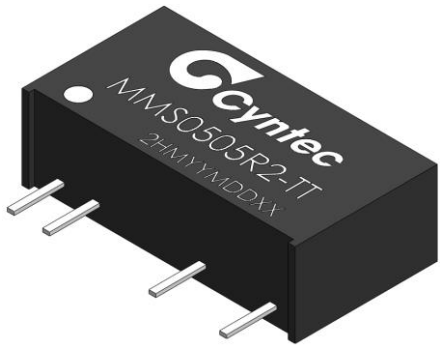
Isolation DC/DC MODULE

DC/DC CONVERTER 1W,SIP-Package

MMS0505R2-TT

FEATURES:

- Industrial Standard SIP-7 Package
- 3000VDC isolation test voltage "Hi Pot Test"
- Regulated Outputs
- Protections : SCP
- Lead free, RoHs Compliant
- Low ripple and noise

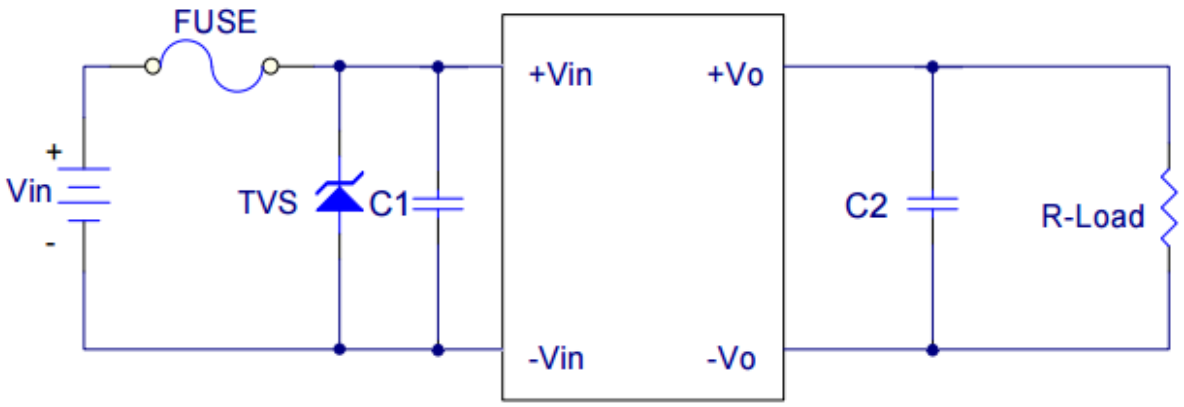


GENERAL DESCRIPTION:

MMS series are miniature SIP package, isolation 1W converter with 3000VDC isolation, and it offers the circuit protection and allows a wide operating temperature range of -40^{O} to +95^{O}.

Model Number	Input Voltage	Output Voltage	Output Current		Input Current		Load Regulation	Max. capacitive Load	Efficiency @Max. Load
			Min	Max	@Max.Load	@No Load			
	VDC	VDC	mA	mA	mA(Typ)	mA(Typ)	% (max.)	uF	% (Typ)
MMT0505R2-TT	5 (4.5~5.5)	5	0	200	267mA	33mA	±1	47	75

TYPICAL APPLICATION CIRCUIT



Note : TVS , C1 , C2 Option Application

ELECTRICAL SPECIFICATIONS: (Cont.)

