

CR SERIES

3W REGULATED



FEATURES

- DUAL IN LINE PACKAGE
- UP TO 3W REGULATED OUTPUT POWER
- NO EXTERNAL COMPONENTS REQUIRED
- 100% BURN IN
- HIGH EFFICIENCY
- UL 94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE



OUTPUT SPECIFICATIONS

Voltage Set-point Accuracy	+/-3% max
Temperature Coefficient	+/-0.05%/°C
Ripple & Noise(20MHz BW) ¹	100mVp-p max
Line Regulation ²	+/-1% max
Load Regulation ³	+/-1% max
Minimum Load	10% of Full Load
Short Circuit Protection	Current Limit Protection
Short Circuit Restart	Automatic
Transient Response ⁵	200uS max

INPUT SPECIFICATIONS

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

GENERAL SPECIFICATIONS

Efficiency	58% min
Isolation Voltage ⁴	1500VDC min
Isolation Resistance	10 ⁹ ohms min
Isolation Capacitance	80pF max
Switching Frequency	50 KHz min
MTBF ⁶	>850,000 Hours
Weight	12.0g-14.4g
Case Material	Non-Conductive Plastic Or Five-Sided Shield Case
Case Size	31.8mm*20.3mm*10.2mm
Potting Material	Epoxy(UL 94-V-0)
Conducted Emissions	EN55022 Class A
Radiated Emissions	EN55022 Class A

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-25°C to +71°C
Storage Temperature	-55°C to +125°C
Humidity	95% max
Cooling	Free-Air Convection

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

¹ Measured with 1uF ceramic capacitor connect to the output pins.

² High Line to Low Line.

³ Load Regulation is for output load current change from 10% to 100%.

⁴ For 10 seconds.

⁵ 25% Step Load Change.

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

● SELECTION GUIDE

MODEL NUMBER ⁷	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT ⁸		EFF (%) ⁹	ISOLATION (VDC)
				CURRENT(mA)			
				FULL LOAD	NO LOAD		
CRS-0505(M)	4.5-5.5	5	600	960	85	63	1500
CRS-0509(M)	4.5-5.5	9	330	950	85	63	1500
CRS-0512(M)	4.5-5.5	12	250	930	85	64	1500
CRS-0515(M)	4.5-5.5	15	200	940	85	65	1500
CRS-0524(M)	4.5-5.5	24	125	910	92	66	1500
CRD-0505(M)	4.5-5.5	+/-5	+/-300	1110	85	54	1500
CRD-0512(M)	4.5-5.5	+/-12	+/-125	930	85	62	1500
CRD-0515(M)	4.5-5.5	+/-15	+/-100	950	90	63	1500
CRS-1205(M)	10.8-13.2	5	600	410	40	61	1500
CRS-1209(M)	10.8-13.2	9	330	400	40	63	1500
CRS-1212(M)	10.8-13.2	12	250	380	40	65	1500
CRS-1215(M)	10.8-13.2	15	200	360	40	67	1500
CRS-1224(M)	10.8-13.2	24	125	360	40	68	1500
CRD-1205(M)	10.8-13.2	+/-5	+/-300	440	40	57	1500
CRD-1212(M)	10.8-13.2	+/-12	+/-125	390	40	63	1500
CRD-1215(M)	10.8-13.2	+/-15	+/-100	367	40	65	1500
CRS-2405(M)	21.6-26.4	5	600	200	27	63	1500
CRS-2409(M)	21.6-26.4	9	330	190	26	66	1500
CRS-2412(M)	21.6-26.4	12	250	180	27	67	1500
CRS-2415(M)	21.6-26.4	15	200	180	26	67	1500
CRS-2424(M)	21.6-26.4	24	125	180	27	68	1500
CRD-2405(M)	21.6-26.4	+/-5	+/-300	210	27	60	1500
CRD-2412(M)	21.6-26.4	+/-12	+/-125	194	26	64	1500
CRD-2415(M)	21.6-26.4	+/-15	+/-100	180	27	66	1500
CRS-4805(M)	43.2-52.8	5	600	100	15	63	1500
CRS-4809(M)	43.2-52.8	9	330	95	15	65	1500
CRS-4812(M)	43.2-52.8	12	250	90	15	66	1500
CRS-4815(M)	43.2-52.8	15	200	90	15	67	1500
CRS-4824(M)	43.2-52.8	24	125	90	15	67	1500
CRD-4805(M)	43.2-52.8	+/-5	+/-300	100	15	63	1500
CRD-4812(M)	43.2-52.8	+/-12	+/-125	90	15	65	1500
CRD-4815(M)	43.2-52.8	+/-15	+/-100	90	15	65	1500

