

DC-DC Converter UNIT

DU Series (5W UNREGULATED DC-DC CONVERTER)

FEATURES

- 1000VDC ISOLATION
- HIGH EFFICIENCY
- INTERNAL FILTERING
- LOW COST
- NO EXTERNAL COMPONENTS REQUIRED
- UP TO 5W UNREGULATED OUTPUT POWER
- DUAL IN LINE PACKAGE
- 100% BURNED IN
- LOW NOISE



● OUTPUT SPECIFICATIONS

Voltage Setpoint Accuracy	+/-3% max
Temperature Coefficient	+/-0.03%/°C
Ripple & Noise (20MHz BW)	100mVp-p max
Line Regulation ¹	+/-1.2% max
Load Regulation ²	+/-8% max
Short Circuit Protection	Momentary

● ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-25°C to +70°C
Storage Temperature	-55°C to +100°C
Cooling	Free-Air Convection

ALL SPECIFICATIONS TYPICAL AT NOMINAL LINE, FULL LOAD , AND 25 °C UNLESS OTHERWISE NOTED.

● INPUT SPECIFICATIONS

Input Voltage Range	+/-10% max
Input Filter	Pi Network

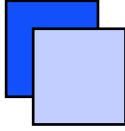
● GENERAL SPECIFICATIONS

Efficiency	79%-91%
Isolation Voltage ³	1000 VDC min
Isolation Resistance	10 ⁹ ohms min
Switching Frequency	50 KHz min
Isolation Capacitance	80pF max
Weight	19.2g Typ
Case Material	Non-Conductive Plastic
Case Size	33.0mm*33.0mm*10.2mm

¹ Line Regulation is for a 1.0% change in input Voltage.

² Load Regulation is for output load current change from 20% to 100%.

³ For 10 seconds



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● SELECTION GUIDE 5W OUTPUT

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT CURRENT(mA)		EFF (%)	ISOLATION (VDC)
				FULL LOAD	NO LOAD		
				DUS-0503.3	5		
DUS-0505	5	5	1000	1210	80	83	1000
DUS-0512	5	12	417	1150	80	87	1000
DUS-0515	5	15	333	1150	80	87	1000
DUS-0524	5	24	208	1152	80	87	1000
DUD-0505	5	+/-5	+/-500	1210	80	83	1000
DUD-0512	5	+/-12	+/-208	1150	80	87	1000
DUD-0515	5	+/-15	+/-167	1150	80	87	1000
DUS-1205	12	5	1000	496	40	84	1000
DUS-1212	12	12	417	479	40	87	1000
DUS-1215	12	15	333	479	40	87	1000
DUS-1224	12	24	208	482	40	86	1000
DUD-1205	12	+/-5	+/-500	496	40	84	1000
DUD-1212	12	+/-12	+/-208	479	40	87	1000
DUD-1215	12	+/-15	+/-167	479	40	87	1000
DUS-2405	24	5	1000	251	20	83	1000
DUS-2412	24	12	417	245	20	85	1000
DUS-2415	24	15	333	239	20	87	1000
DUS-2424	24	24	208	241	20	86	1000
DUD-2405	24	+/-5	+/-500	251	20	83	1000
DUD-2412	24	+/-12	+/-208	230	20	90	1000
DUD-2415	24	+/-15	+/-167	230	20	90	1000
DUS-4824	48	24	208	125	15	83	1000

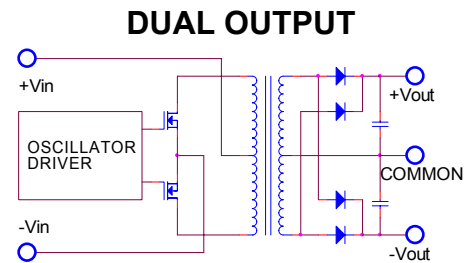
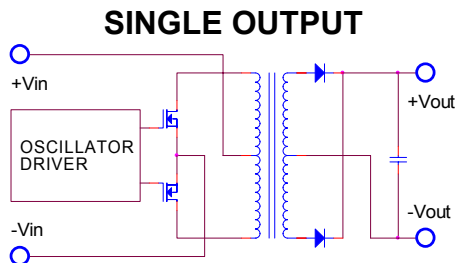
Note: Other input to output voltages may be available. Please contact factory.



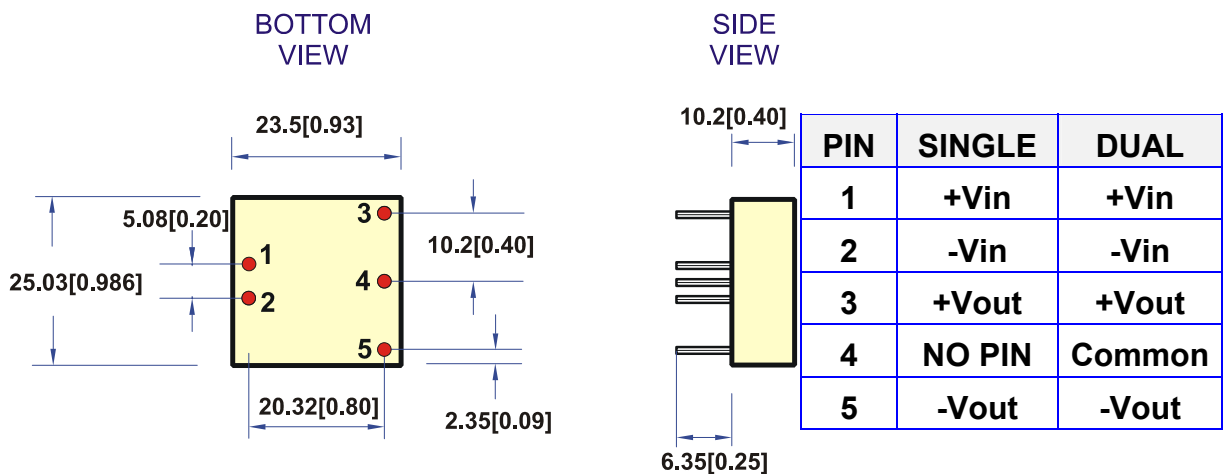
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● SIMPLIFIED SCHEMATIC

