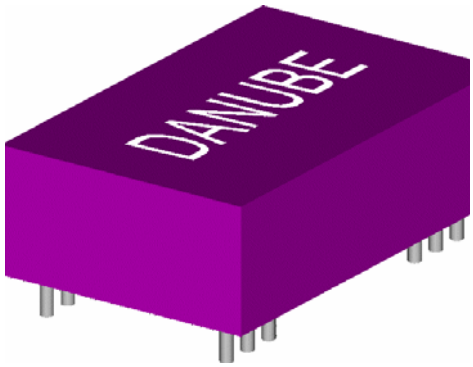
DC-DC Converter UNIT

CR Series (3W REGULATED DC-DC CONVERTER)

FEATURES

- 1000VDC ISOLATION
- HIGH EFFICIENCY
- SIX-SIDED SHIELD TO REDUCE EMI
- LOW COST
- NO EXTERNAL COMPONENTS REQUIRED
- UP TO 3W REGULATED OUTPUT POWER
- DUAL IN LINE PACKAGE
- 100% BURNED IN
- LOW NOISE
- MTBF > 850,000 HOURS



OUTPUT SPECIFICATIONS

Voltage Setpoint Accuracy	+/-2% max
Temperature Coefficient	+/-0.03%/ °C
Ripple & Noise (20MHz BW)	100mVp-p max
Line Regulation[1]	+/-0.5% max
Load Regulation[2]	+/-0.5% max
Short Circuit Protection	Current Limit Protection
Short Circuit Restart	Automatic

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-25 °C to +71 °C
Storage Temperature	-55 °C to +125 °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	58% min
Isolation Voltage[3]	1000 VDC min
Isolation Resistance	10^9 ohms min
Switching Frequency	50 KHz min
Isolation Capacitance	80pF max
MTBF	850,000 Hours
Weight	12.0g-14.4g
Case Material	Non-Conductive Plastic Or Six-Sided Shield Case
Case Size	31.8mm*20.3mm*10.2mm

