

### ■ Features

- Compact SMD package
- Operating temperature range  $-40 \sim +115^{\circ}\text{C}$
- Meet AEC-Q standard
- Protection: Short circuit (Continuous)
- 4KVdc I/O isolation (1 minute)
- Low cost
- Reel packing
- 3 years warranty

### ■ Applications

- Telecom / datacom system
- Wireless network
- Industrial control facility
- Instrument
- Analyzer
- Detector
- Data switch
- Automotive solution
- Battery management system

### ■ GTIN CODE

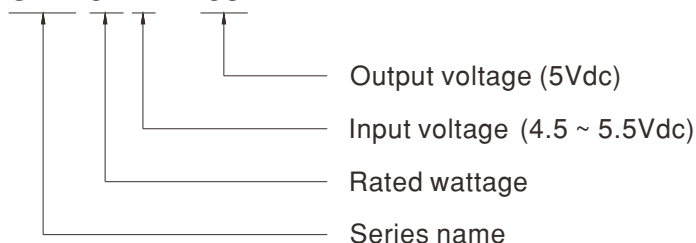
MW Search: <https://www.meanwell.com/serviceGTIN.aspx>

### ■ Description

The CAR01L-05 is a 1W isolated and unregulated module type DC-DC converter with SMD package. It features wide operating temperature range of  $-40^{\circ}\text{C} \sim +115^{\circ}\text{C}$ , 4KVdc input/output isolation, short-circuit protection and meets AEC-Q standard. Suitable for various system, including automotive system, battery management system(BMS), industrial control, communications, and distributed power architectures.