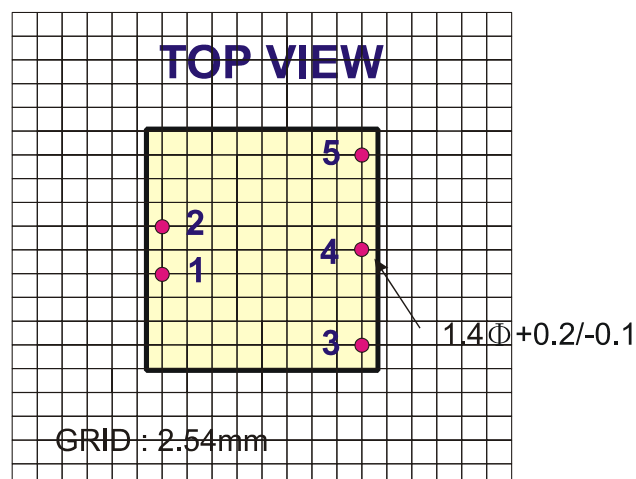


● MECHANICAL DIMENSIONS



All dimensions are in millimeters[inches]

● RECOMMENDED FOOTPRINT DETAILS



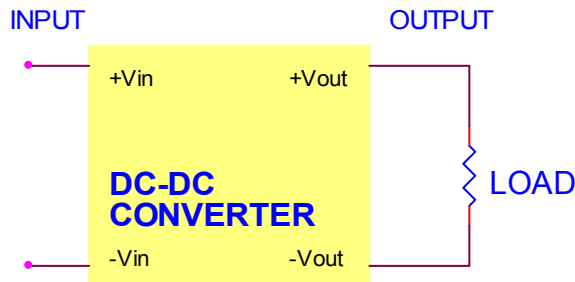


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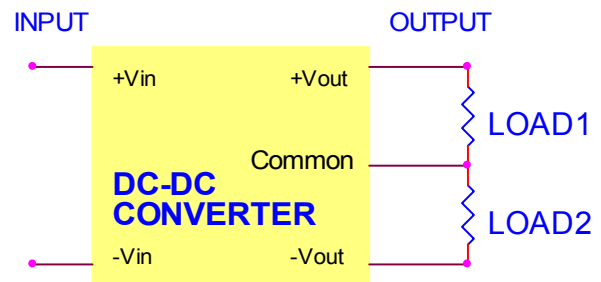
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● TYPICAL APPLICATIONS

SINGLE OUTPUT



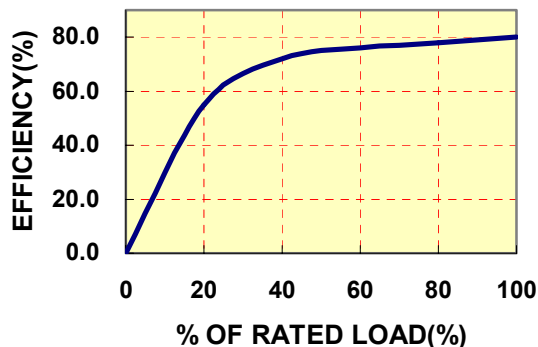
DUAL OUTPUT



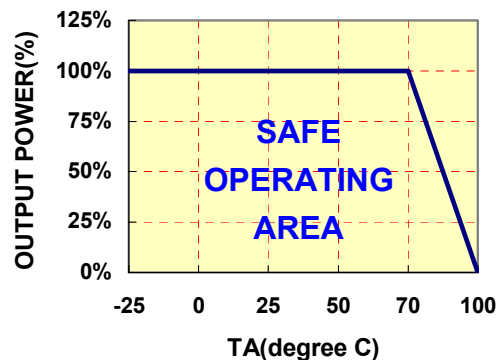
● TYPICAL PERFORMANCE CUREVES

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

EFFICIENCY VS LOAD



DERATING CURVE



DU SERIES APPLICATION NOTES:

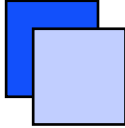
EXTERNAL CAPACITANCE REQUIREMENTS:

No external capacitance is required for operation of the DU 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.

External output capacitance is not required for operation, however it is recommended that 10uF tantalum and 0.1uF ceramic capacitance be selected for reduced system noise.

Additional output capacitance may be added for increased filtering, but should not exceed 220uF.



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Negative Outputs:

A negative output voltage may be obtained by connecting the +OUT to circuit ground and connecting –OUT as the negative output.

FOR MORE INFORMATION CALL:

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