

# CBR SERIES

2W-3W REGULATED

# DANUBE

## FEATURES

- DUAL IN LINE PACKAGE
- UP TO 3W REGULATED OUTPUT POWER
- 100% BURNED IN
- HIGH EFFICIENCY
- LOW NOISE
- NO EXTERNAL COMPONENTS REQUIRED
- 3000VDC ISOLATION
- LOW COST
- UL 94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE



## OUTPUT SPECIFICATIONS

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

## INPUT SPECIFICATIONS

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

## GENERAL SPECIFICATIONS

Efficiency	60% min
Isolation Voltage <sup>4</sup>	3000 VDC min
Isolation Resistance	10 <sup>9</sup> ohms min
Isolation Capacitance	80pF max
Switching Frequency	50KHz min
MTBF <sup>6</sup>	>850,000 Hours
Weight	12.0g-14.4g

## ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-25°C to +71°C	Case Material	Non-Conductive Plastic
Storage Temperature	-55°C to +125°C	Case Size	31.8mm*20.3mm*10.2mm
Humidity	95% max	Conducted Emissions	EN55022 Class A
Cooling	Free-Air Convection	Radiated Emissions	EN55022 Class A

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

<sup>1</sup> Measured with 1uF ceramic capacitor connect to the output pins.

<sup>2</sup> High Line to Low Line.

<sup>3</sup> Load Regulation is for output load current change from 10% to 100%.

<sup>4</sup> For 10 seconds.

<sup>5</sup> 25% Step Load Change.

<sup>6</sup> MIL-HDBK-217F @25°C, Ground Benign.

● **SELECTION GUIDE**  
**2W-3W OUTPUT**

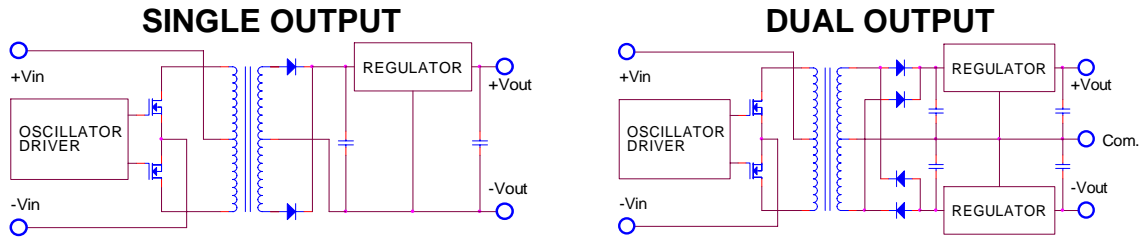
MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT <sup>7</sup> CURRENT(mA)		EFF (%) <sup>8</sup>	ISOLATION (VDC)
				FULL LOAD	NO LOAD		
CBRS-0505-3K	4.5-5.5	5	400	645	80	62	3000
CBRS-0512-3K	4.5-5.5	12	165	634	80	63	3000
CBRS-0515-3K	4.5-5.5	15	133	634	80	63	3000
CBRD-0512-3K	4.5-5.5	+/-12	+/-83	634	80	63	3000
CBRD-0515-3K	4.5-5.5	+/-15	+/-66	634	80	61	3000
CBRS-1205-3K	10.8-13.2	5	400	264	40	63	3000
CBRS-1212-3K	10.8-13.2	12	165	256	40	65	3000
CBRS-1215-3K	10.8-13.2	15	200	378	45	66	3000
CBRD-1212-3K	10.8-13.2	+/-12	+/-83	256	40	65	3000
CBRD-1215-3K	10.8-13.2	+/-15	+/-100	378	45	66	3000
CBRS-2405-3K	21.6-26.4	5	400	132	20	63	3000
CBRS-2412-3K	21.6-26.4	12	165	128	20	65	3000
CBRS-2415-3K	21.6-26.4	15	200	192	25	65	3000
CBRD-2412-3K	21.6-26.4	+/-12	+/-83	128	20	65	3000
CBRD-2415-3K	21.6-26.4	+/-15	+/-100	192	25	65	3000
CBRS-4805-3K	43.2-52.8	5	400	66	10	63	3000
CBRS-4812-3K	43.2-52.8	12	165	65	10	64	3000
CBRS-4815-3K	43.2-52.8	15	200	97	12	64	3000
CBRD-4812-3K	43.2-52.8	+/-12	+/-83	65	10	64	3000
CBRD-4815-3K	43.2-52.8	+/-15	+/-100	97	12	64	3000

