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 = ±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 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: ± 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 Toler-ance (± %)*	Vld. Reg. 25%-100% Load** (± %)*	Line Regu-lation (± %)	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

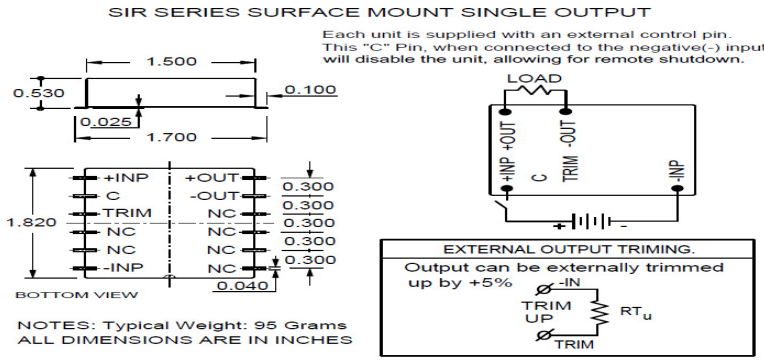
SERIES SIR - DUAL OUTPUT

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 Toler-ance (± %)*	Vld. Reg. 25%-100% Load** (± %)*	Line Regu-lation (± %)	Price (US $)

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

P



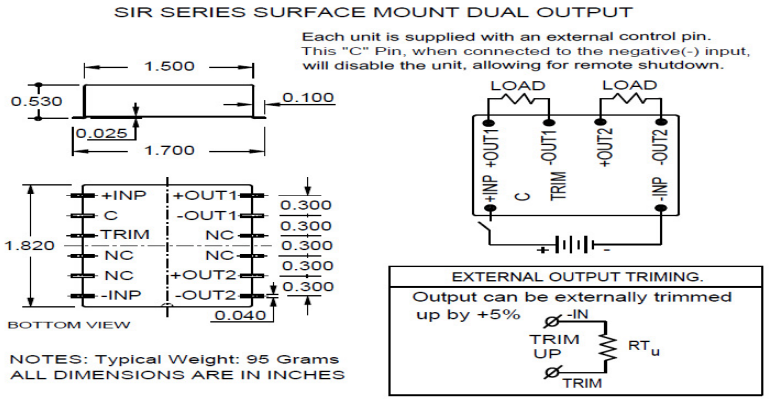
9	N/C
10	N/C
11	N/C
12	N/C

[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 valuecould damage the module.

Series SIR Dual Output

P

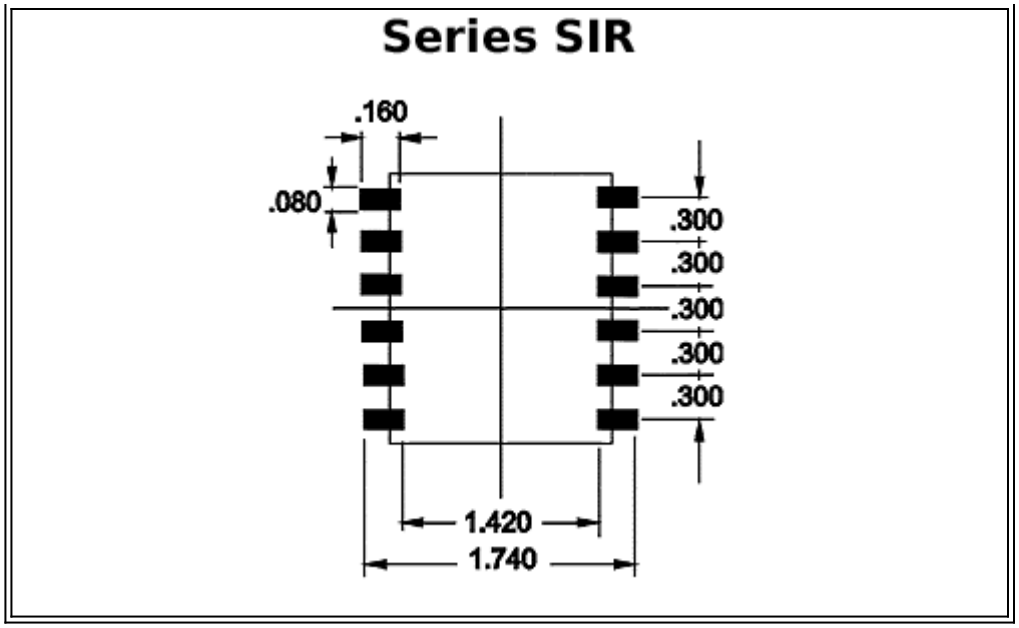


10	N/C
11	+OUT 2
12	-OUT 2

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



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