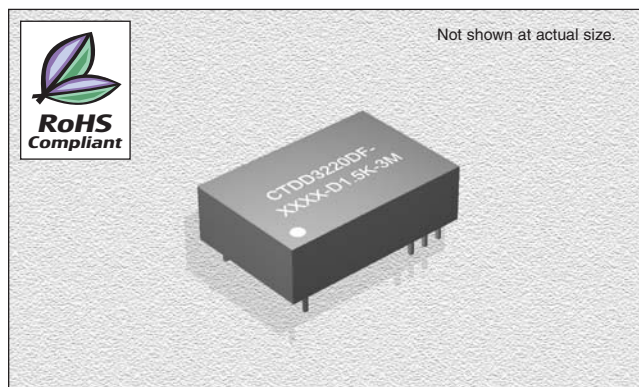


## CTDD3220DF-D1.5K-3M

### Series

Wide Input Isolated & Regulated  
3W Output, Dual Output



### FEATURES

- Efficiency:** To 82%
- Temperature Range:** -40°C to +85°C
- Isolation:** 1.5KVDC
- Miscellaneous:** Wide (2:1) Input Range. Dual Output. Metal Shielding Package. No heat sink required. Industry standard pinout.
- Samples available.**

### CHARACTERISTICS

- Output Short Circuit Protection:** Continuous
- Temperature Rise at Full Load:** 30°C (Typ.)
- Cooling:** Free air convection
- No Load, Power Consumption:** 100mW (typical)
- Operating Temperature Range:** -40°C to +85°C
- Storage Temperature Range:** -55°C to +125°C
- Lead Temperature:** 300°C (1.5mm from case for 10 seconds)
- Storage Humidity Range:** ≤ 95%
- Case Material:** Metal
- MTBF:** >1,000,000 hours
- Miscellaneous:** RoHS Compliant.

### SPECIFICATIONS

Part Number	Vin Nom. (VDC)	Input Range (VDC)	Vin Max.* (VDC)	Vout (VDC)	Iout Max. (mA)	Iout Min. (mA)	Effi. Typ. (%)
CTDD3220DF-0505-D1.5K-3M	5	4.5-9	11	±5	±300	±30	65
CTDD3220DF-0509-D1.5K-3M	5	4.5-9	11	±9	±165	±16	67
CTDD3220DF-0512-D1.5K-3M	5	4.5-9	11	±12	±125	±12	70
CTDD3220DF-0515-D1.5K-3M	5	4.5-9	11	±15	±100	±10	72
CTDD3220DF-1205-D1.5K-3M	12	9-18	22	±5	±300	±30	70
CTDD3220DF-1209-D1.5K-3M	12	9-18	22	±9	±165	±16	73
CTDD3220DF-1212-D1.5K-3M	12	9-18	22	±12	±125	±12	77
CTDD3220DF-1215-D1.5K-3M	12	9-18	22	±15	±100	±10	79
CTDD3220DF-1505-D1.5K-3M	15	12-24	30	±5	±300	±30	75
CTDD3220DF-1509-D1.5K-3M	15	12-24	30	±9	±165	±16	79
CTDD3220DF-1512-D1.5K-3M	15	12-24	30	±12	±125	±12	80
CTDD3220DF-1515-D1.5K-3M	15	12-24	30	±15	±100	±10	81
CTDD3220DF-2405-D1.5K-3M	24	18-36	40	±5	±300	±30	78
CTDD3220DF-2409-D1.5K-3M	24	18-36	40	±9	±165	±16	80
CTDD3220DF-2412-D1.5K-3M	24	18-36	40	±12	±125	±12	81
CTDD3220DF-2415-D1.5K-3M	24	18-36	40	±15	±100	±10	82
CTDD3220DF-4805-D1.5K-3M	48	36-72	80	±5	±300	±30	76
CTDD3220DF-4809-D1.5K-3M	48	36-72	80	±9	±165	±16	81
CTDD3220DF-4812-D1.5K-3M	48	36-72	80	±12	±125	±12	81
CTDD3220DF-4815-D1.5K-3M	48	36-72	80	±15	±100	±10	82