Conditions: T_A = 25 ºC

Parameter	Conditions	Min.	Typ.	Max.	Unit
■ Input Characteristics					
Input Surge Voltage(1 sec. max.)	5V Input Models	-0.3	---	5.8	VDC
Input Voltage Range	5V Input Models	4.5	5	5.5	
Input Filter		Intermal Capacitor			
■ Output Characteristics					
Output Voltage Setting Accuracy		-3	---	3	%
Line Regulation	Vin=4.75V to 5.5V at Max. load	---	---	1	%
	Vin=4.5V to 4.75V at Max. load	-8	---	0	%
Load Regulation	Io=0% to 100%,Vin=5V	---	---	1.0	%
Ripple & Noise (20MHz)	20 MHz BW		15	30	mV p-p
Temperature Coefficient	Vin=5V at Max. load	---	0.01	0.02	%/℃
Short Circuit Protection	10 Second Max,Automatic Recovery				
■ General Characteristics					
I/O Isolation Voltage (rated)	60 Seconds (Vin/Vout)	3000	---	---	VDC
I/O Isolation Resistance	500 VDC	1	---	---	GΩ
I/O Isolation Capacitance	100KHz,1V	---	25	35	pF
Switching Frequency		300	410	620	KHz
MTBF (calculated)	MIL-HDBK-217F@25℃, Ground Benign	---	29	---	MHours
■ Environmental Characteristics					
Operating Ambient Temperature Range (See Power Derating Curve)	Natural Convection	-40	---	+95	℃
Case Temperature		---	---	+100	℃
Storage Temperature Range		-50	---	+125	℃
Humidity(non condensing)		---	---	95	% rel.H
Cooling	Natural Convection				
Lead Temperature(1.5mm form case for 10 Sec.)		---	---	260	℃
Recommended Outside					
Input Fuse	5V Input Models	See Note 5			

Notes

1. Specifications typical at Ta=+25℃, resistive load, nominal input voltage and rated output current unless otherwise noted.
2. Ripple & Noise measurement bandwidth is 20MHz.
3. The output noise is measured with 0.33uF ceramic capacitor.
4. All DC/DC converters should be externally fused at the front end for protection.
5. We recommend to protect the converter by a slow blow fuse in the input supply line.

TYPICAL PERFORMANCE CHARACTERISTICS: (5VOUT)

Conditions: TA = 25 ºC, unless otherwise specified. The output ripple and transient response measurement is short loop probing and 20MegHz bandwidth limited. The following figures provide the typical characteristic curves at 5Vout.

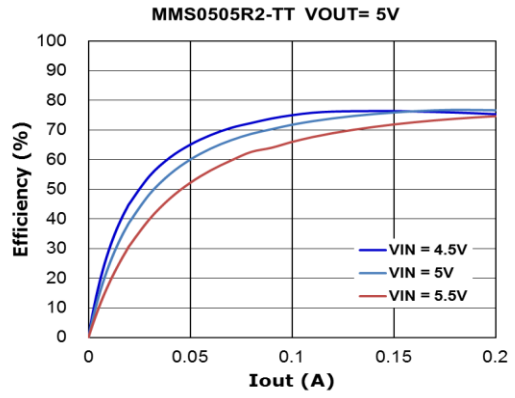


FIG.1 EFFICIENCY V.S. LOAD CURRENT

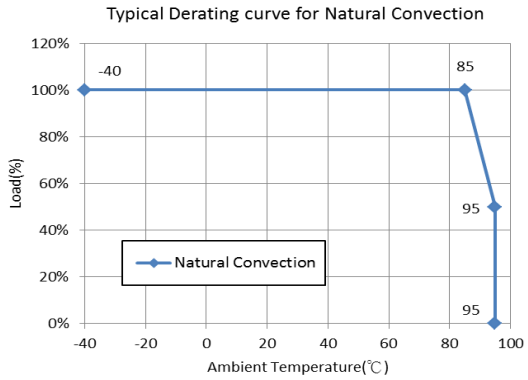


FIG.2 5VIN DE-RATING CURVE

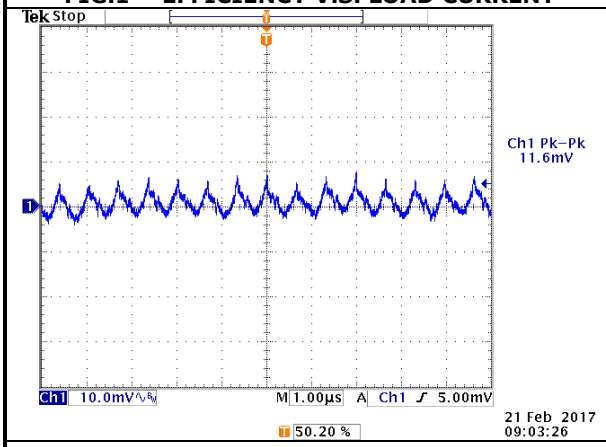


FIG.3 OUTPUT RIPPLE (5VIN, 5VOUT, IOUT=0A)

