

D1012DA Series 12W Max. Power

Features

- DIL Package
- 9-18V, 18-36V, 36-75V Wide Input
- 100% Burn-in
- High Efficiency
- RoHS Compliant



Output

Voltage Set-point Accuracy	+/-2% max.
Temperature Coefficient	+/-0.05%/°C
Ripple & Noise¹	150mVp-p max.
Line Regulation²	+/-0.5% max.
Load Regulation³	+/-0.5% max.

Vout: 2.5V, 3.3V +/-1% max.

Minimum Load	20% of Full Load
Short Circuit Protection	Continuous
Short Circuit Restart	Automatic
Over Load Protection	110%~180%
Transient Response⁵	500uS max.

Environmental

Operating Temperature	-40°C to +90°C (with derating)
Case Temperature	+95°C max.
Storage Temperature	-55°C to +105°C
Humidity	95% max.
Cooling	Free-Air Convection

Input

Input Voltage Range	2:1 Input Range
Input Filter	Pi Network
Protection	Fuse Recommended

General

Efficiency	78% min.
Isolation Voltage⁴	1500VDC min.
Isolation Resistance	10 ⁹ ohms min.
Isolation Capacitance	2200pF max.
Switching Frequency	400KHz Typ.
MTBF⁶	>600,000 Hours
Weight	18.5g Typ.

Case Type	Five-Side Shielded
Case Size	31.8*20.3*12.2mm
Potting Material	Epoxy (UL94V-0)
Conducted Emissions	EN55022 Class A
Radiated Emissions	EN55022 Class A
Remote On/Off	

-ON	3.0 to 12V/DC or open circuit (referenced to-Vin)
-Off	0 to 1.2V/DC or short circuit pin 1 and pin 2/3
-Off idle current	2.5mA

¹ Measured at 20Mhz bandwidth with 1uF ceramic capacitor connected to the output pins.

² High Line to Low Line.

³ Load Regulation is for output load current change from 20% to 100%.

⁴ 1500VDC for 10 seconds.

⁵ 25% Step Load Change.

⁶ MIL-HDBK-217F @25°C, Ground, Benign.

Selection Table 2:1 12W OUTPUT

PART NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ⁷ CURRENT(mA)		EFF (%) ⁸	PACKAGE	CAPACITOR LOAD MAX
				FULL LOAD	NO LOAD			
D1012DA918-2.5	9-18	2.5	3000	802	70	78	A	1000uF
D1012DA918-3.3	9-18	3.3	3000	1025	70	80	A	1000uF
D1012DA918-5	9-18	5	2400	1190	70	84	A	1000uF
D1012DA918-12	9-18	12	1000	1204	70	83	A	220uF
D1012DA918-15	9-18	15	800	1204	70	83	A	220uF
D1012DA1836-2.5	18-36	2.5	3000	401	35	78	A	1000uF
D1012DA1836-3.3	18-36	3.3	3000	513	35	80	A	1000uF
D1012DA1836-5	18-36	5	2400	602	35	83	A	1000uF
D1012DA1836-12	18-36	12	1000	602	35	83	A	220uF
D1012DA1836-15	18-36	15	800	590	35	85	A	220uF
D1012DA3675-2.5	36-75	2.5	3000	201	25	78	A	1000uF
D1012DA3675-3.3	36-75	3.3	3000	252	25	83	A	1000uF
D1012DA3675-5	36-75	5	2400	298	25	84	A	1000uF
D1012DA3675-12	36-75	12	1000	301	25	83	A	220uF
D1012DA3675-15	36-75	15	800	294	25	85	A	220uF

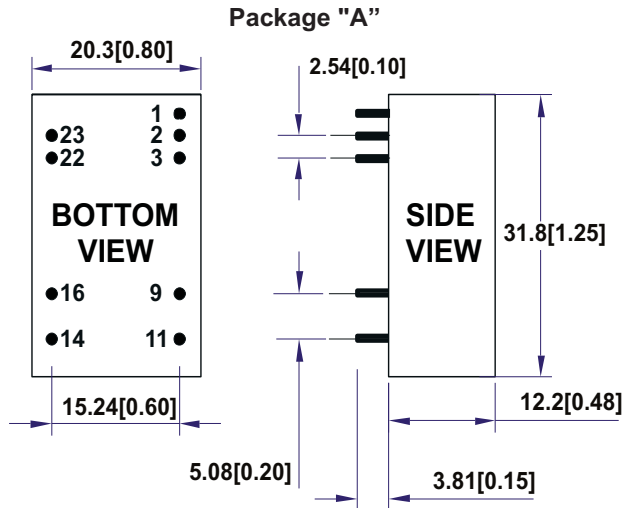
Note: For other input or output voltages, please contact us.

