125	0.75	2.00	0.75	168.31
SIRA5.2S	18-36	5.2	1538	8	78	380	125	0.75	2.00	0.75	168.31
SIRA9S	18-36	9	889	8	78	380	100	0.50	2.00	0.50	168.31
SIRA12S	18-36	12	667	8	78	380	100	0.50	2.00	0.50	168.31
SIRA15S	18-36	15	533	8	78	380	100	0.50	1.50	0.50	168.31
SIRA24S	18-36	24	333	8	79	375	100	0.50	1.50	0.25	168.31
SIRA28S	18-36	28	286	8	80	370	100	0.50	1.50	0.25	168.31
SIRA48S	18-36	48	167	8	80	370	400	0.50	1.00	0.25	168.31
SIRA100S	18-36	100	80	8	80	370	600	0.50	1.00	0.50	226.11
SIRB3.3S	36-60	3.3	2424	8	79	211	150	3.00	2.00	2.00	196.36
SIRB5S	36-60	5	1600	8	80	210	100	0.75	1.25	0.50	196.36
SIRB5.2S	36-60	5.2	1538	8	80	210	100	0.75	1.25	0.50	196.36
SIRB9S	36-60	9	889	8	81	205	100	0.50	1.00	0.25	196.36
SIRB12S	36-60	12	667	8	81	205	100	0.50	1.00	0.25	196.36
SIRB15S	36-60	15	533	8	81	205	100	0.50	1.00	0.25	196.36
SIRB24S	36-60	24	333	8	82	200	100	0.50	0.75	0.25	196.36
SIRB28S	36-60	28	286	8	82	200	100	0.50	0.75	0.25	196.36
SIRB48S	36-60	48	167	8	82	200	400	0.50	0.75	0.25	196.36
SIRB100S	36-60	100	80	8	82	200	600	0.50	1.00	0.50	263.80
SIRC3.3S	18-60	3.3	2424	8	78	263	150	3.00	2.00	2.00	210.38
SIRC5S	18-60	5	1600	8	79	260	125	0.75	2.00	1.25	210.38
SIRC5.2S	18-60	5.2	1538	8	79	260	125	0.75	2.00	1.25	210.38
SIRC9S	18-60	9	889	8	80	255	100	0.50	1.00	0.75	210.38
SIRC12S	18-60	12	667	8	80	255	100	0.50	1.00	0.75	210.38
SIRC15S	18-60	15	533	8	81	255	100	0.50	1.00	0.75	210.38
SIRC24S	18-60	24	333	8	82	250	100	0.50	0.75	0.50	210.38
SIRC28S	18-60	28	286	8	82	250	100	0.50	0.75	0.50	210.38
SIRC48S	18-60	48	167	8	82	250	400	0.50	0.75	0.50	210.38
SIRC100S	18-60	100	80	8	82	250	600	0.50	1.00	0.50	282.65