[1] *High Line to Low Line.*

[2] *Load Regulation is for output load current change from 10% to 100%.*

[3] *For 60 seconds*

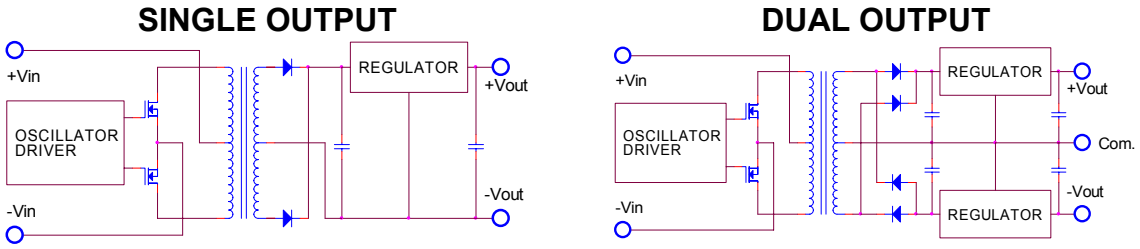
SELECTION GUIDE

MODEL NUMBER[4]	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT CURRENT(mA)		EFF (%)	ISOLATION (VDC)
				FULL LOAD	NO LOAD		
CRS-0505(M)	4.5-5.5	5	600	960	70	63	1000
CRS-0509(M)	4.5-5.5	9	330	950	70	63	1000
CRS-0512(M)	4.5-5.5	12	250	930	70	65	1000
CRS-0515(M)	4.5-5.5	15	200	940	70	64	1000
CRS-0524(M)	4.5-5.5	24	125	940	70	64	1000
CRD-0505(M)	4.5-5.5	+/-5	+/-300	970	70	62	1000
CRD-0512(M)	4.5-5.5	+/-12	+/-125	930	70	65	1000
CRD-0515(M)	4.5-5.5	+/-15	+/-100	940	70	64	1000
CRS-1205(M)	10.8-13.2	5	600	410	30	61	1000
CRS-1209(M)	10.8-13.2	9	330	400	30	63	1000
CRS-1212(M)	10.8-13.2	12	250	380	30	66	1000
CRS-1215(M)	10.8-13.2	15	200	360	30	69	1000
CRS-1224(M)	10.8-13.2	24	125	360	30	69	1000
CRD-1205(M)	10.8-13.2	+/-5	+/-300	420	30	60	1000
CRD-1212(M)	10.8-13.2	+/-12	+/-125	390	30	64	1000
CRD-1215(M)	10.8-13.2	+/-15	+/-100	360	30	69	1000
CRS-2405(M)	21.6-26.4	5	600	200	15	63	1000
CRS-2409(M)	21.6-26.4	9	330	190	15	66	1000
CRS-2412(M)	21.6-26.4	12	250	180	15	69	1000
CRS-2415(M)	21.6-26.4	15	200	180	15	69	1000
CRS-2424(M)	21.6-26.4	24	125	180	15	69	1000
CRD-2405(M)	21.6-26.4	+/-5	+/-300	210	15	60	1000
CRD-2412(M)	21.6-26.4	+/-12	+/-125	194	26	64	1000
CRD-2415(M)	21.6-26.4	+/-15	+/-100	180	15	69	1000
CRS-4805(M)	43.2-52.8	5	600	100	10	63	1000
CRS-4809(M)	43.2-52.8	9	330	95	10	66	1000
CRS-4812(M)	43.2-52.8	12	250	90	10	69	1000
CRS-4815(M)	43.2-52.8	15	200	90	10	69	1000
CRD-4805(M)	43.2-52.8	+/-5	+/-300	100	10	63	1000
CRD-4812(M)	43.2-52.8	+/-12	+/-125	90	10	69	1000
CRD-4815(M)	43.2-52.8	+/-15	+/-100	90	10	69	1000

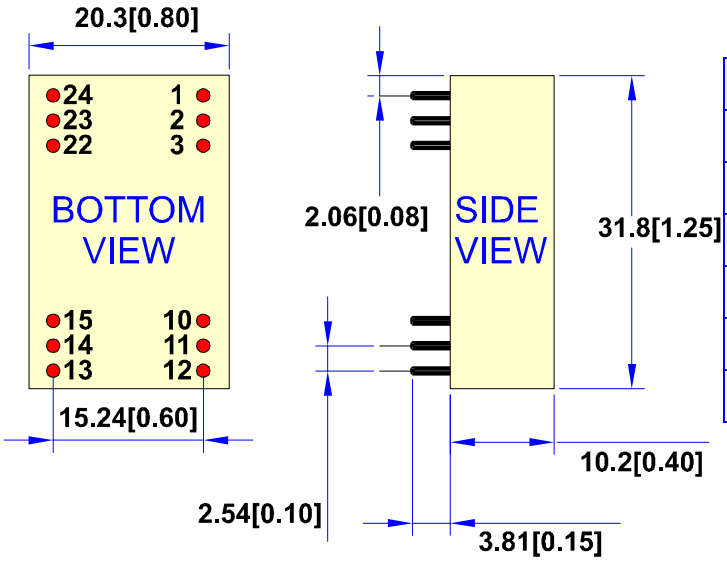
Note: Other input to output voltages may be available. Please contact factory.

[4] *CR*-**** ------ Non-Conductive Plastic* *CR*-****M ------ Six -sided shield case*

SIMPLIFIED SCHEMATIC

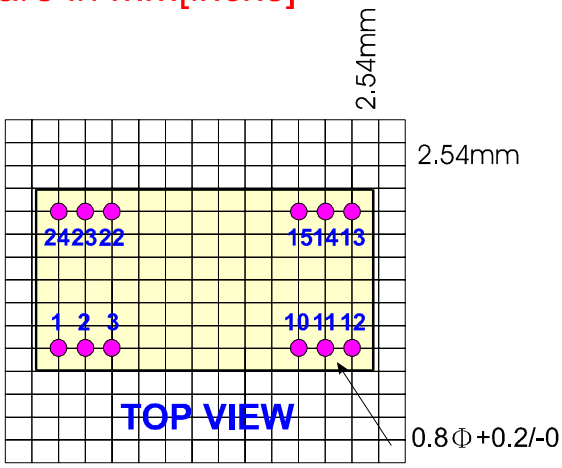


MECHANICAL DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS



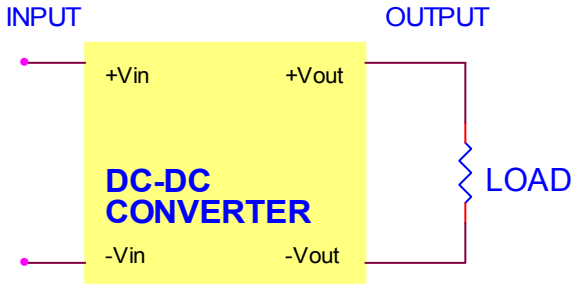
PIN	SINGLE	DUAL
1 & 24	+Vin	+Vin
2 & 23	NC	-Vout
3 & 22	NC	Common
10 & 15	-Vout	Common
11 & 14	+Vout	+Vout
12 & 13	-Vin	-Vin