⁷Nominal Input Voltage

⁸Nominal Input Voltage, Full load

Mechanical

Unit: mm(inches)



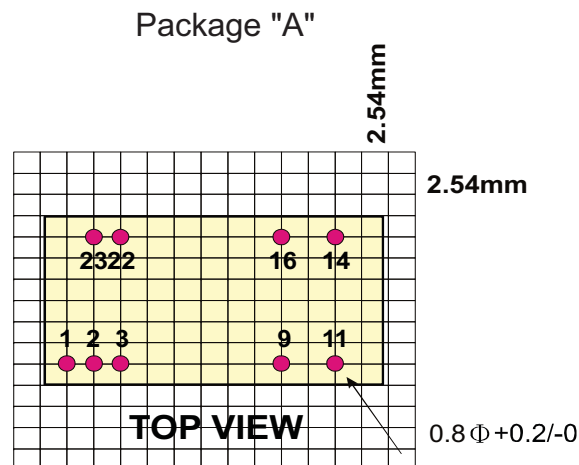
PIN	Single
1	Remote On/Off
2 & 3	-Vin
9	NC
11	NC
14	+Vout
16	-Vout
22 & 23	+Vin

NOTE:

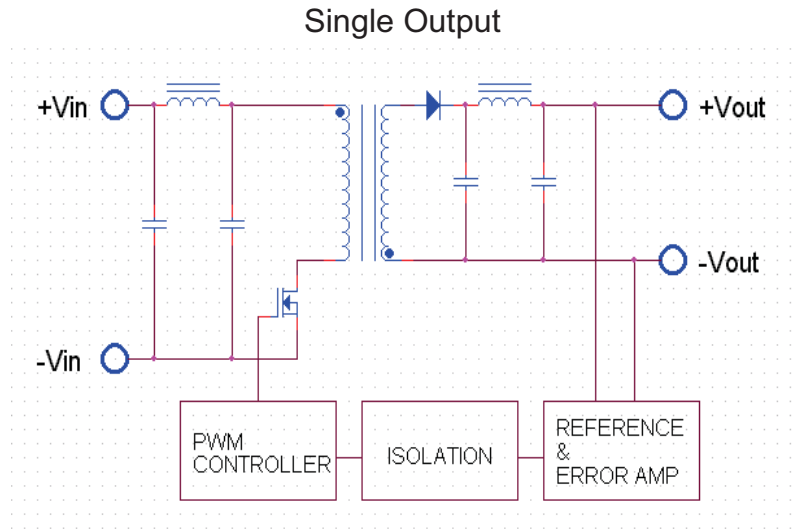
Pin Size Tolerance $0.6\Phi \pm 0.05\text{mm}$

Tolerance .X or .XX= $\pm 0.50\text{mm}$

Recommended Footprint Details



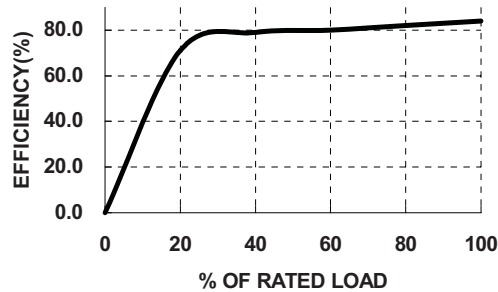
Simplified Schematic



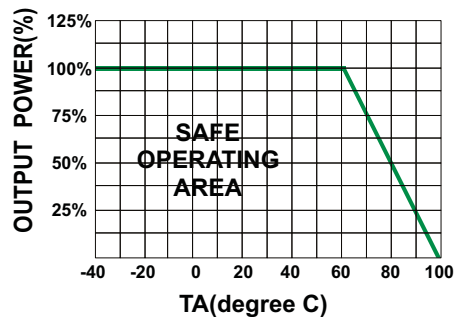
Performance Curves

Specifications typical at $T_a=25^{\circ}\text{C}$, nominal input voltage, rated output current unless otherwise noted.

