

DC/DC Converter

CF0505XT-1WR2

MORNSUN®

1W, Fixed input voltage, isolated & unregulated single output



Continuous Short
Circuit Protection

Patent Protection **RoHS**

FEATURES

- Short circuit protection (self-recovery)
- Operating temperature range: -50°C to +125°C
- Isolation voltage: 3.5K VDC
- Compact SMD package
- Internal surface mounted design
- International standard pin-out
- Components meet AEC-Q100 standards
- The production process meet TS16949 system requirements

The CF0505XT-1WR2 is designed for application where isolated output is required from a distributed power system. It can be used in automobile motor control and drive system. Such as motor vehicle communication system controller, engine control system, the ignition system, the motor voltage monitoring, the electronic accelerator pedal, automobile tire pressure detection system, doors and tail lights controller, air conditioning control and battery management system (BMS), etc.

Selection Guide

Part No.	Input Voltage (VDC)	Output		Efficiency (%Min./Typ.) @ Full Load	Max. Capacitive Load (μF)
	Nominal (Range)	Output Voltage (VDC)	Output Current (mA) (Max./Min.)		
CF0505XT-1WR2	5 (4.5-5.5)	5	200/20	71/75	220

Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input Current (full load / no-load)	5V input	--	267/20	--	mA
Surge Voltage (1sec. max.)	5V input	-0.7	--	9	VDC
Reflected Ripple Current		--	15	--	mA
Input Filter		Capacitor filter			

Output Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Output Voltage Accuracy		See tolerance envelope graph (Fig. 1)			
Line Regulation	Input voltage change: ±1% 5VDC output	--	--	±1.2	--
Load Regulation	10%-100% load 5VDC output	--	12	--	%
Ripple & Noise*	20MHz bandwidth	--	60	--	mVp-p
Temperature Drift Coefficient	100% load	--	--	±0.03	%/°C
Output Short Circuit Protection		Continuous, self-recovery			

Note: * Ripple and noise tested with "parallel cable" method, please see *DC-DC Converter Application Notes* for specific operation methods.

General Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Isolation Voltage	Input-output, with the test time of 1 minute and the leak current lower than 1mA	3500	--	--	VDC
Isolation Resistance	Input-output, isolation voltage 500VDC	1000	--	--	MΩ
Isolation Capacitance	Input-output, 100KHz/0.1V	--	20	--	pF
Operating Temperature	Derating if the temperature ≥ 105°C, (see Fig. 2)	-50	--	125	°C
Storage Temperature		-55	--	135	
Casing Temperature Rise	Ta=25°C	--	25	--	
Pin Welding Resistance Temperature	Welding spot is 1.5mm away from the casing, 10 seconds	--	--	300	

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