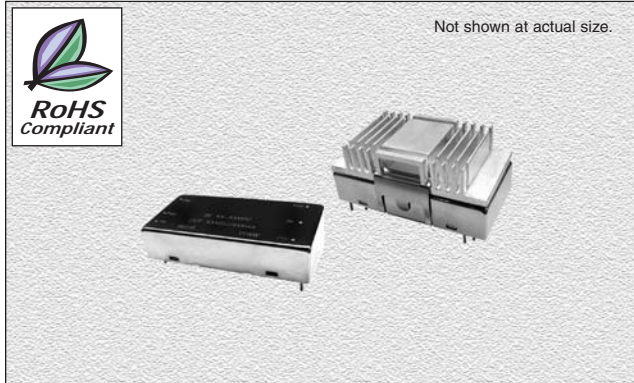


CTDD5025DF-30M Series

Wide Input Isolated & Regulated 30W Single Output



FEATURES

- Efficiency:** To 88%
- Temperature Range:** -40°C to +85°C
- I/O-Isolation:** 1.5KVDC
- Miscellaneous:** Six-sided metal shield. Internal SMD construction. Industry standard pin out. 2:1 wide input voltage range.
- Samples available.**

CHARACTERISTICS

- Storage Humidity Range:** ≤ 95%
- Short Circuit Protection:** Automatic Recovery
- Operating Temperature Range:** -40°C to +85°C
- Storage Temperature Range:** -55°C to +125°C
- Temperature Rise at Full Load:** 80°C (Max.)
- Lead Temperature:** 300°C (1.5mm from case for 10 seconds)
- Isolation Voltage:** 1500VDC (Test for 1 minute and 1mA max.)
- Isolation Resistance:** 1000MΩ min. (Test at 500VDC)
- Isolation Capacitance:** 1000pF typ. at 100kHz/0.1V
- Switching Frequency:** 350kHz typ.
- Cooling:** Free air convection
- Case Material:** Nickle-coated copper (six-sided)
- MTBF:** >1,000,000 hours
- Miscellaneous:** RoHS Compliant.

SPECIFICATIONS

Please specify "H" for heat sink mounted.
Example: CTDD5025DF-2403-30MH

Part Number	Vin Nom. (VDC)	Input Range (VDC)	Vin Max.* (VDC)	Vout (VDC)	Iout Min.** (mA)	Capacitor Load Max. (μF)	Effi. Typ. (%)
CTDD5025DF-2403-30M_	24	18-36	40	3.3	6000	6800	84
CTDD5025DF-2405-30M_	24	18-36	40	5	6000	6800	86
CTDD5025DF-2412-30M_	24	18-36	40	12	2500	680	87
CTDD5025DF-2415-30M_	24	18-36	40	15	2000	680	87
CTDD5025DF-4803-30M_	48	36-75	80	3.3	6000	6800	84
CTDD5025DF-4805-30M_	48	36-75	80	5	6000	6800	86
CTDD5025DF-4812-30M_	48	36-75	80	12	2500	680	88
CTDD5025DF-4815-30M_	48	36-75	80	15	2000	680	87

*If Input voltage above specified may cause permanent damage to the device

**Minimum operating current for 10% of rated current, if less than 10% rated current, output ripple may increase rapidly, the amplitude ≤ 1V.

INPUT SPECIFICATIONS

Item	Test conditions	Min.	Typ.	Max.	Units
Start-up time			10		ms
Under Voltage lock off	Nominal (24V)	Models ON		17.8	VDC
		Models OFF	16		
	Nominal (48V)	Models ON		35.8	
		Models OFF	33		
Input Filter			L-C		
Ctrl	Models ON		3-40VDC		
	Models OFF		0-1.2VDC		
	Input Current (Models OFF)		1	mA	

