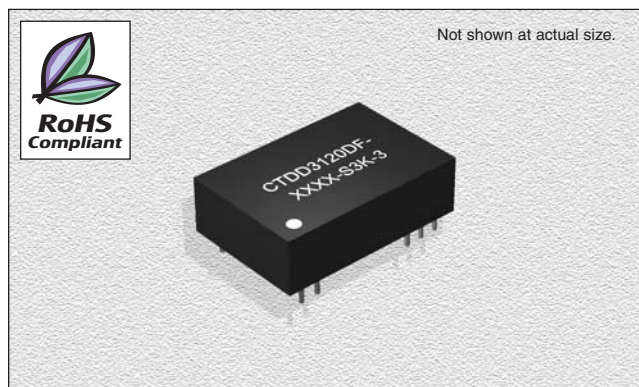


CTDD3120DF-S3K-3 Series

**Wide Input Isolated & Regulated
3W Output, Single Output**

**FEATURES**

Efficiency: To 83%
Temperature Range: -40°C to +85°C
Isolation: 3KVDC
Package: UL94-V0
Miscellaneous: Wide (2:1) Input Range. Single Output. No heat sink required. Industry Standard Pinout. Custom service available.
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: Plastic (UL94-V0)
MTBF: >3,500,000 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. (%)
CTDD3120DF-0505-S3K-2W5	5	4.5-9	11	5	500	50	74
CTDD3120DF-0509-S3K-3	5	4.5-9	11	9	330	33	75
CTDD3120DF-0512-S3K-3	5	4.5-9	11	12	250	25	76
CTDD3120DF-0515-S3K-3	5	4.5-9	11	15	200	20	78
CTDD3120DF-1205-S3K-2W5	12	9-18	22	5	500	50	78
CTDD3120DF-1209-S3K-3	12	9-18	22	9	330	33	79
CTDD3120DF-1212-S3K-3	12	9-18	22	12	250	25	80
CTDD3120DF-1215-S3K-3	12	9-18	22	15	200	20	81
CTDD3120DF-1505-S3K-2W5	15	12-24	30	5	500	50	77
CTDD3120DF-1509-S3K-3	15	12-24	30	9	330	33	80
CTDD3120DF-1512-S3K-3	15	12-24	30	12	250	25	82
CTDD3120DF-1515-S3K-3	15	12-24	30	15	200	20	83
CTDD3120DF-2405-S3K-2W5	24	18-36	40	5	500	50	78
CTDD3120DF-2409-S3K-3	24	18-36	40	9	330	33	82
CTDD3120DF-2412-S3K-3	24	18-36	40	12	250	25	82
CTDD3120DF-2415-S3K-3	24	18-36	40	15	200	20	83
CTDD3120DF-4805-S3K-2W5	48	36-72	80	5	500	50	78
CTDD3120DF-4809-S3K-3	48	36-72	80	9	330	33	82
CTDD3120DF-4812-S3K-3	48	36-72	80	12	250	25	82
CTDD3120DF-4815-S3K-3	48	36-72	80	15	200	20	83

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

ISOLATION SPECIFICATIONS

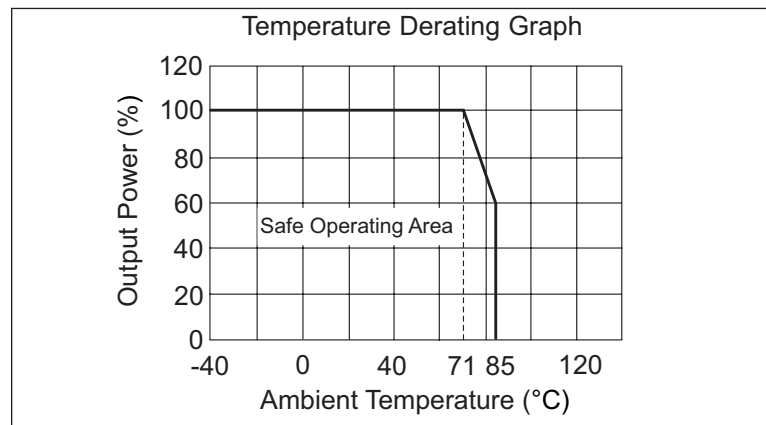
Item	Test Condition	MIN	TYP	MAX	Units
Isolation Voltage	Flash tested for 1 minute	3000			VDC
Isolation Resistance	Test at 500VDC	1000			MΩ

OUTPUT SPECIFICATIONS

Item	Test Condition	MIN	TYP	MAX	Units
3W Output Power		0.3		3	W
Output voltage accuracy	Refer to Recommended Circuit		±1	±3	%
Load regulation	From 10% to 100% load		±0.5	±0.75	%
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

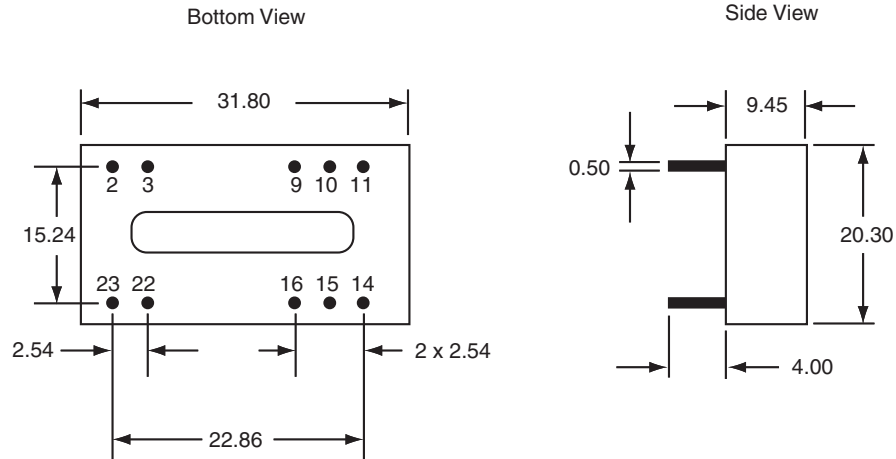
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CTDD3120DF-S3K-3 Series

Wide Input Isolated & Regulated
3W Output, Single Output

OUTLINE DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS

CTDD3120DF-S3K-3 Package



Note: All pins on a 2.54mm pitch; all pin diameters are 0.50mm; all dimensions in mm. (Tolerance:±0.25)

PIN CONNECTIONS

Bottom View

Pin	Function
2, 3	GND
9, 10, 11, 15	NC
14	+Vo
16	0V
22, 23	Vin

RECOMMENDED CIRCUIT

All the CTDD3120DF-S3K-3 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)

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