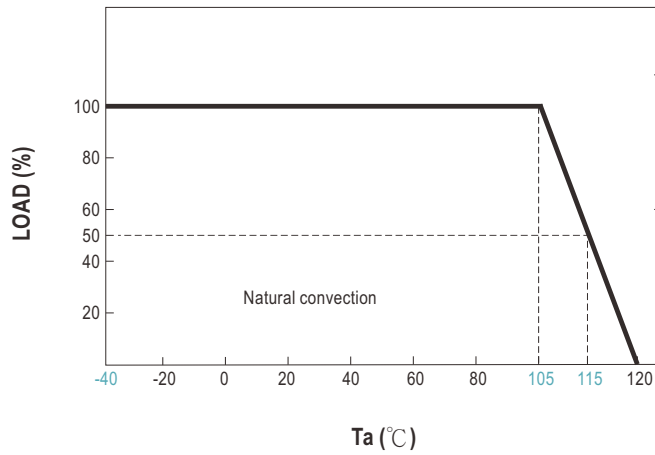
### ■ Model Encoding

**CAR 01 L - 05**

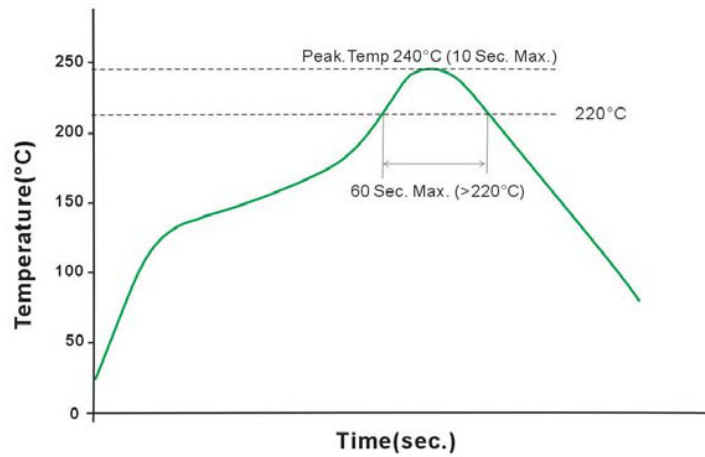


SPECIFICATION			
ORDER NO.	CAR01L-05		
INPUT			
VOLTAGE RANGE	4.5 ~ 5.5Vdc		
INPUT CURRENT	NO LOAD	15mA	
	FULL LOAD	240mA	
EFFICIENCY	81%		
FILTER	Internal capacitor		
PROTECTION	Fuse recommended. 5Vin models: 2A Slow-Blow Type		
OUTPUT			
DC VOLTAGE	5V		
CURRENT RANGE	20 ~ 200mA		
VOLTAGE ACCURACY	±5%		
RATED POWER	1W		
RIPPLE & NOISE	Note.2	50mVp-p	
LINE REGULATION	Note.3	1.2% for 1% input variation	
LOAD REGULATION	Note.4	±15%	
SWITCHING FREQUENCY (Typ.)	420KHz		
EXTERNAL CAPACITANCE LOAD (max.)	2200µF		
PROTECTION			
SHORT CIRCUIT	Continuous, automatic recovery		
ENVIRONMENT			
COOLING	Free-air convection		
WORKING TEMP.	-40 ~ +115°C (Refer to "Derating Curve")		
CASE TEMPERATURE	+140°C max.		
WORKING HUMIDITY	20% ~ 90% RH non-condensing		
STORAGE TEMP., HUMIDITY	-55 ~ +125°C, 10 ~ 95% RH non-condensing		
TEMP. COEFFICIENT	±0.03% / °C (0 ~ 105°C)		
SOLDERING TEMPERATURE	1.5mm from case of 1 ~ 10sec./240°C max.		
VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes		
SAFETY & EMC (Note.5)			
SAFETY STANDARDS	LVD IEC62368-1, EAC TP TC 004 approved		
WITHSTAND VOLTAGE	I/P-O/P: 4KVdc		
ISOLATION RESISTANCE	I/P-O/P: 100M Ohms / 500Vdc / 25°C / 70% RH		
ISOLATION CAPACITANCE (Typ.)	18pF		
EMC EMISSION	Parameter	Standard	Test Level / Note
	Conducted	BS EN/EN55025(CISPR25)	Class 3 (External components)
	Radiated	BS EN/EN55025(CISPR25)	Class 3
EMC IMMUNITY	Parameter	Standard	Test Level / Note
	ESD	ISO 10605	Criteria A, ±15KV air ; ±8KV contact
	EFT/Bursts	BS EN/EN61000-4-4	Criteria A, ±0.5KV
	Surge	BS EN/EN61000-4-5	Criteria A, ±0.5KV
OTHERS			
MTBF	11670Khrs MIL-HDBK-217F(25°C)		
DIMENSION (L*W*H)	14.2*10.7*5.7mm (0.55*0.42*0.22 inch)		
CASE MATERIAL	Non-Conductive black plastic (UL 94V-0 rated)		
PACKING	1.45g ; 500pcs/per reel, 1000pcs/2 reel/per carton		
NOTE			
<p>1.All parameters are specified at normal input(5Vdc), rated load, 25°C 70% RH ambient.</p> <p>2.Ripple &amp; noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µf &amp; 47µf capacitor.</p> <p>3.Line regulation is measured from low line to high line at rated load.</p> <p>4.Load regulation is measured from 10% to 100% rated load.</p> <p>5.The final equipment must be re-confirm that it still meet EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."(as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</p> <p>※ Product Liability Disclaimer : For detailed information, please refer to <a href="https://www.meanwell.com/serviceDisclaimer.aspx">https://www.meanwell.com/serviceDisclaimer.aspx</a></p>			

■ Derating Curve



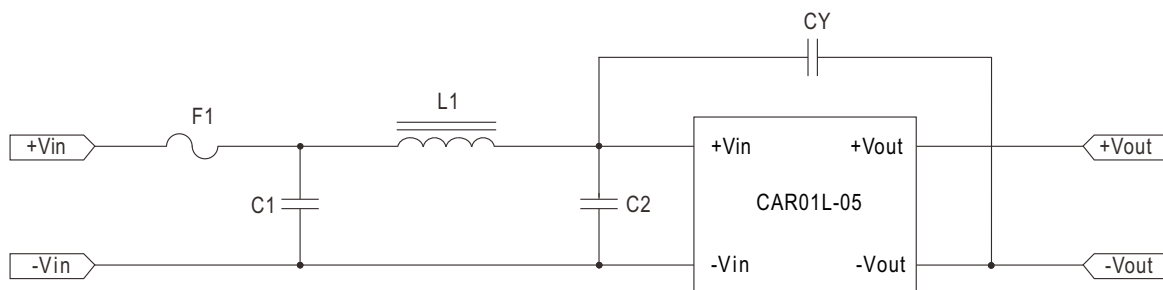
■ Reflow Soldering Curve



Remark: The curve applies only to the hot air reflow soldering.

