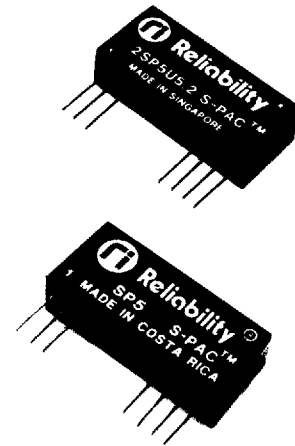


1 AND 2 WATT DC/DC CONVERTERS

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
- Demonstrated MTBF > 300,000 Hours
- 100KHZ Switching Frequency
- 100% Burned In
- Designed To Meet FCC SEC 15,
Sub-part J, A and B



DESCRIPTION

These converters provide economical space and efficiency solutions where systems require isolation at the load point. Wherever 5V DC or 12V DC 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)

PARAMETER	LIMIT	CONDITIONS
Input Voltage Range	4.75 - 5.25VDC 10.8 - 13.2VDC	5V Input Devices 12V Input Devices
Input Filter	Filter Capacitor	
Input/Output Isolation	10 ³ megohms (Min) 40pf (Max) 500 VDC (Min)	All Device Types
Output Accuracy	± 5%	Nominal Line, Full Load
2SP5U5.2	±3%	
Load Regulation		
Regulated Models	0.5% 1% 2% 10%	NL to FL Dual O/P NL to FL Single O/P NL to FL Q5R5-5 NL to FL Nom. Input
Unregulated Models		
Line Regulation		
Regulated Models	0.5%	FL, Low Line to High Line ΔVo/ΔVin
Unregulated Models	1.2%/1%	
Output Voltage Temperature		
Coefficient - Regulated	± .015%/°C	Typical
- Unregulated	± 0.05%/°C	Typical
Output Noise/Ripple	Dual 30mV, P-P Sing. 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
Standard Products
Regulated

DEVICE TYPE	INPUT VOLTAGE RANGE VDC	INPUT CURRENT A (MAX)	OUTPUT VOLTAGE VDC	OUTPUT CURRENT ma (MAX)	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
Q5R5-5	4.75 - 5.25	.450	± 5	±100	QB
Q5R12-12	4.75 - 5.25	.440	±12	±40	QB
Q5R15-15	4.75 - 5.25	.500	±15	±33	QB
S12R5	10.80 - 13.20	.120	+or-5	100	SA
Q12R5	10.80 - 13.20	.120	+or-5	100	QA
S12R12	10.80 - 13.20	.177	+or-12	80	SA
Q12R12	10.80 - 13.20	.177	+or-12	80	QA
S12R15	10.80 - 13.20	.177	+or-15	65	SA
Q12R15	10.80 - 13.20	.177	+or-15	65	QA
Q12R12-12	10.80 - 13.20	.185	±12	±40	QB
Q12R15-15	10.80 - 13.20	.185	±15	±33	QB

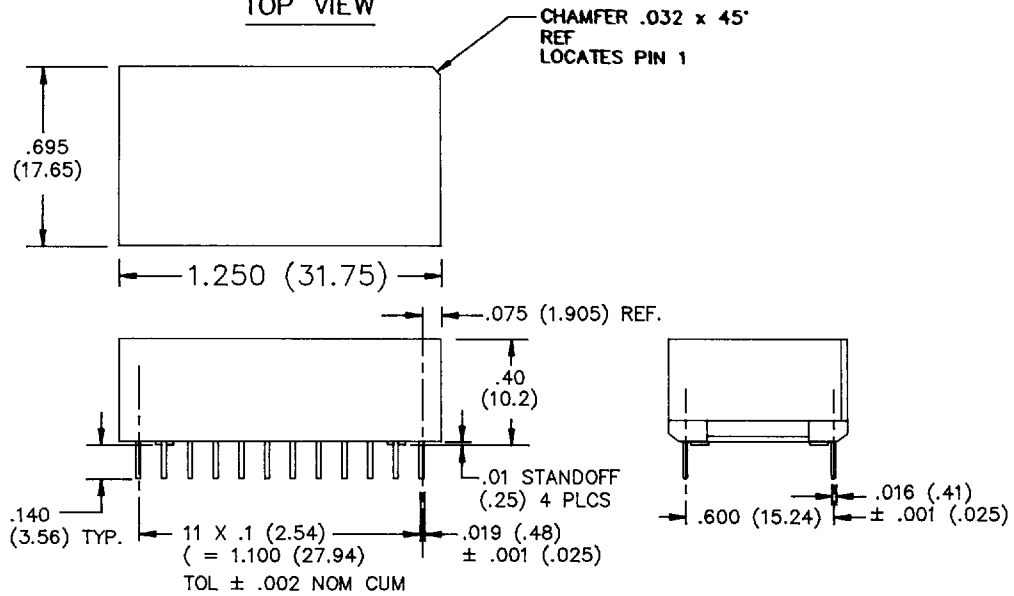
SELECTION GUIDE
Standard Products
Unregulated