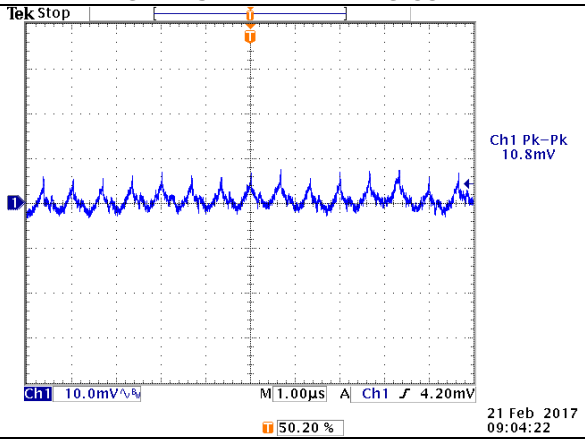


FIG.4 OUTPUT RIPPLE (5VIN, 5VOUT, IOUT=0.2A)

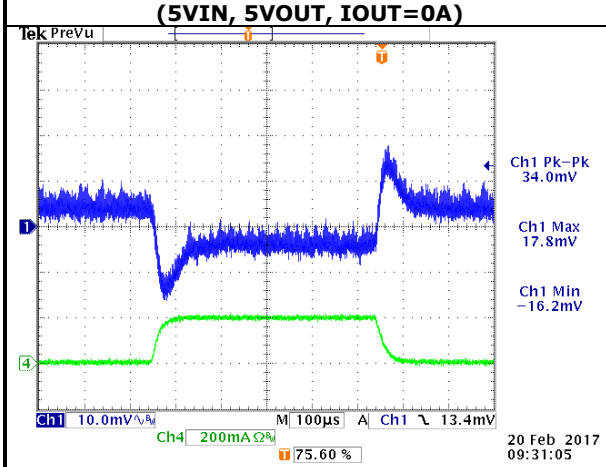


FIG.5 TRANSIENT RESPONSE (5VIN, 5VOUT, 0% to 100% LOAD STEP)

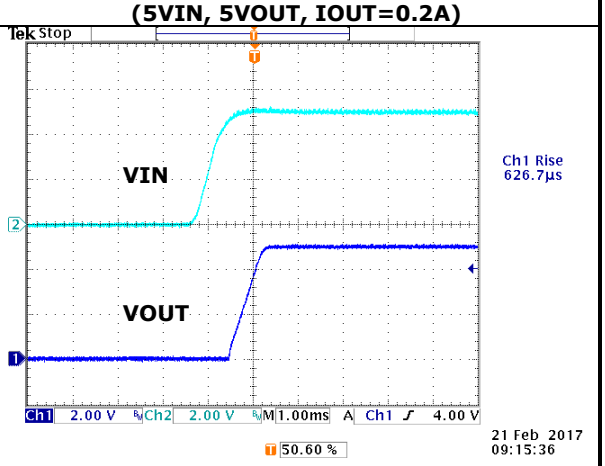
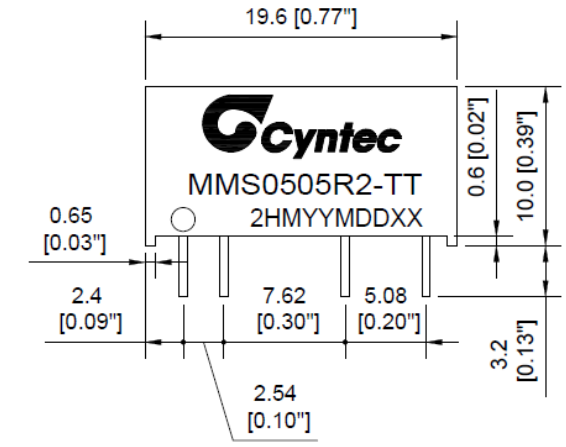