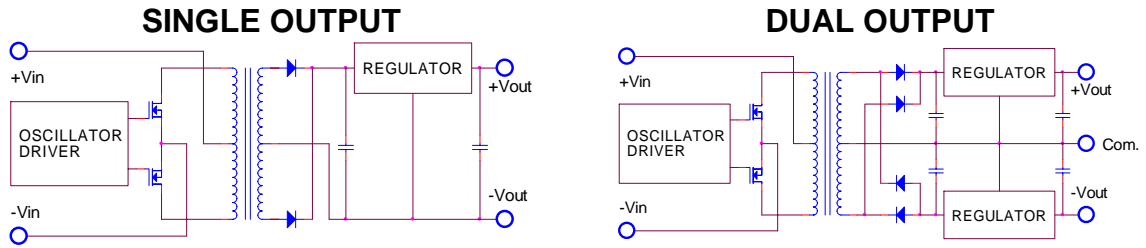
Note: Other input to output voltages may be available. Please contact factory.

⁷ CR*.**** ----- Non-Conductive Plastic CR*.****M ----- Five-sided shield case

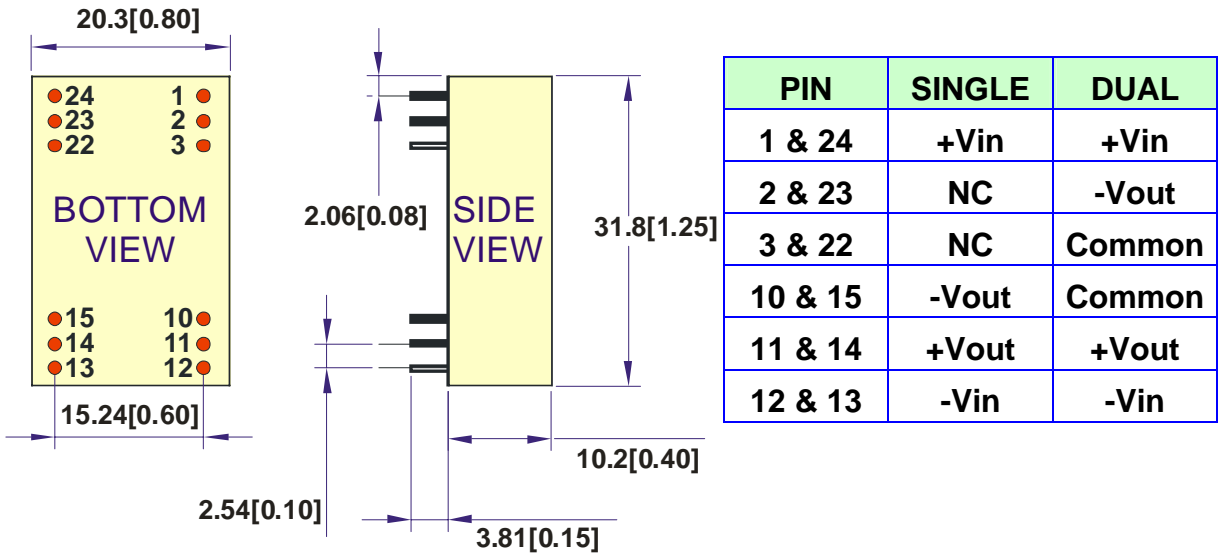
⁸ NOMINAL INPUT VOLTAGE.

⁹ NOMINAL INPUT VOLTAGE, FULL LOAD.

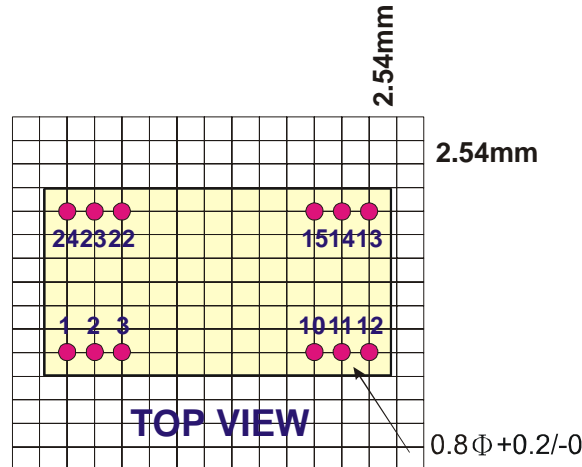
● SIMPLIFIED SCHEMATIC



● MECHANICAL DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS

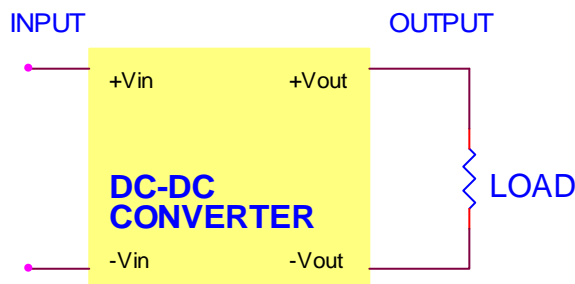


All dimensions are in mm[inches]