DEVICE TYPE	INPUT VOLTAGE RANGE VDC	INPUT CURRENT A (MAX)	OUTPUT VOLTAGE VDC	OUTPUT CURRENT ma (MAX)	PACKAGE/ PINOUT
SP5	4.75 - 5.25	.400	+or-5	200	SA
QP5	4.75 - 5.25	.400	+or-5	200	QA
QP12-12	4.75 - 5.25	.400	DUAL 12*	±40	QD
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
S12P5	10.80 - 13.20	.150	+or-5	200	SA
S12A12-12	10.80 - 13.20	.200	±12	±40	SC
Q12A12-12	10.80 - 13.20	.200	±12	±40	QC
S24P5	21.60 - 26.40	.090	+or-5	250	SA
2SP5U5.2	4.75 - 5.25	.600	+or-5.2	450	SP

* DUAL ISOLATED (50VDC) OUTPUT CHANNELS

MECHANICAL SPECIFICATION

TOP VIEW



NOTES:

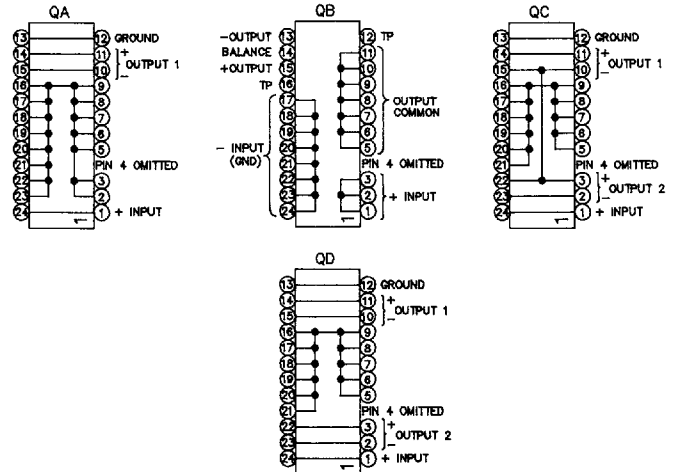
MATERIALS:

BASE AND COVER: BLACK STANYL 4/6 NYLON
TE250F6 UL 94V-0 RATED.
POST STYLE CONTACT: HALF HARD BRASS.

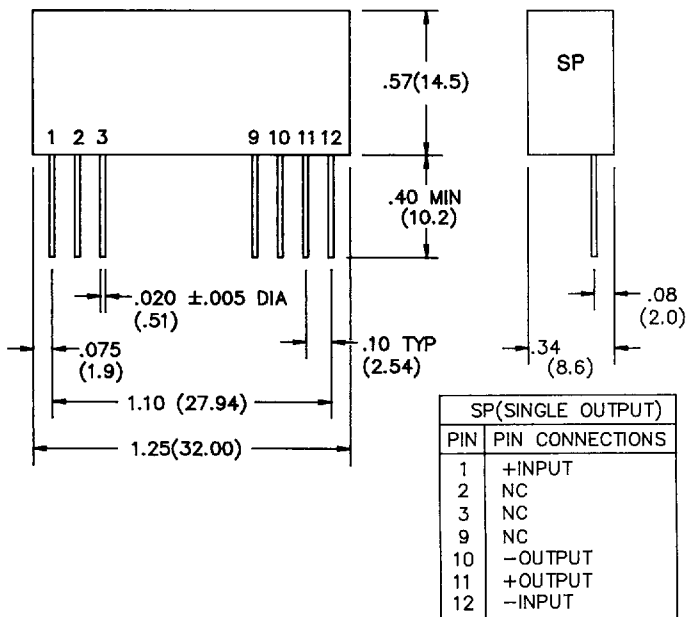
PLATING:

POST STYLE CONTACT: 100u" MIN 60/40 BRIGHT
TIN/LEAD PER MIL-T-10727 OVER
50u" MIN NICKEL PER QQ-N-290.

PIN 4 IS MISSING.



