



# CHE100/CHE100W SERIES

## 100 WATT 2:1/4:1 INPUT

### DC-DC CONVERTERS

### SINGLE OUTPUT



## FEATURES

- \* 100W Isolated Output
- \* Half-Brick Size, Six-Sided Shield Metal Case
- \* High Efficiency to 93%
- \* 2:1/4:1 Input Range
- \* Regulated Outputs
- \* 250KHz Switching Frequency
- \* Continuous Short Circuit Protection
- \* Input Under Voltage Protection
- \* Over Temperature/Voltage/Current Protection
- \* Remote On/Off
- \* Full Load Operation up to 60°C  
with Heat-sink M-C091 Natural Convention
- \* No Tantalum Capacitor Inside
- \* CE Mark Meets 2004/108/EC
- \* Safety Meets UL60950-1, EN60950-1 and IEC60950-1



### CHE100 Series

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
CHE100-24S12	18-36 VDC	12 VDC	0 mA	8.4 A	200 mA	4.57 A	92	8400 $\mu$ F
CHE100-24S24	18-36 VDC	24 VDC	0 mA	4.2 A	100 mA	4.57 A	92	4200 $\mu$ F <sup>(2)</sup>

### CHE100W Series

MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.		CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD	(4)	(3)	
CHE100W-24S3V3	9-36 VDC	3.3 VDC	0 mA	25 A	200 mA	3.94 A	85.5	87	25000 $\mu$ F
CHE100W-24S05	9-36 VDC	5 VDC	0 mA	20 A	150 mA	4.66 A	88.5	89.5	20000 $\mu$ F
CHE100W-24S12	9-36 VDC	12 VDC	0 mA	8.4 A	200 mA	4.62 A	90	90.5	8400 $\mu$ F
CHE100W-24S15	9-36 VDC	15 VDC	0 mA	6.7 A	200 mA	4.62 A	89.5	90.5	6700 $\mu$ F
CHE100W-24S24	9-36 VDC	24 VDC	0 mA	4.2 A	100 mA	4.76 A	88.5	89	4200 $\mu$ F <sup>(2)</sup>
CHE100W-24S48	9-36 VDC	48 VDC	0 mA	2.1 A	100 mA	4.76 A	89.5	88.5	2100 $\mu$ F <sup>(2)</sup>
CHE100W-48S3V3	18-75 VDC	3.3 VDC	0 mA	25 A	130 mA	1.96 A	87.5	88	25000 $\mu$ F
CHE100W-48S05	18-75 VDC	5 VDC	0 mA	20 A	130 mA	2.28 A	91.5	92	20000 $\mu$ F
CHE100W-48S12	18-75 VDC	12 VDC	0 mA	8.4 A	100 mA	2.26 A	92.5	93	8400 $\mu$ F
CHE100W-48S15	18-75 VDC	15 VDC	0 mA	6.7 A	100 mA	2.26 A	91.5	92.5	6700 $\mu$ F
CHE100W-48S24	18-75 VDC	24 VDC	0 mA	4.2 A	100 mA	2.32 A	91	91	4200 $\mu$ F <sup>(2)</sup>
CHE100W-48S48	18-75 VDC	48 VDC	0 mA	2.1 A	100 mA	2.32 A	91.5	90.5	2100 $\mu$ F <sup>(2)</sup>

NOTE: 1. Nominal Input Voltage 24, 48 VDC

2. Require a 10 $\mu$ F Aluminum Capacitor Connected Between +Vout and -Vout for 24 & 48Vout Models.

3. Measured at Nominal Input Voltage.

4. Measured at 12VDC for 24SXX, 24VDC for 48SXX.

# SPECIFICATIONS

All Specifications Typical At Nominal Line, Full Load, and 25°C Unless Otherwise Noted

## INPUT SPECIFICATIONS:

Input Voltage Range	24V	9-36V
	48V	18-75V
	CHE100-24SXX	18-36V
Input Surge Voltage (100ms max.)	24V	50Vdc max.
	48V	100Vdc max.
Under voltage lockout	24Vin power up	8.8V
	24Vin power down	8.0V
	CHE100-24SXX/48Vin power up	17V
	CHE100-24SXX/48Vin power down	16V
Positive Logic Remote ON/OFF (see note4&5)		
Input Filter		Pi Type

## OUTPUT SPECIFICATIONS:

Voltage Accuracy	±1.5% max.
Transient Response: 25% Step Load Change	<500µs
External Trim Adj. Range	±10%
Ripple & Noise, 20MHz BW	
3.3V & 5V	40mV RMS, 100mV pk-pk max.
12V & 15V	60mV RMS, 120mV pk-pk max.
24V	100mV RMS, 240mV pk-pk max.
48V	200mV RMS, 480mV pk-pk max.
Temperature Coefficient	±0.03%/°C
Short Circuit Protection	Continuous
Line Regulation (note1)	±0.2% max.
Load Regulation (note2)	±0.2% max.
Over Voltage Protection Trip Range, % Vo nom.	115-140%
Current Limit	110%-140% Nominal Output
Start up time	10ms typ.