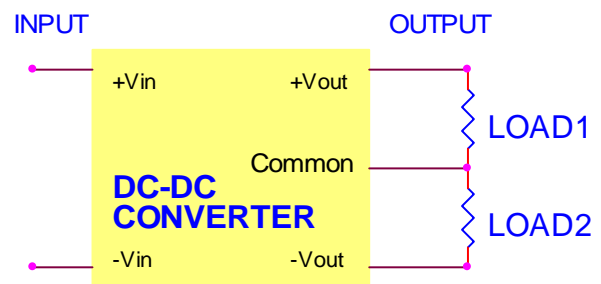


● TYPICAL APPLICATIONS

SINGLE OUTPUT



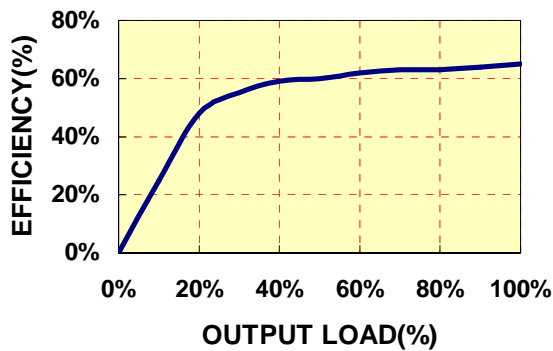
DUAL OUTPUT



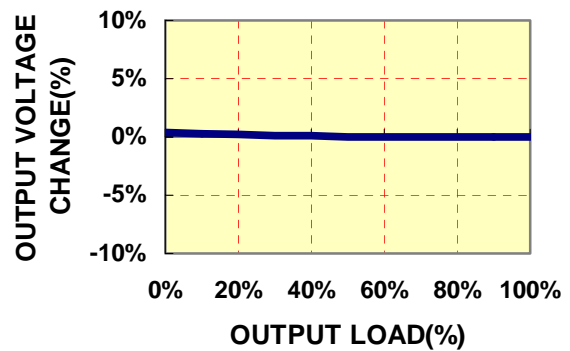
● TYPICAL PERFORMANCE CURVES

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

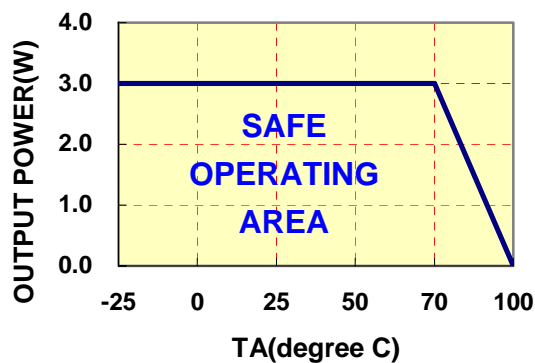
OUTPUT LOAD VS EFFICIENCY



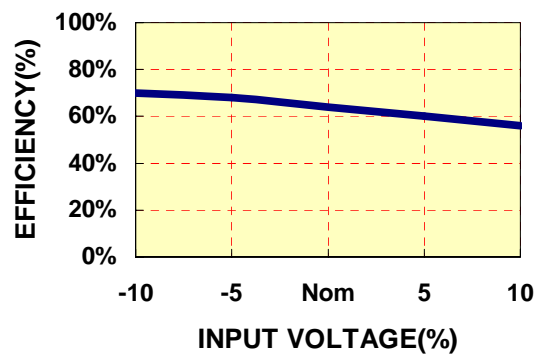
OUTPUT LOAD VS OUTPUT VOLTAGE



TEMPERATURE DERATING



INPUT VOLTAGE VS EFFICIENCY



● INPUT FUSE SELECTION GUIDE

4.5-5.5V	10.8-13.2V	21.6-26.4V	43.2-52.8V
INPUT VOLTAGE(VDC)	INPUT VOLTAGE(VDC)	INPUT VOLTAGE(VDC)	INPUT VOLTAGE(VDC)
2000mA Slow-Blow Type	1000mA Slow-Blow Type	600mA Slow-Blow Type	300mA Slow-Blow Type

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

CR SERIES APPLICATION NOTES:

EXTERNAL CAPACITANCE REQUIREMENTS:

No external capacitance is required for operation of the CR 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.

We Can Offer EMC-Filter According To EN55011/22 Class B.

Negative Outputs:

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