■ EMC Suggest Circuit

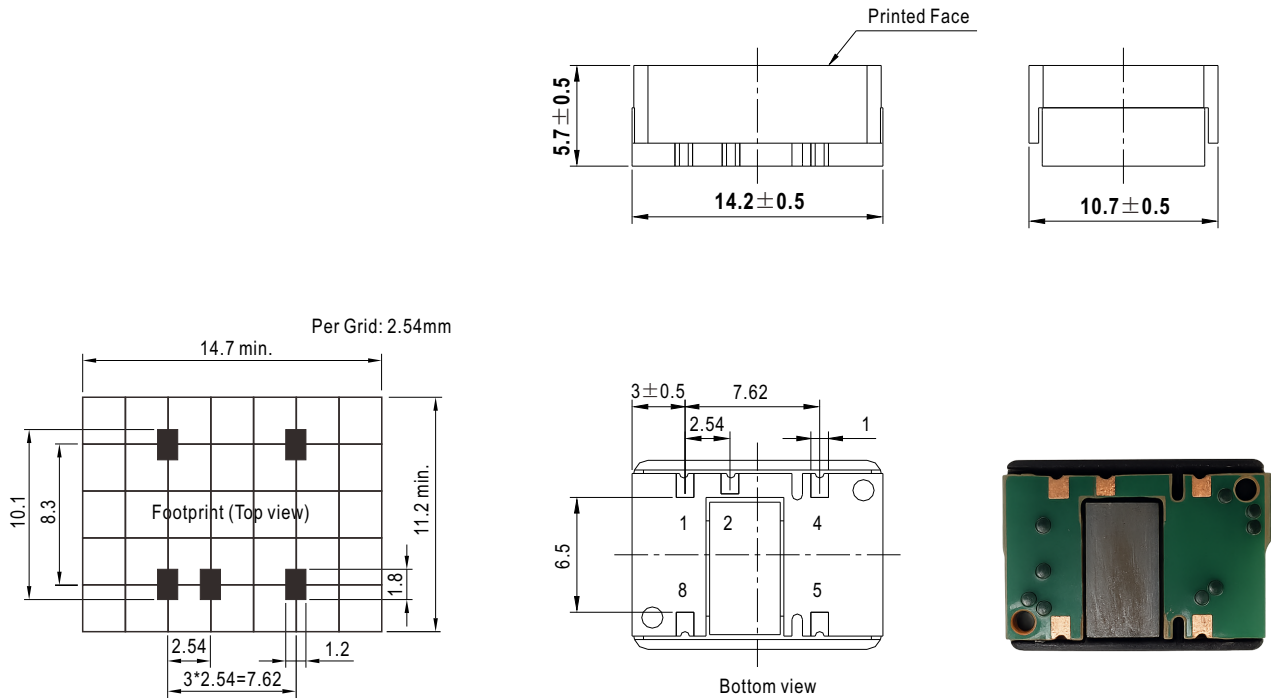
\* Required external components to meet BS EN/EN55025 conducted/radiated Class 3 emission as below:



Model No.	BS EN/EN55025 conducted/radiated			
	F1	L1	C1,C2	CY
CAR01L-05	Suggest 2A Slow-Blow Type	22μH	10μF	220pF

**Mechanical Specification**

- All dimensions in mm
- Tolerance:  $\pm 0.25\text{mm}$



**Pin Assignment**

Pin No.	Pin-Out
1	-Vin
2	+Vin
4	-Vout
5	+Vout
8	N.C.

\* N.C. : No connected

**Packing**

Standard Tube Packing	MPQ Per Reel (PCS)	One Box G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.
<p>Unit : mm</p> <p>INNER BOX L365*W350*H52</p> <p>OUTER CARTON L400*W145*H395</p>	500	0.725Kg	1000	3.5Kg

**Installation Manual**

Please refer to : <http://www.meanwell.com/manual.html>