

1 and 2 WATT DC/DC CONVERTERS

Key Features

- Compact SIP and DIP Packages
- Input/Output Isolated
- Self-recovering Short Circuit Protection
- No derating to 71° C
- Single and Dual Output Models
- Designed to Meet FCC SEC 15, Sub Part J, A and B



Applications

- OP-Amps
- A/D, D/A and F/V converters
- RAM
- EPROMS and EEPROMS
- ECL
- microprocessors negative biasing

These converters provide economical space and efficiency solutions where systems require isolation at the load point. Wherever 5 VDC or 12 VDC are available, these converters enable the designer to have either a positive or negative voltage compatible with today's design and assembly requirements. They operate without derating or heat sinking. Solid tantalum capacitors are used to provide reliability. Applications include OP-Amps, A/D, D/A and F/V converters, RAM, EPROMS, EEPROMS, ECL and microprocessors or negative biasing applications.

General Electrical Specifications

(Specifications at Nominal Input and 25 C, nominal input voltage and rated output current unless otherwise noted.)

Parameter	Limits	Conditions
Input Voltage Range	4.75 - 5.25 VDC 10.80 - 13.20 VDC	5V Input Devices 12V Input Devices
Input Filter Input/Output Isolation	Filter Capacitor 10 ⁻³ megohms (Min) 40pf (Max) 500 VDC (Min)	All Device Types
Output Accuracy 2SP5U5.	± 5% ± 3%	Nominal Line, Full Load
Load Regulation <i>Regulated Models</i>	0.5% 1% 2%	NL to FL Dual O/P NL to FL Single O/P NL to FL Q5R5-5
<i>Unregulated Models</i> Line Regulation	10%	NL to FL Nom. Input
<i>Regulated Models</i> <i>Unregulated Models</i>	0.5% 1.2% per 1%	FL, Low Line to High Line $\Delta V_o / \Delta V_{in}$

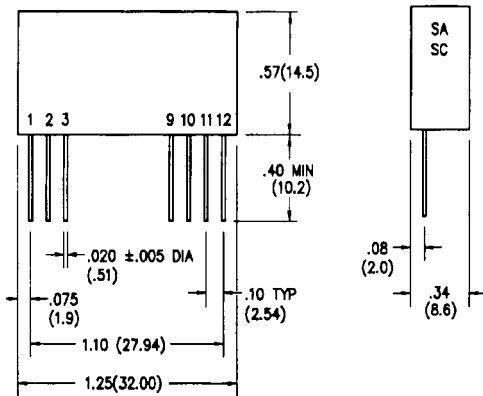
Parameter	Limits	Conditions
Output Voltage Temperature Coefficient: Regulated Unregulated	$\pm .015\%$ per $^{\circ}\text{C}$ $\pm 0.05\%$ per $^{\circ}\text{C}$	Typical Typical
Output Noise/Ripple	Dual 30mV P-P Single 100mV P-P	20Hz - 20 MHz Bandwidth (15 μf , across each output) All Units
Short Circuit Protection Duration	Current Limited Continuous	
Switching Frequency	100 KHz	Typical
Operating Temperature	-25 $^{\circ}\text{C}$ to +71 $^{\circ}\text{C}$	
Derating	None	To 71 $^{\circ}\text{C}$
Storage Temperature	-55 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$	

Selection Guide - Regulated Products

Device Type	Input Voltage Range VDC	Input Current (A) @ Max	Output Voltage VDC	Max Output Current (mA)	Package/ Pinout
S5R5	4.75 - 5.25	.275	+ or - 5	100	SA
Q5R5	4.75 - 5.25	.275	+ or - 5	100	QA
S5R12	4.75 - 5.25	.400	+ or - 12	80	SA
Q5R12	4.75 - 5.25	.400	+ or - 12	80	QA
S5R15	4.75 - 5.25	.365	+ or - 15	65	SA
Q5R15	4.75 - 5.25	.365	+ or - 15	65	QA
Q5R12-12	4.75 - 5.25	.440	± 12	± 40	QB
Q5R15-15	4.75 - 5.25	.500	± 15	± 33	QB
Q12R5	10.80 - 13.20	.120	+ or - 5	100	QA
Q12R12	10.80 - 13.20	.177	+ or - 12	80	QA
S12R15	10.80 - 13.20	.177	+ or - 15	65	SA
Q12R15-15	10.80 - 13.20	.185	± 15	± 33	QB

