Reliability® Incorporated *Product Data Sheet*

1 & 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 applications

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.

Reliability Incorporated also provides custom designed DC/DC Converters to meet customer specifications. Reliability Incorporated is based in Houston, Texas, USA and is a leading provider of semiconductor processing equipment and DC/DC converters. Corporate headquarters, located in Houston, TX, USA is ISO 9001 certified. DC/DC converters are manufactured in Costa Rica.

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	5V Input Devices
	10.80 - 13.20 VDC	12V Input Devices
Input Filter	Filter Capacitor	
Input/Output Isolation	10^3 megohms (Min)	All Device Types
	40pf (Max)	
	500 VDC (Min)	
Output Accuracy	± 5%	Nominal Line, Full Load
2SP5U5.	± 3%	
Load Regulation		
Regulated Models	0.5%	NL to FL Dual O/P
	1%	NL to FL Single O/P
	2%	NL to FL Q5R5-5
Unregulated Models	10%	NL to FL Nom. Input
Line Regulation		
Regulated Models	0.5%	FL, Low Line to High Line
Unregulated Models	1.2% per 1%	ΔVo/ΔVin

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

Selection Guide - Regulated Products

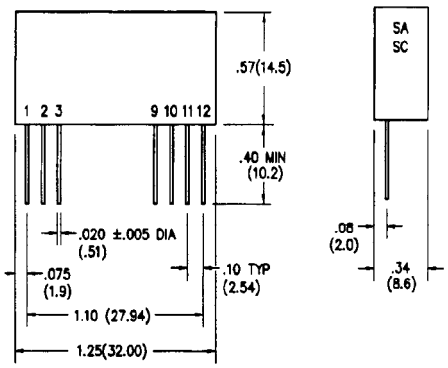
Device Type	Input Voltage Range VDC	Input Current (A) @ Max	Output Voltage VDC	Max Output Current (mA)	Package/ Pinout
S5R5	4.75 - 5.25	.275	+ or - 5	100	SA
Q5R5	4.75 - 5.25	.275	+ or - 5	100	QA
S5R12	4.75 - 5.25	.400	+ or - 12	80	SA
Q5R12	4.75 - 5.25	.400	+ or - 12	80	QA
S5R15	4.75 - 5.25	.365	+ or - 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



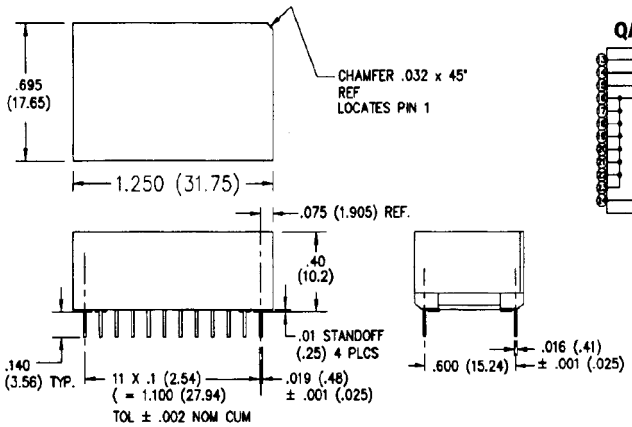
SA(SINGLE OUTPUT)		SC(DUAL OUTPUTS)	
PIN	PIN CONNECTIONS	PIN	PIN CONNECTIONS
1	+INPUT	1	+INPUT
2	NC	2	−OUTPUT 2
3	NC	3	+OUTPUT 2
9	NC	9	NC
10	−OUTPUT	10	−OUTPUT 1
11	+OUTPUT	11	+OUTPUT 1
12	−INPUT	12	−INPUT

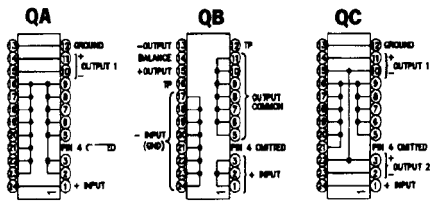
SC series pins 3 and 10 connected internally.

NOTES (ALL DEVICES & PACKAGES):

1. All dimensions in parentheses are metric.
2. 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 Incorporated Locations		
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