## GENERAL SPECIFICATIONS:

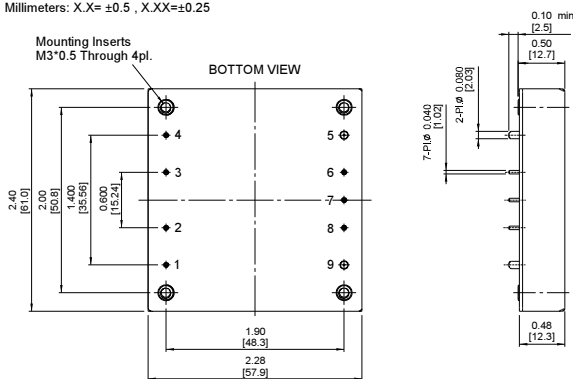
Efficiency	See Table
Isolation Voltage	Input/Output 1500VDC min.
	Input/Case, Output/Case 1500VDC min.
Isolation Resistance	10 <sup>7</sup> ohm min.
Isolation Capacitance	1000pF typ.
Switching Frequency	250KHz typ.
Operating Case Temperature	-40°C to 105°C
Storage Temperature	-55°C to +105°C
Thermal Shutdown Case Temperature	110°C typ.
Humidity	95% RH max. Non condensing
MTBF	MIL-STD-217F, GB, 25°C, Full Load XXS05: 750Khrs typ.
	Others: 880Khrs typ.

Dimensions	2.28x2.40x0.50 inches (57.9x61.0x12.7 mm)
Case Material	Aluminum with Non-Conducted Base
Weight	95g

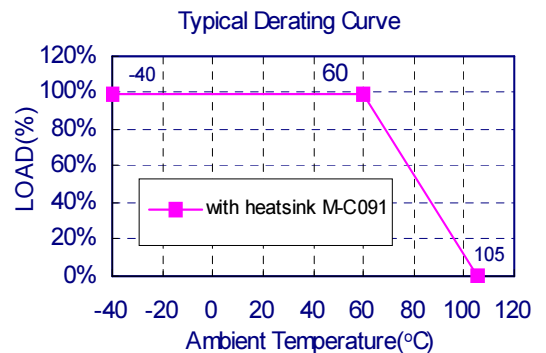
## NOTE:

1. Measured from high line to low line.
2. Measured from full load to zero load.
3. Output ripple and noise measured with 10uF tantalum and 1uF ceramic capacitor across output.  
(24V&48V: 10uF aluminum and 1uF ceramic capacitor across output.)
4. Logic compatibility open collector refer to -Vin  
 Module on >3.5VDC to 75VDC or open circuit  
 Module off 0 to < 1.2VDC
5. Suffix "N" to the model number with negative logic remote on/off  
 Module on 0 to < 1.2VDC  
 Module off >3.5VDC to 75VDC or open circuit

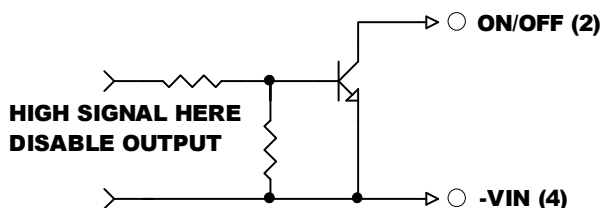
CASE HB  
 All Dimensions In Inches(mm)  
 Tolerances Inches: X.XX= ±0.02 , X.XXX= ±0.010  
 Millimeters: X.X= ±0.5 , X.XX=±0.25



Pin	Function
1	+V Input
2	On/Off
3	CASE
4	-V Input
5	-V Output
6	-Sense
7	Trim
8	+Sense
9	+VOutput



## REMOTE ON/OFF CONTROL



## EXTERNAL OUTPUT TRIM