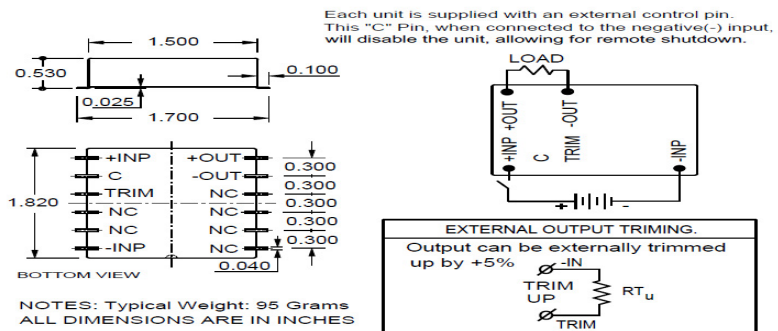
SERIES SIR - DUAL OUTPUT

Pico Surface Mount 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)*	Out Volt Ripple @ Full Ld. 1-1MHz BW mv p-p	Out Volt Tolerance (± %)*	Vld. Reg. 25%-100% Load** (± %)*	Line Regulation (± %)	Price (US \$)
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SIRE5D	5-15	5	500	2.5	78	640	150	0.75	1.50	2.00	203.37
SIRE9D	5-15	9	333	3	78	770	125	0.50	1.25	1.50	203.37
SIRE12D	5-15	12	250	3	78	770	125	0.50	1.25	1.25	203.37
SIRE15D	5-15	15	200	3	78	770	125	0.50	1.25	1.25	203.37
SIRE24D	5-15	24	125	3	80	750	125	0.50	1.00	1.25	203.37
SIRE28D	5-15	28	107	3	81	740	125	0.50	1.00	1.00	203.37
SIRE48D	5-15	48	63	3	81	740	400	0.50	1.00	1.00	218.58
SIRF5D	8-24	5	800	4	79	635	150	0.75	1.50	2.00	203.37
SIRF9D	8-24	9	444	4	79	635	125	0.50	1.25	1.50	203.37
SIRF12D	8-24	12	333	4	79	635	125	0.50	1.25	1.25	203.37
SIRF15D	8-24	15	267	4	79	635	125	0.50	1.25	1.25	203.37
SIRF24D	8-24	24	167	4	80	625	125	0.50	1.00	1.25	203.37
SIRF28D	8-24	28	143	4	81	615	125	0.50	1.00	1.00	203.37
SIRF48D	8-24	48	83	4	82	610	400	0.50	1.00	1.00	218.58
SIRA5D	18-36	5	800	4	78	380	125	0.75	2.00	0.75	203.37
SIRA9D	18-36	9	444	4	78	380	100	0.50	2.00	0.50	203.37
SIRA12D	18-36	12	333	4	78	380	100	0.50	2.00	0.50	203.37
SIRA15D	18-36	15	267	4	78	380	100	0.50	1.50	0.50	203.37
SIRA24D	18-36	24	167	4	79	375	100	0.50	1.50	0.25	203.37
SIRA28D	18-36	28	143	4	80	370	100	0.50	1.50	0.25	203.37
SIRA48D	18-36	48	83	4	80	370	400	0.50	1.00	0.25	218.58
SIRB5D	36-60	5	800	4	80	210	100	0.75	1.25	0.50	231.42
SIRB9D	36-60	9	444	4	81	205	100	0.50	1.00	0.25	231.42
SIRB12D	36-60	12	333	4	81	205	100	0.50	1.00	0.25	231.42
SIRB15D	36-60	15	267	4	81	205	100	0.50	1.00	0.25	231.42
SIRB24D	36-60	24	167	4	82	200	100	0.50	0.75	0.25	231.42
SIRB28D	36-60	28	143	4	82	200	100	0.50	0.75	0.25	231.42
SIRB48D	36-60	48	83	4	82	200	400	0.50	0.75	0.25	248.72
SIRC5D	18-60	5	800	4	79	260	125	0.75	2.00	1.25	245.45
SIRC9D	18-60	9	444	4	80	255	100	0.50	1.00	0.75	245.45
SIRC12D	18-60	12	333	4	80	255	100	0.50	1.00	0.75	245.45
SIRC15D	18-60	15	267	4	81	255	100	0.50	1.00	0.75	245.45
SIRC24D	18-60	24	167	4	82	250	100	0.50	0.75	0.50	245.45
SIRC28D	18-60	28	143	4	82	250	100	0.50	0.75	0.50	245.45
SIRC48D	18-60	48	83	4	82	250	400	0.50	0.75	0.50	263.80

Series SIR Single Output

SIR SERIES SURFACE MOUNT SINGLE OUTPUT



9	N/C
10	N/C
11	N/C
12	N/C

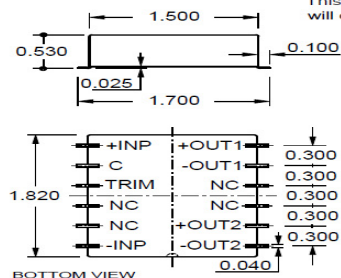
[Larger Size Drawing](#)

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.

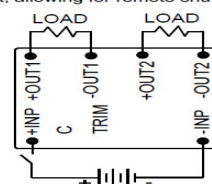
Series SIR Dual Output

SIR SERIES SURFACE MOUNT DUAL OUTPUT

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.

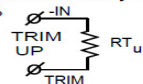


NOTES: Typical Weight: 95 Grams
ALL DIMENSIONS ARE IN INCHES



EXTERNAL OUTPUT TRIMMING.

Output can be externally trimmed
up by +5%



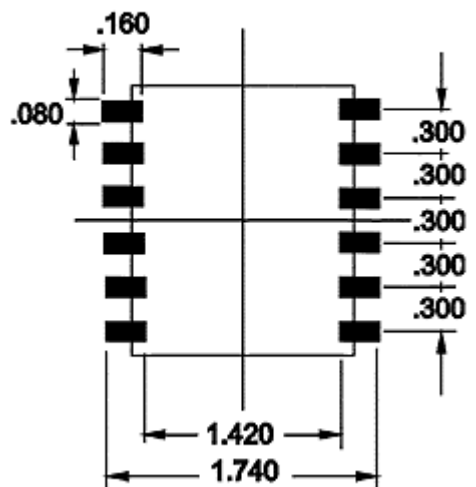
10	N/C
11	+OUT 2
12	-OUT 2

[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.

RECOMMENDED LAND PATTERN DIMENSIONS

Series SIR



For immediate engineering assistance or to place an order:

Call Toll Free: 800-431-1064

PICO Electronics, Inc.

143 Sparks Ave. Pelham, NY 10803

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