All dimensions are in mm[inchs]

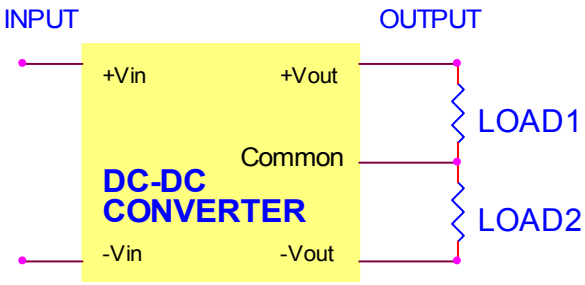


TYPICAL APPLICATIONS

SINGLE OUTPUT



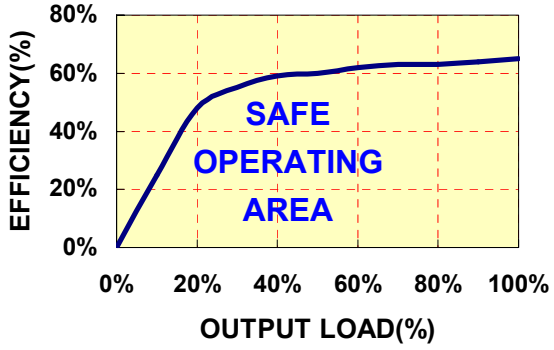
DUAL OUTPUT



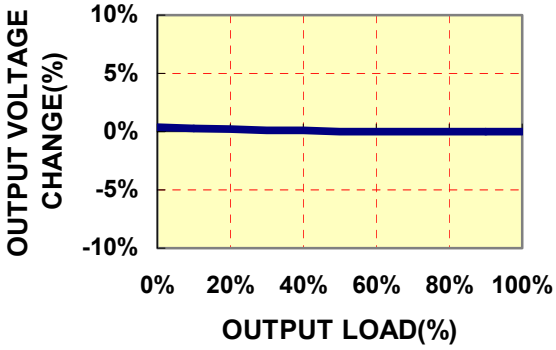
TYPICAL PERFORMANCE CUREVES

Specifications typical at ta=25 °C,nominal input voltage , rated output current unless otherwise specified.

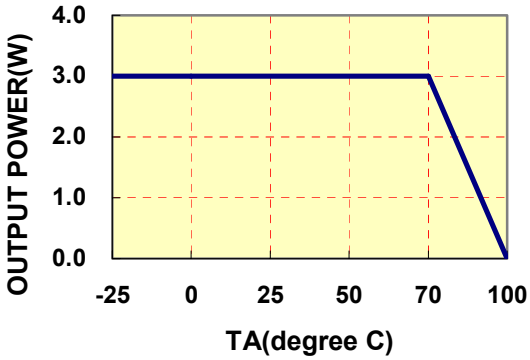
OUTPUT LOAD vs EFFICIENCY



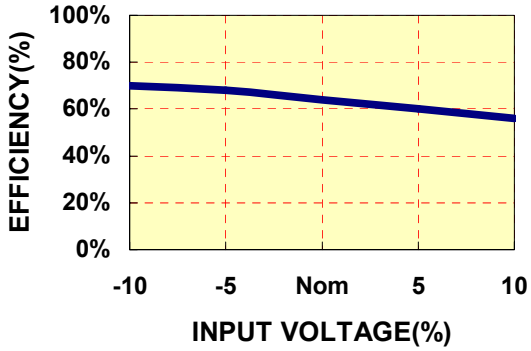
OUTPUT LOAD vs OUTPUT VOLTAGE



TEMPERATURE DERATING



INPUT VOLTAGE vs EFFICIENCY



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.

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:

Power Systems – The Power Solution

Ilsfeld-Auenstein (Germany) Dörnet 8 Tel: + 49 / 70 62 / 67 59 – 6 Fax: + 49 / 70 62 / 67 59 -80

E-mail: Info@Power-Systems.de Home Page: www.Power-Systems.de