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

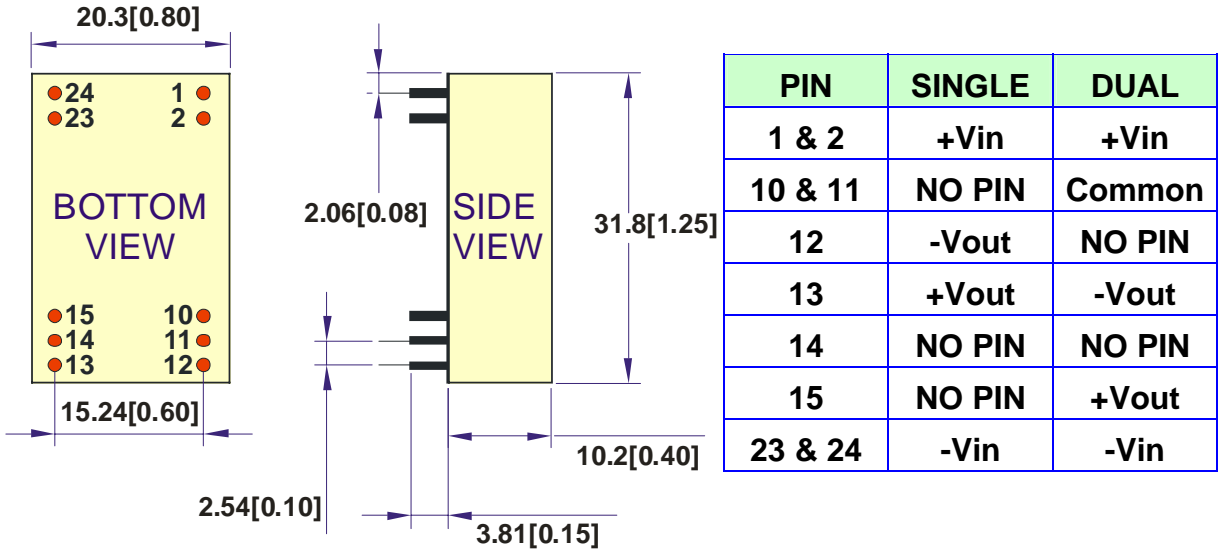
<sup>7</sup> NOMINAL INPUT VOLTAGE.

<sup>8</sup> NOMINAL INPUT VOLTAGE, FULL LOAD.

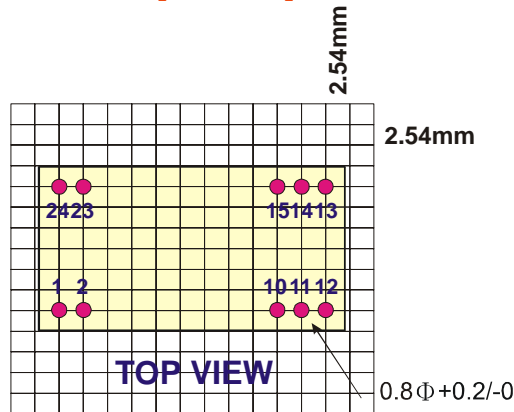
# SIMPLIFIED SCHEMATIC



## MECHANICAL DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS

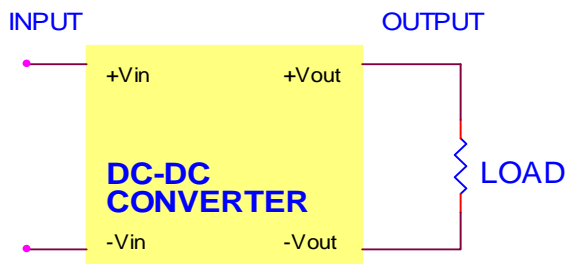


All dimensions are in mm[inches]

