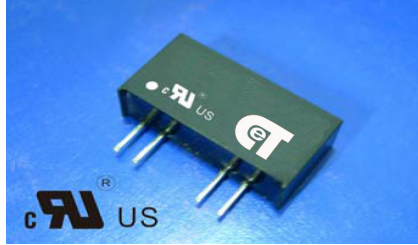


CT-10D-1W SERIES

1000Vdc Isolation Single Output 1 Watt Dc-Dc Converter



FEATURES:

- 7PIN SIP Package
- High Efficiency up to 85%
- Unregulated Output Types
- Recognized By UL 60950-1
- Internal SMD Construction
- No External Component Required
- Operating Temperature: -40°C TO +85°C
- Industry Standard Pinout



Specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified

Part Number	Output Voltage	Output Current	Efficiency	Package Style
	Vdc	mA	%TYP	
CT-XXS03NNL	3.3	303	70	1
CT-XXS05NNL	5	200	70	1
CT-XXS09NNL	9	112	75	1
CT-XXS12NNL	12	84	78	1
CT-XXS15NNL	15	67	80	1
CT-XXS24NNL	24	42	82	1
CT-XXS05N2NL	5	200	70	2
CT-XXS09N2NL	9	112	75	2
CT-XXS12N2NL	12	84	78	2
CT-XXS15N2NL	15	67	80	2
CT-XXS24N2NL	24	42	82	2

Note: 1."XX" Is Input Voltage:03=3.3Vdc,05=5Vdc,09=9Vdc,12=12Vdc,15=15Vdc,24=24Vdc,48=48Vdc. 2. Over 48Vdc input voltage, using the 2nd package
3. The input voltage increases, there will be an increase in efficiency.

Input Specifications

Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	Vo,Io Nom			±10	%
Filter	Capacitor				

Output Specifications

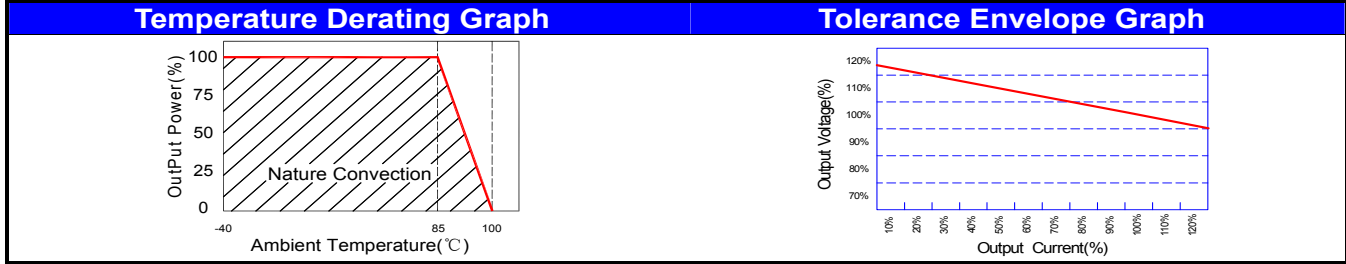
Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	100% full load			±5	%
Short Circuit Protection	Short Term			1 Sec	
Line Regulation	For 1.0% OF Vin		1.2		%
Load Regulation	3.3V,5V (10% To 100% F.L)			15	%
Load Regulation	9V,12V,15V,24V(10% To 100% F.L)			10	%
Ripple & Noise	BW=DC To 20MHz			100	mVp-p
Transient response setting time	50% load step change		350		us

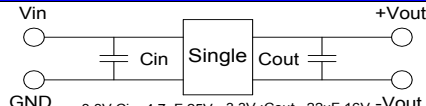
General Specifications

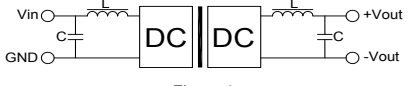
Parameters	Conditions	Min	Typ	Max	Units
Isolation Resistance	500Vdc	1000			MΩ
Switching Frequency	Full load,nominal input		100		KHz
Operating Temperature		-40		+85	°C
Humidity	Non Condensing			95	%
Cooling	Free air Convection				
Case material	DAP				
MTBF	MIL-HDBK-217F@25°C	3500000			Hours
Weight	Package1 or Package2		2.1 or 2.7		g
Dimensions	Package 1	19.5x6.0x10.0			mm
Dimensions	Package 2	19.5x7.1x10.0			mm