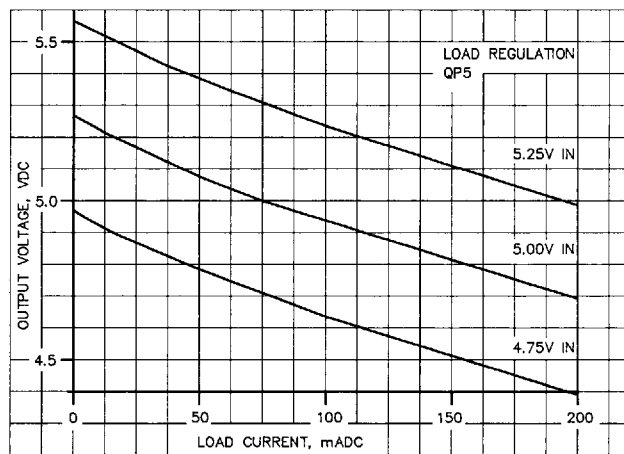
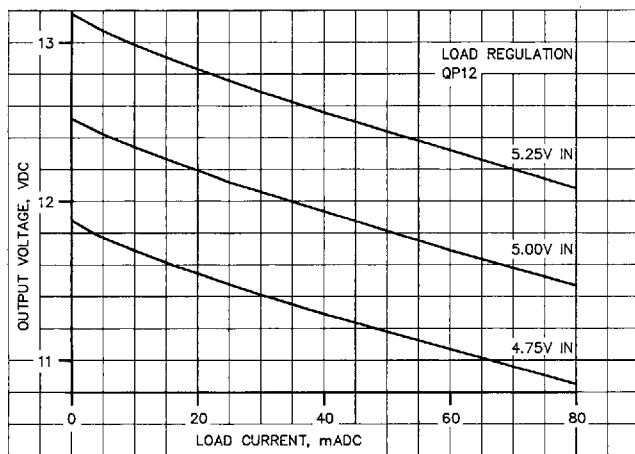
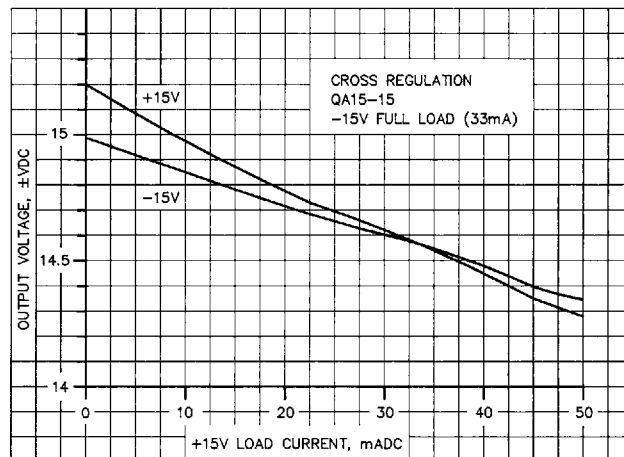
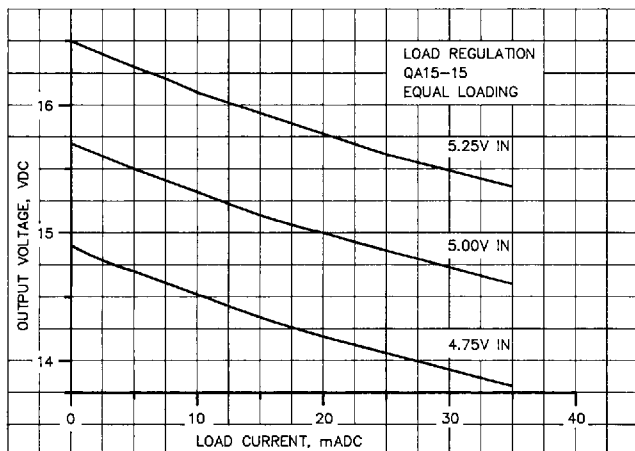
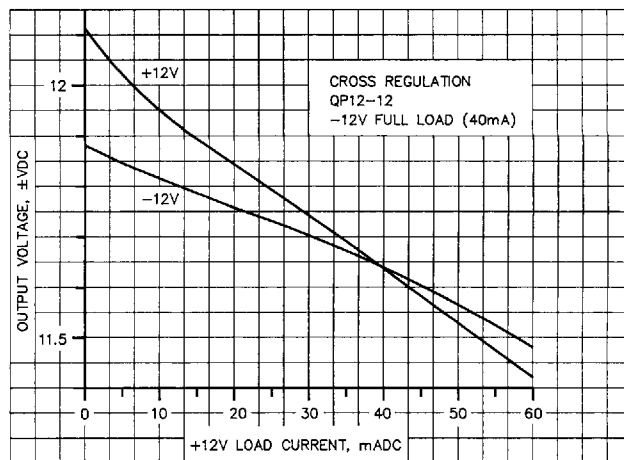
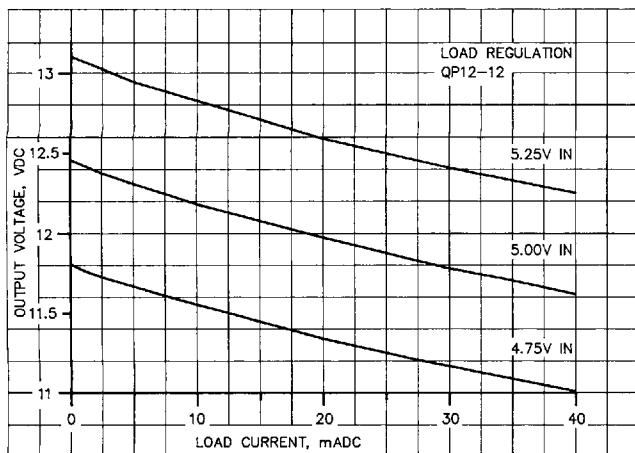
ALL VIEWED FROM TOP



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

NOTES:

- ALL DIMENSIONS IN PARENTHESES ARE METRIC.
- TOLERANCES UNLESS OTHERWISE SPECIFIED: .XX = ±.03 (.76)
.XXX = ±.015 (.36)



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12-63-12M-694

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