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

### ISOLATION SPECIFICATIONS

Item	Test Condition	MIN	TYP	MAX	Units
Isolation Voltage	Flash tested for 1 minute	1500			VDC
Isolation Resistance	Test at 500VDC	1000			MΩ

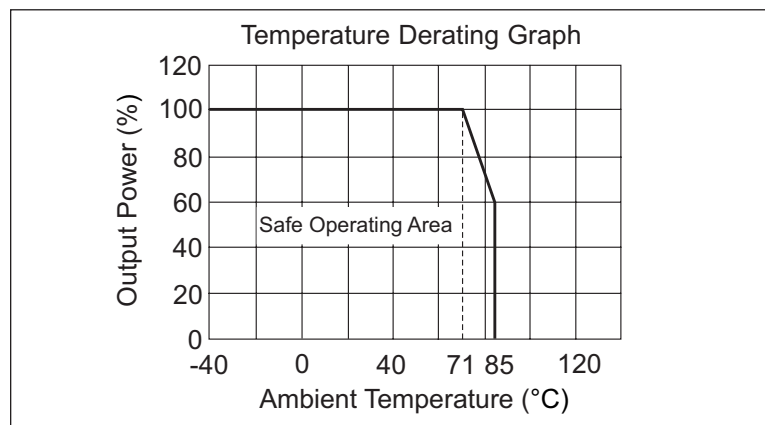
### OUTPUT SPECIFICATIONS

Item	Test Condition	MIN	TYP	MAX	Units
3W Output Power		0.3		3	W
Positive voltage accuracy	Refer to Recommended Circuit		±1	±3	%
Negative voltage accuracy	Refer to Recommended Circuit		±3	±5	%
Load regulation	From 10% to 100% load		±0.5	±1	%
Line regulation	Input Voltage from low to high		±0.2	±0.5	%
Temperature drift (Vout)	Refer to Temp. Derating Graph			0.03	%/°C
Ripple	20Hz to 300KHz Bandwidth		30	60	mVp-p
Noise	DC-20MHz Bandwidth		80	150	mVp-p
Switching frequency	100% load, nominal input voltage	80		200	KHz
Switching frequency	10% load, nominal input voltage	250		600	KHz

Note:

1. All specifications measured at TA=25°C, humidity<75%, nominal input voltage and rated output unless otherwise specified.