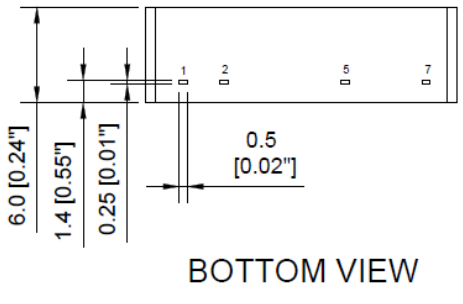
FIG.6 TURN-ON (5VIN, 5VOUT, IOUT=0.2A)

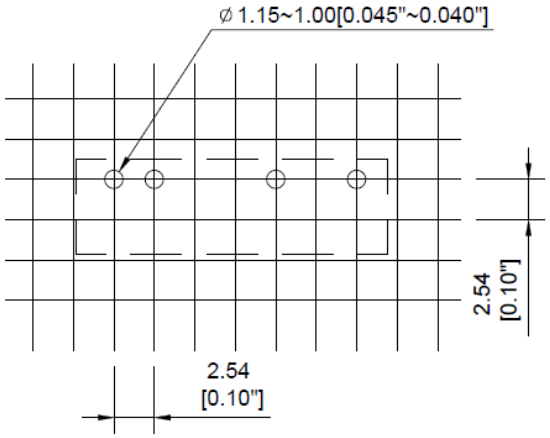
PACKAGE OUTLINE DRAWING:

Unit: mm



PIN Connections	
PIN	Function
1	+Vin
2	-Vin
5	-Vout
7	+Vout





All dimensions in mm (inches)
All of Tolerance: ±0.25 (±0.01)
Pins :±0.05 (±0.002)

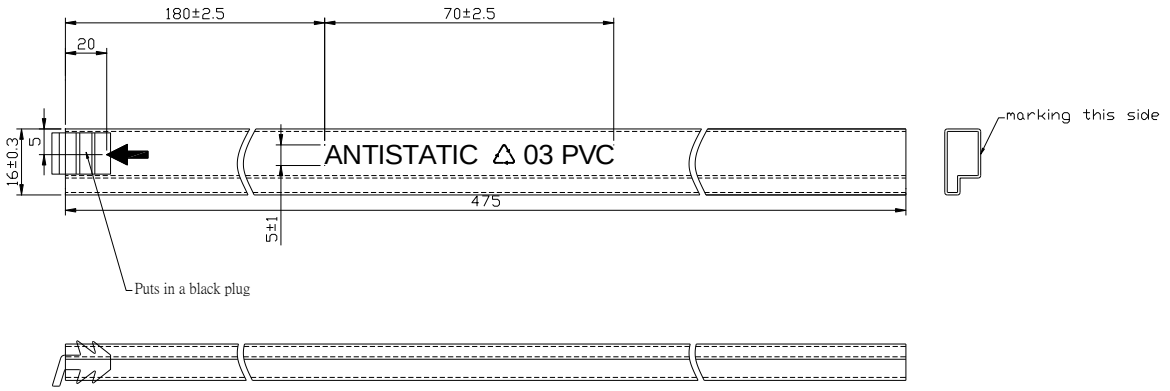
Recommended Footprint Details

PACKING INFORMATION:

Unit: mm

Package In Tube Loading Orientation

Tube Dimension



REVISION HISTORY:

Date	Revision	Changes
2018.6.15	00	Official released.