Selection Guide - Unregulated Products

Device Type	Input Voltage Range VDC	Input Current (A) @ Max	Output Voltage VDC	Max Output Current (mA)	Package/ Pinout
SP5	4.75 - 5.25	.400	+ or - 5	200	SA
QP5	4.75 - 5.25	.400	+ or - 5	200	QA
SA12-12	4.75 - 5.25	.400	± 12	± 40	SC
QA12-12	4.75 - 5.25	.400	± 12	± 40	QC
SA15-15	4.75 - 5.25	.400	± 15	± 33	SC
QA15-15	4.75 - 5.25	.400	± 15	± 33	QC
S24P5	21.60 - 26.40	.090	+ or - 5	250	SA

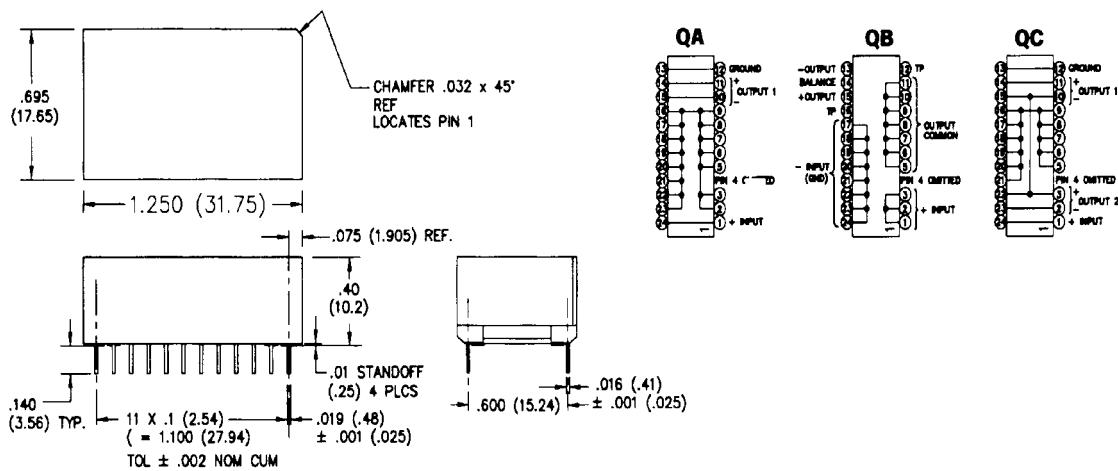
Mechanical Specification (dimensions in inches)
S-PAC


SA(SINGLE OUTPUT)		SC(DUAL OUTPUTS)	
PIN	PIN CONNECTIONS	PIN	PIN CONNECTIONS
1	+INPUT	1	+INPUT
2	NC	2	-OUTPUT 2
3	NC	3	+OUTPUT 2
9	NC	9	NC
10	-OUTPUT	10	-OUTPUT 1
11	+OUTPUT	11	+OUTPUT 1
12	-INPUT	12	-INPUT

SC series pins 3 and 10 connected internally.

NOTES (ALL DEVICES & PACKAGES):

- All dimensions in parentheses are metric.
- Tolerances unless otherwise specified:
.xx ± .03 (.76) .xxx = ± .015 (.38)

QPAC

MATERIALS: Base and cover: Black Stanyl 4/6 nylon TE250F6 UL 94V-0 rated. Post style contact: half hard brass.

PLATING: Post style contact: 100µ" min 60/40 bright tin/lead per Mil-T-10727 over 50µ" min nickel per QQ-N-290

Pin 4 is missing - QPAC .

Reliability Power Locations	
HEADQUARTERS & CUSTOMER SERVICE	SALES
Reliability Power, Incorporated 33 Musick Irvine, CA 92618 USA Tel: (949) 305-6700 Fax: (949) 305-6701	Reliability Power, Incorporated Attention: SALES Tel: (805) 449-1667 Fax: (805) 557-4530
www.reliabilitypower.com	sales@reliabilitypower.com