2 Watt DC/DC Converters for LAN Transceiver Chips

Key Features

- **Meets FCC Section 15, Sub Part J, A and B**
- **Continuous short circuit protection with foldback on 2E models**
- **No derating to 71° C**
- **Wide input range**

The LAN series of DC/DC converters is designed to provide power and isolation for Local Area Network (LAN) transceiver chips. The LAN series covers both the Cheapernet and Ethernet LAN (IEEE 802.3 - 10 base 5 and 10 base 2 Standards) approach. The use of a compact and inexpensive DC/DC converter as a power source for these transceiver chips allows conversion of the normal bus power to the isolated power required. The series operates from inputs of 5 and 12 VDC for Cheapernet with input/output isolation of 500 VDC. Ethernet converters offer a wide input range of 10.20 to 15.75 VDC with 2500 VDC isolation.

General Electrical Specifications

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

2QP & 2SP Series

Parameter	Limits	Conditions
Input Voltage Range		
5V Devices	**4.75 - 5.25 VDC**	
12 V Devices	**11.4 - 12.6 VDC**	
Input Filter	**Filter Capacitor**	**All Device Types**
Input/Output Isolation Voltage	**500 VDC (Min)**	
Resistance	**10^3 megohms (Min)**	
Output Voltage Accuracy		
2QP & 2SP Device Types	**± 5%**	**Nom. Line at Full Load**
Load Regulation	**See Graph***	
Output Noise/Ripple	**100mV P-P (Max)**	**20Hz-20MHz Bandwidth**
Minimum Load Required	**10% of Full Load**	**All Units**
Line Regulation	**See Graph***	
Short Circuit Protection	**Momentary**	**All Units**
Operating Temperature	**-25℃ to +71℃**	
Derating	**None**	**To 71℃**
Storage Temperature	**-55℃ to +125℃**	
FCC Sec 15, Sub Part J	**Yes**	**Class B Radiated, Class A Conducted**

General Electrical Specifications

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

2E12R9 Series

Parameter	Limits	Conditions
Input Voltage Range	10.2 - 15.75VDC	All Devices
Input Filter	Filter Capacitor	All Device Types
Input/Output Isolation		
Voltage	2500 VDC (Min)	All Device Types
Resistance	10^3 Megohms (Min)	
Output Voltage Accuracy	± 5%	Nom. Line at Full Load
Load Regulation	50mV	Nom. Line, NL to FL
Line Regulation	300mV	Full Input Range, FL
Output Noise/Ripple	100mV, P-P (Max)	20Hz-20MHz Bandwidth
Short Circuit Protection	Current Foldback	All Units
Duration	Continuous	
Switching Frequency	30 KHz	Typical
Operating Temperature	-25℃ to +71℃	
Derating	None	To 71℃
Storage Temperature	-55℃ to +125℃	
External Heatsink	Recommended For Still Air Environments	
Case	UL94V-0	
Encapsulant	UL94H-B	
Heat Dissipation	45℃ Case Rise	
FCC Sec 15, Sub Part J	Yes	High Line, Full Load Class B Radiated, Class A Conducted

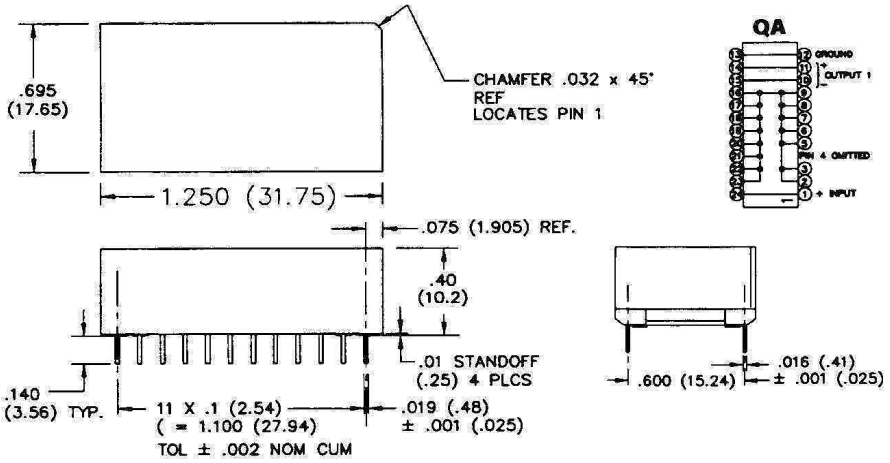
Selection Guide

Device Type	Input Voltage Range VDC	Typical Input Current (A) @ Max Load	Output Voltage VDC	Max Output Current (mA)	Package/ Pinout
2QP5U9	4.75 - 5.25	.600	-9	250	QA
2SP5U9	4.75 - 5.25	.600	-9	250	SA
2QP12U9	11.40 - 12.60	.250	-9	250	QA
2E12R9	10.20 - 15.75	.350	-9	250	2E
2SP12U9	11.40 - 12.60	.250	-9	250	SA

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

Mechanical Specification (dimensions in inches)

QPAC



NOTES (ALL DEVICES & PACKAGES):

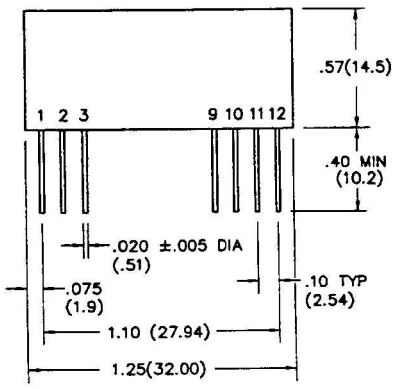
1. All dimensions in parentheses are metric.
2. Tolerances unless otherwise specified: .xx ± .03 (.76) .xxx = ± .015 (.38)

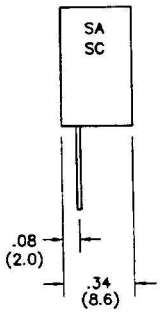
MATERIALS: Base and cover: Black Stanyl 4/6 nylon TE250F6 UL 94V-0 rated. Post style contact: half hard brass.

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.

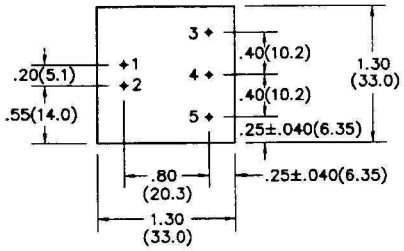
SA

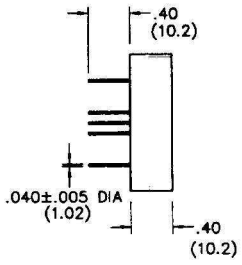




PIN	PIN CONNECTIONS
1	+INPUT
2	NC
3	NC
9	NC
10	−OUTPUT
11	+OUTPUT
12	−INPUT

2E





SINGLE 9V OUTPUT	
PIN	PIN CONNECTIONS
1	+INPUT
2	−INPUT
3	NO CONNECTION
4	OUTPUT COMMON
5	−OUTPUT