



# CHE75W SERIES

## 75 WATT 4:1 INPUT DC-DC CONVERTERS SINGLE OUTPUT

### FEATURES

- \* 75W Isolated Output
- \* Half-Brick Size, Six-Sided Shield Metal Case
- \* High Efficiency up to 92.5%
- \* Regulated Outputs
- \* 4:1 Input Range
- \* 250KHz Switching Frequency
- \* Continuous Short Circuit Protection
- \* Input under-voltage Protection
- \* Over Temperature/Voltage/Current Protection
- \* Remote ON/OFF
- \* Full Load Operation up to 65°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



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.		CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD	(4)	(3)	
CHE75W-24S3V3	9-36 VDC	3.3 VDC	0mA	20A	150mA	3.11A	87.5	88.5	20000μF
CHE75W-24S05	9-36 VDC	5.0 VDC	0mA	15 A	150mA	3.43A	90.5	91	15000μF
CHE75W-24S12	9-36 VDC	12 VDC	0mA	6.25 A	150mA	3.41A	91	91.5	6250μF
CHE75W-24S15	9-36 VDC	15 VDC	0mA	5 A	150mA	3.41A	91	91.5	5000μF
CHE75W-24S24	9-36 VDC	24 VDC	0mA	3.12 A	70mA	3.47A	90	90	3120uF <sup>(2)</sup>
CHE75W-24S48	9-36VDC	48 VDC	0mA	1.56 A	70mA	3.51A	90	89	1560μF <sup>(2)</sup>
CHE75W-48S3V3	18-75VDC	3.3 VDC	0mA	20A	80mA	1.54A	88.5	89	20000μF
CHE75W-48S05	18-75VDC	5.0 VDC	0mA	15 A	80mA	1.70A	92	92	15000μF
CHE75W-48S12	18-75VDC	12 VDC	0mA	6.25 A	80mA	1.70A	92	92	6250μF
CHE75W-48S15	18-75VDC	15 VDC	0mA	5 A	70mA	1.69A	92.5	92.5	5000uF
CHE75W-48S24	18-75VDC	24 VDC	0mA	3.12 A	70mA	1.73A	91	90.5	3120μF <sup>(2)</sup>
CHE75W-48S48	18-75VDC	48 VDC	0mA	1.56 A	70mA	1.74A	91.5	90	1560μF <sup>(2)</sup>

NOTE: 1. Nominal Input Voltage 24, 48VDC.

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

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
Input Surge Voltage (100ms max.)	24V	50Vdc max.
	48V	100Vdc max.
Under voltage lockout	24Vin power up	8.8V
	24Vin power down	8.0V
	48Vin power up	17V
	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	<500u sec.
External Trim Adj. Range	±10%
Ripple & Noise, 20MHz BW (see Note 3)	
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(2)	±0.2% max.
Over Voltage Protection trip Range, % Vo nom.	115-140%
Current Limit	110% ~140% Nominal Output
Start up time	3.3V & 5V & 48V
	12V & 15V & 24V

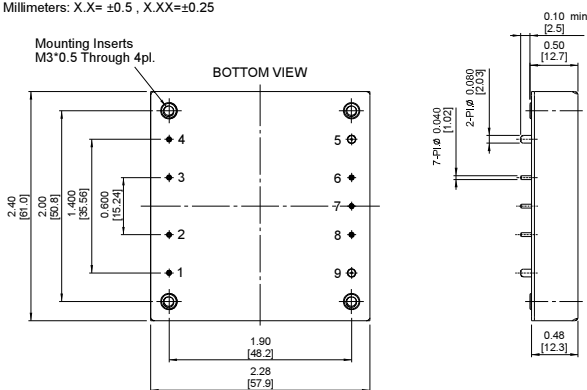
## GENERAL SPECIFICATIONS:

Efficiency	See Table
Isolation Voltage	Input/Output 1500VDC min.
	Input/Case 1500VDC min.
	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 Temp.	110°C typ.
Humidity	95% RH max. Non condensing
MTBF	MIL-STD-217F, GB, 25°C, Full Load T.B.D. hrs
Dimensions	2.28x2.40x0.50 inches (57.9x61.0x12.7 mm)
Case Material	Aluminum with Non-Conducted Base
Weight	95 g

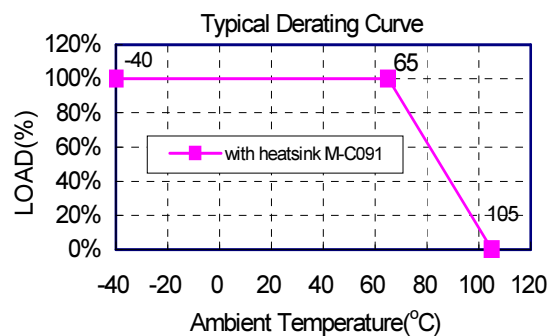
## NOTE :

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 < 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

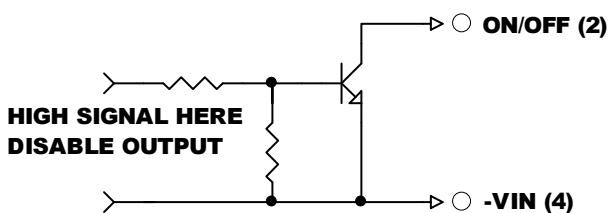
CASE HB  
 All Dimensions In Inches(mm)  
 Tolerances Inches: X.XX= ±0.02, X.XXX= ±0.010  
 Millimeters: X.X= ±0.5, X.XX=±0.25



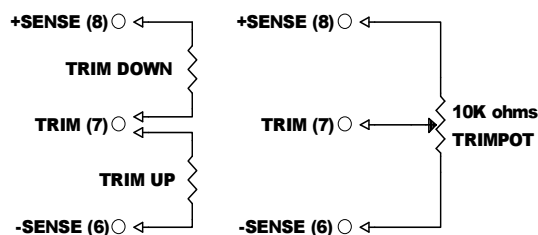
Pin	Function
1	+Vin
2	ON/OFF
3	CASE
4	-Vin
5	-Vout
6	-Sense
7	Trim
8	+Sense
9	+Vout



## REMOTE ON/OFF CONTROL



## EXTERNAL OUTPUT TRIM



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