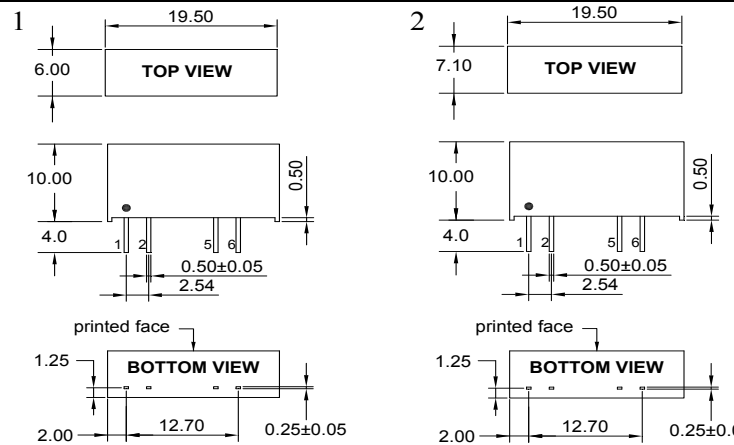
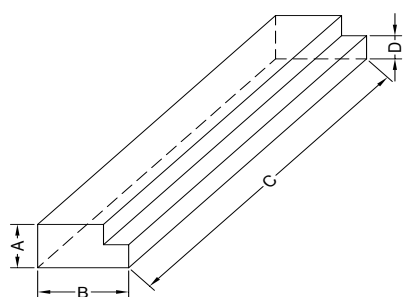
CT-10D-1W SERIES

1000Vdc Isolation Single Output 1 Watt Dc-Dc Converter



Recommended Test Circuit	Part Number
 <p> 3.3V:Cin 4.7uF,25V 3.3V:Cout 22uF,16V 5V :Cin 4.7uF,25V 5V :Cout 10uF,25V 9V :Cin 4.7uF,25V 9V :Cout 4.7uF,25V 12V:Cin 2.2uF,25V 12V:Cout 2.2uF,25V 15V:Cin 1uF,50V 15V:Cout 1uF,50V 24V:Cin 1uF,50V 24V:Cout 1uF,50V 48V:Cin 1uF,100V </p>	<p> 10D - 05 S 05 N 2 NL A B C D E F G </p> <p> A:Series B:Input Voltage C:Single(S) D:Output Voltage E:UNRegulated(N) F:Package G:RoHS Version </p>

Application Note																																	
 <p><Figure 1></p> <p>External Capacitor Table</p> <table border="1"> <thead> <tr> <th>Vin</th> <th>External Capacitor</th> <th>Vout</th> <th>External Capacitor</th> </tr> </thead> <tbody> <tr> <td>3.3VDC</td> <td>4.7uF/25V</td> <td>3.3VDC</td> <td>22uF/16V</td> </tr> <tr> <td>5VDC</td> <td>4.7uF/25V</td> <td>5VDC</td> <td>10uF/25V</td> </tr> <tr> <td>9VDC</td> <td>4.7uF/25V</td> <td>9VDC</td> <td>4.7uF/25V</td> </tr> <tr> <td>12VDC</td> <td>2.2uF/25V</td> <td>12VDC</td> <td>2.2uF/25V</td> </tr> <tr> <td>15VDC</td> <td>1uF/50V</td> <td>15VDC</td> <td>1uF/50V</td> </tr> <tr> <td>24VDC</td> <td>1uF/50V</td> <td>24VDC</td> <td>1uF/50V</td> </tr> <tr> <td>48VDC</td> <td>1uF/100V</td> <td>--</td> <td>--</td> </tr> </tbody> </table>	Vin	External Capacitor	Vout	External Capacitor	3.3VDC	4.7uF/25V	3.3VDC	22uF/16V	5VDC	4.7uF/25V	5VDC	10uF/25V	9VDC	4.7uF/25V	9VDC	4.7uF/25V	12VDC	2.2uF/25V	12VDC	2.2uF/25V	15VDC	1uF/50V	15VDC	1uF/50V	24VDC	1uF/50V	24VDC	1uF/50V	48VDC	1uF/100V	--	--	<p>Filtering</p> <p>In some circuits which are sensitive to noise and ripple, a filtering capacitor may be added to the DC/DC output end and input end to reduce the noise and ripple. However, the capacitance of the output filter capacitor must proper. If the capacitance is too big, a startup problem might arise. For every channel of output, providing the safe and reliable operation is ensured, the greatest capacitance of its filter capacitor refer to the external capacitor table. To get an extreme low ripple, an "LC" filtering network may be connected to the input and output ends of the DC/DC converter, which may produce a more significant filtering effect. It should also be noted that the inductance and the frequency of the "LC" filtering network should be staggered with the DC/DC frequency to avoid mutual interference (see figure 1).</p>
Vin	External Capacitor	Vout	External Capacitor																														
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24VDC	1uF/50V	24VDC	1uF/50V																														
48VDC	1uF/100V	--	--																														

Markings and dimensions	Packaging												
 <p>UNIT:mm Unless otherwise specified,all tolerances are ±0.25</p>	 <table border="1"> <thead> <tr> <th colspan="4">Size(mm)</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>9.5</td> <td>16.5</td> <td>522</td> <td>5.0</td> </tr> </tbody> </table>	Size(mm)				A	B	C	D	9.5	16.5	522	5.0
Size(mm)													
A	B	C	D										
9.5	16.5	522	5.0										

PIN Connection				
PIN	1	2	5	6
Single	+Vin	-Vin	-Vout	+Vout