### TYPICAL CHARACTERISTICS

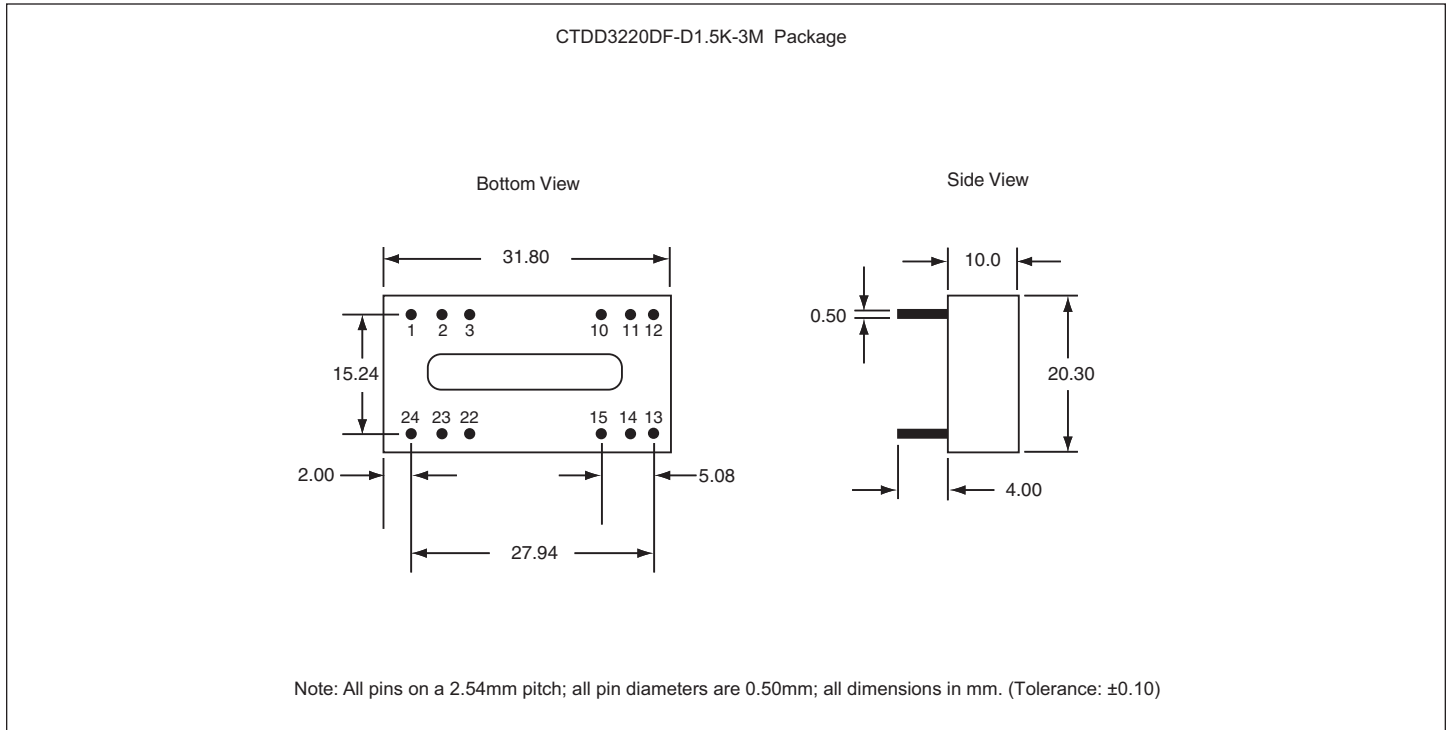


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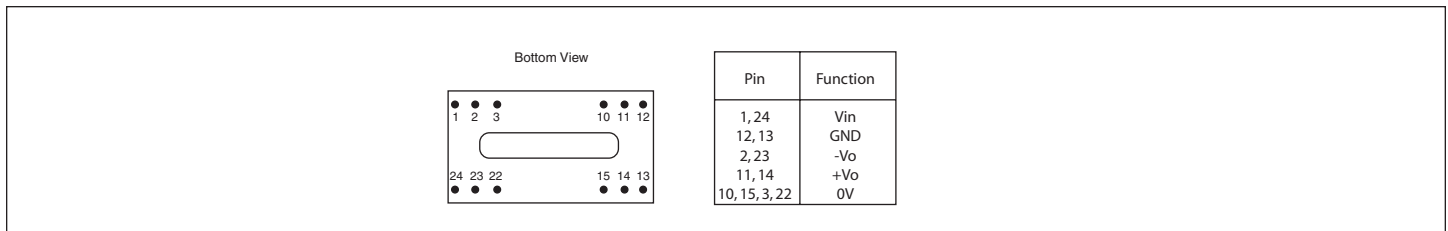
## CTDD3220DF-D1.5K-3M Series

Wide Input Isolated & Regulated  
3W Output, Dual Output

### OUTLINE DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS



### PIN CONNECTIONS

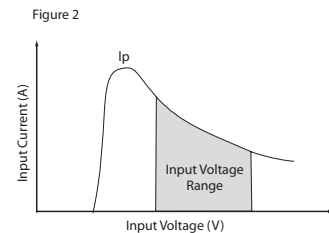
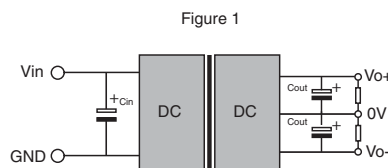


### RECOMMENDED CIRCUIT

All the CTDD3220DF-D1.5K-3M Series have been tested according to the following recommended testing circuit before leaving factory. This series should be tested under load. Never be tested under no load (See figure 1 & 2). If you want to further decrease the input/output ripple, you can increase capacitance properly or choose capacitors with low ESR. However, the capacitance should not be too high (See table 1). If you want to use the products in high EMI, please choose our metal packaged products.

External Capacitor Table (table 1)

V <sub>in</sub>	C <sub>in</sub>	C <sub>out</sub> (0+70°C)	C <sub>out</sub> (-40+85°C)
5V & 12V	100μF	100μF (electrolytic capacitor)	47μF (tantalum capacitor)
24V & 48V	10μF		



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