Output Load vs Efficiency



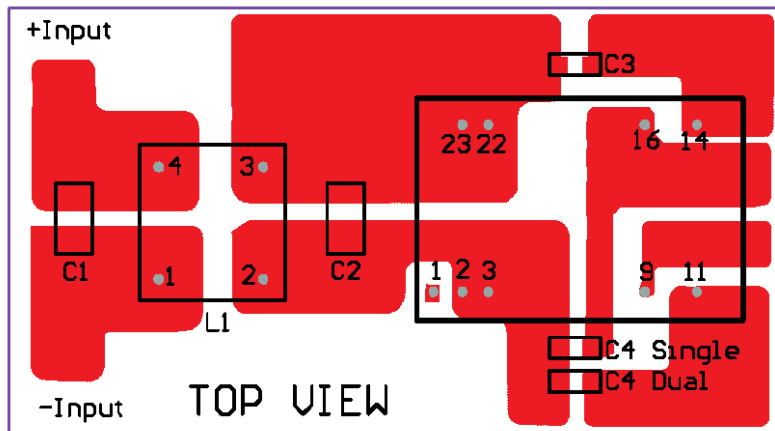
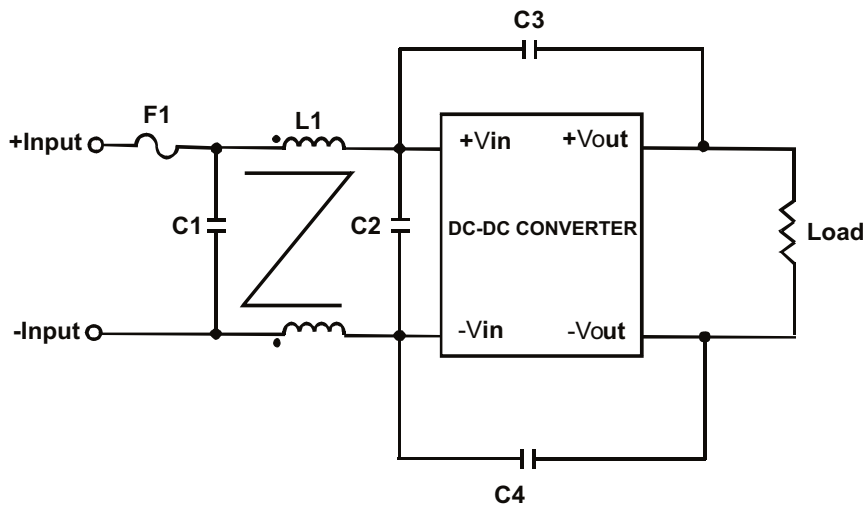
Temperature Derating



Recommended Filter for EN 55022 Class B Compliance

The components used in the above figure are as follows:

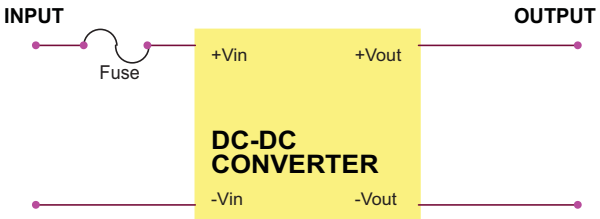
C1	C2	C3	C4	L1
3.3uF/50V 1812 MLCC	N/A	1000pF/2KV MLCC	1000pF/2KV MLCC	325uH Common Choke
4.7uF/50V 1812 MLCC	N/A	1000pF/2KV MLCC	1000pF/2KV MLCC	325uH Common Choke
2.2uF/100V 1812 MLCC	2.2uF/100V 1812 MLCC	1000pF/2KV MLCC	1000pF/2KV MLCC	325uH Common Choke



Recommended EN55022 Class B Filter Circuit Layout

Input Fuse Selector Guide

9-18V INPUT VOLTAGE(VDC)	18-36V INPUT VOLTAGE(VDC)	36-75V INPUT VOLTAGE(VDC)
3000mA Slow-Blow Type	1200mA Slow-Blow Type	600mA Slow-Blow Type



Note: Certain applications may require the installation of external fuse in front of the input.

EXTERNAL CAPACITANCE REQUIREMENTS:

It is recommended that 10uF tantalum and 0.1uF ceramic capacitance be used for reduced system noise, but external capacitance is required for operation of any models within the series.

To meet the reflected ripple requirements of the converter an input impedance of less than 0.5 ohm from DC to 100KHz is required.

EN55011/22 Class A compliant EMC filter optional.