CHE100/CHE100W

S E R I E S

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. (4)	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	8400μF
CHE100-24S24	18-36 VDC	24 VDC	0 mA	4.2 A	100 mA	4.57 A	92	4200μF(2)

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	25000μF
CHE100W-24S05	9-36 VDC	5 VDC	0 mA	20 A	150 mA	4.66 A	88.5	89.5	20000μF
CHE100W-24S12	9-36 VDC	12 VDC	0 mA	8.4 A	200 mA	4.62 A	90	90.5	8400μF
CHE100W-24S15	9-36 VDC	15 VDC	0 mA	6.7 A	200 mA	4.62 A	89.5	90.5	6700μF
CHE100W-24S24	9-36 VDC	24 VDC	0 mA	4.2 A	100 mA	4.76 A	88.5	89	4200uF(2)
CHE100W-24S48	9-36 VDC	48 VDC	0 mA	2.1 A	100 mA	4.76 A	89.5	88.5	2100μF(2)
CHE100W-48S3V3	18-75 VDC	3.3 VDC	0 mA	25 A	130 mA	1.96 A	87.5	88	25000μF
CHE100W-48S05	18-75 VDC	5 VDC	0 mA	20 A	130 mA	2.28 A	91.5	92	20000μF
CHE100W-48S12	18-75 VDC	12 VDC	0 mA	8.4 A	100 mA	2.26 A	92.5	93	8400μF
CHE100W-48S15	18-75 VDC	15 VDC	0 mA	6.7 A	100 mA	2.26 A	91.5	92.5	6700μF
CHE100W-48S24	18-75 VDC	24 VDC	0 mA	4.2 A	100 mA	2.32 A	91	91	4200μF(2)
CHE100W-48S48	18-75 VDC	48 VDC	0 mA	2.1 A	100 mA	2.32 A	91.5	90.5	2100μF(2)

NOTE: 1. Nominal Input Voltage 24, 48 VDC
2. Require a 10uF 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

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 note 4 & 5)
Input Filter ..... PI Type

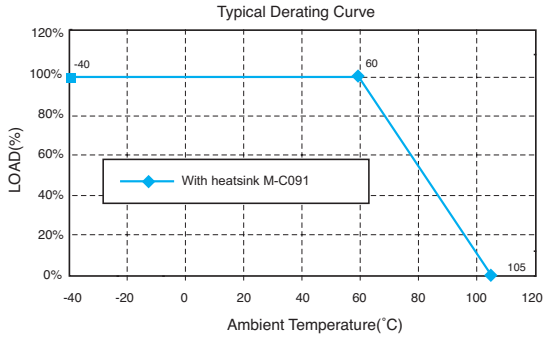
OUTPUT SPECIFICATIONS:

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[1]..... ±0.2% max.
Load Regulation[2]..... ±0.2% max.
Over Voltage Protection trip Range ,% Vo nom. 115-140%
Current Limit ..... 110% -140% Nominal Output
Start up time .....10ms typ.

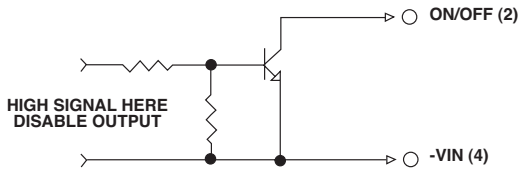
GENERAL SPECIFICATIONS:

Efficiency ..... See Table
Isolation Voltage .....Input/Output ..... 1500VDC min.
Input/Case, Output/Case ..... 1500VDC min.
Isolation Resistance ..... 10^7 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 .....95 g

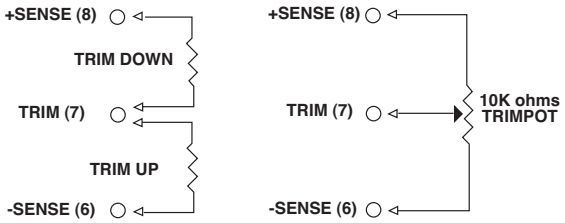
CHE100W Series Derating Curve



Remote On/Off Control



External Output Trim

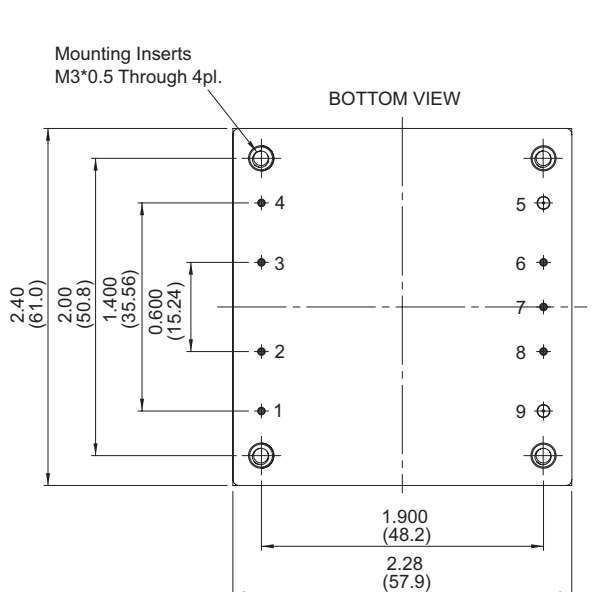


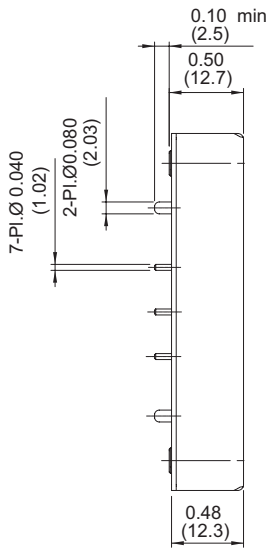
NOTE:

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

CASE HB

All Dimensions In Inches(mm)
Tolerance Inches: x.xx= ±0.02, x.xxx= ±0.010
Millimeters: x.x= ±0.5, x.xx= ±0.25





PIN CONNECTION	
Pin	*Function*
1	+V Input
2	ON/OFF
3	CASE
4	-V Input
5	-V Output
6	-Sense
7	Trim
8	+Sense
9	+V Output