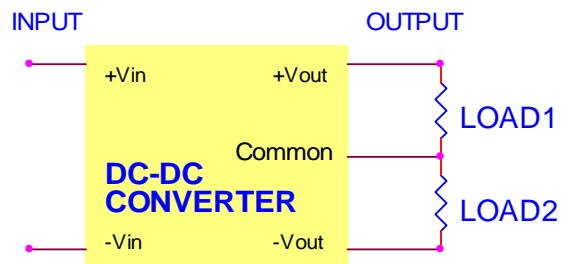


## TYPICAL APPLICATIONS

### SINGLE OUTPUT



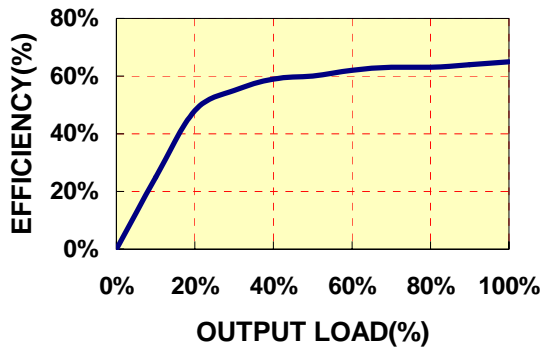
### DUAL OUTPUT



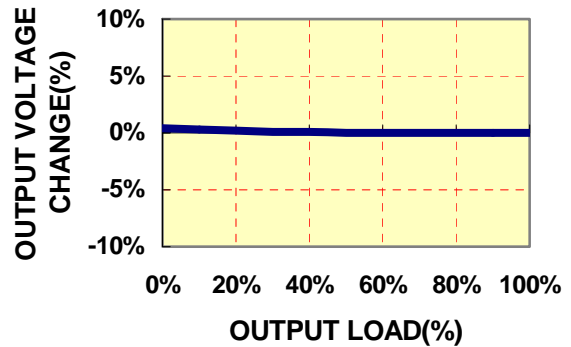
## ● TYPICAL PERFORMANCE CURVES

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

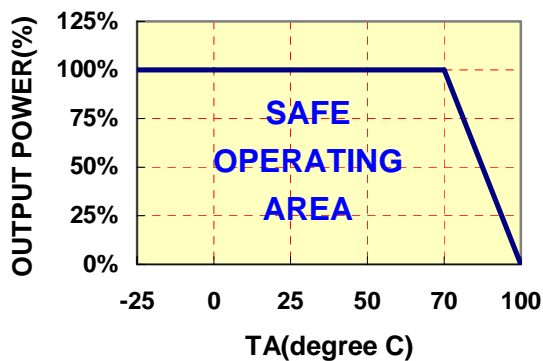
### OUTPUT LOAD VS EFFICIENCY



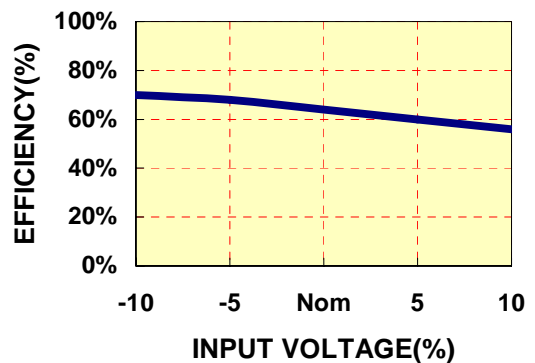
### OUTPUT LOAD VS OUTPUT VOLTAGE



### TEMPERATURE DERATING



### INPUT VOLTAGE VS EFFICIENCY



## ● 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)
1000mA Slow-Blow Type	600mA Slow-Blow Type	300mA Slow-Blow Type	200mA Slow-Blow Type

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

## **CBR SERIES APPLICATION NOTES:**

### **EXTERNAL CAPACITANCE REQUIREMENTS:**

*No external capacitance is required for operation of the CBR 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.*

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## **FOR MORE INFORMATION CALL:**

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