OUTPUT SPECIFICATIONS

Item	Test conditions	Min.	Typ.	Max.	Units
Output Power				30	W
Output Voltage Accuracy	Refer to recommended circuit		±1	±3	%
Load Regulation	From 10% to 100% load		±0.5	±1	
	Nominal Input				
Line Regulation	Input Voltage from low to high		±0.2	±0.5	
	100 % load				
Ripple and Noise	20MHz Bandwidth		50	120	mV
Transient Recovery Time	25% - 50% - 25% load or		200	500	μs
Transient Peak Deciation	50% - 75% - 50% load step change			±5	%
Over Current Protection	Input Voltage Range		130	150	%
Short Circuit Protection	Input Voltage Range	Hiccup, automatic recovery			
Over Voltage Protection	3.3V output		3.9		VDC
	5V output		6.2		
	12V output		15		
	15V output		18		
Temperatue Drift (Vout)			±0.02		%/°C
Trim			±10%Vo		VDC

08.12.09

CTDD5025DF-30M Series

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OUTLINE DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS

CTDD5025DF-30M Package

Unit: mm[inch]
Pin diameter tolerances: $\pm 0.10\text{mm}$ [0.004in]
General tolerances: $\pm 0.25\text{mm}$ [$\pm 0.010\text{in}$]

CTDD5025DF-30M Footprint

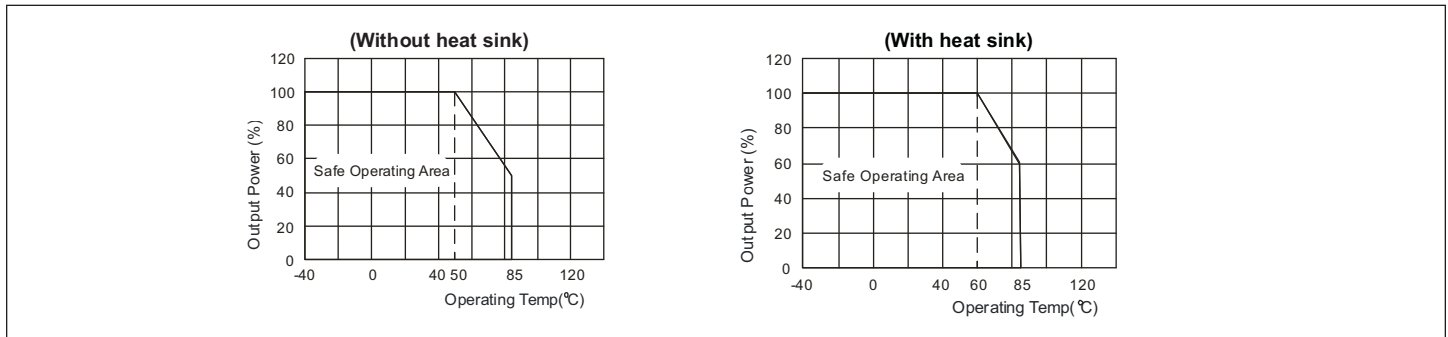
Pin	Function
1	Vin
2	GND
3	Ctrl
4	Trim
5	0V
6	+Vo

The CTRL control pin voltage is referenced to GND

CTDD5025DF-30M Heat Sink Assembly

Unit: mm[inch]
Tolerances: $\pm 0.50\text{mm}$ [0.020in]
1. If use of heat sinks, make sure there is enough space for a specific size in the above graph.
2. Products will be supplied with heat sinks already mounted, separate heat sinks are not available.

TEMPERATURE DERATING GRAPH



RECOMMENDED CIRCUIT & CAPACITANCE

Output Voltage	Capacitance	Cout (μF)	Cin (μF)
3.3(VDC)		470/220	100
5(VDC)		470/220	
12(VDC)		220/100	
15(VDC)		220/100	

In order to obtain better performance for the DC/DC models, it is recommended to use input and output filters as shown.

Note:

- All specifications measured at TA=25°C, humidity<75%, nominal input voltage and rated output unless otherwise specified.
- Capacitor Max. load tested at nominal input voltage, full load and constant resistive load.
- Only typical model listed. Non-standard models will be different from the above, please contact us for more details.
- In this datasheet, all the test methods of indications are based on corporate standards.

08.12.09