



1 Watt DC-DC Converter
ES3R-05S05R3

1 Watt Single O/P
Isolated DC/DC Converter

FEATURES:

- 1 Watt SMD Package
- Efficiency to 70%
- 100% Burned In
- UL 94V-0 Package Material
- Custom Solutions Available
- Regulated Output Types
- UL Recognized



Input Specifications

Input Voltage:	5Vdc
Input Voltage Range:	±10%

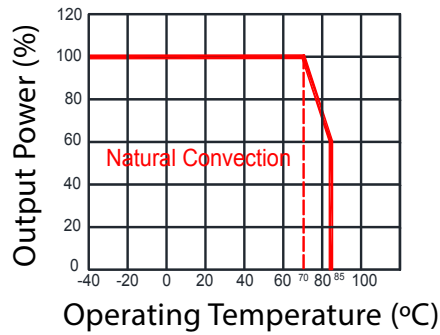
Output Specifications

Output Voltage:	5Vdc
Output Voltage Accuracy:	±3% @Vout=4.85~5.15Vdc@Vin=5Vdc
Output Current:	200mA
Efficiency:	70% TYP
Ripple / Noise:	30mVp-p TYP, 75mVp-p MAX @20MHz bandwidth
Short Circuit Protection:	Continuous
Line Regulation:	±0.25% TYP @For 1.0% OF Vin
Load Regulation:	±2% MAX @10% to 100% full load
Capacitive Load:	2400uF MAX

General Specifications

Operating Temperature Range:	-40°C ~ +85°C	
Storage Temperature:	-55°C ~ +125°C	
Switching Frequency:	215 or 370KHz TYP	
Humidity:	95% MAX	
Isolation Voltage:	3000Vdc @Input to Output (60 sec/ 0.5mA)	
Isolation Resistance:	1000MΩ MIN @ 500Vdc	
Cooling:	Free air convection	
MTBF:	>3,500,000 Hours MIL-HDBK-217F@25°C, Ground Benign	
Case Material:	DAP	
Weight:	1.2g TYP	
EMI	CE	CISPR32/EN55032 CLASS B (see Fig.1 for recommended circuit)
	RE	CISPR32/EN55032 CLASS B (see Fig.1 for recommended circuit)
EMS	ESD	IEC/EN61000-4-2 Air ±8kV, Contact ±4kV perf. Criteria B

Temperature Derating Graph

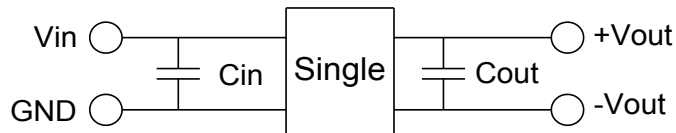


Part Number

ES3 R - 05 S 05 R 3
A B C D E F G

- A: Series
- B: Package
- C: Input Voltage
- D: Single Output (S)
- E: Output Voltage
- F: Regulated (R)
- G: Isolation Voltage

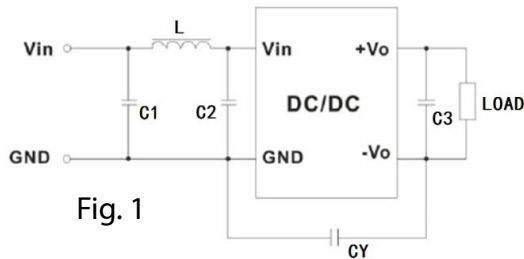
Recommended Test Circuit



Pin	Value
Vin	5Vdc
Cin	4.7μF/25V
Single Vout	5Vdc
Cout	10μF/16V

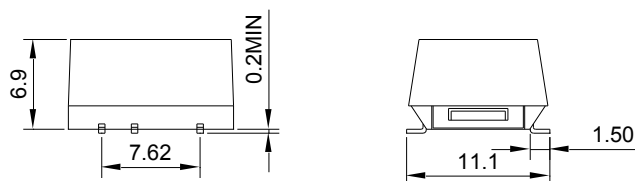
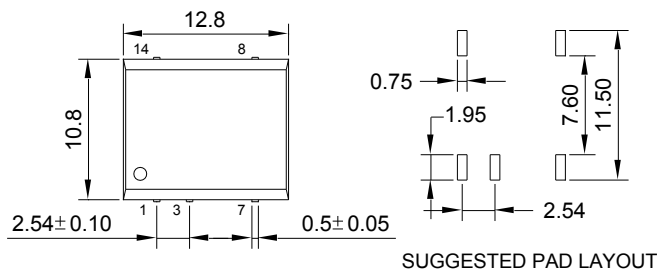
To make sure the product works at perfect operation status, a full loading external capacitor is necessary and it is recommended to use a high frequency low resistance electrolytic capacitor.

EMC (CLASS B) Compliance Circuit



EMC Recommended Circuit Value Table		
EMI	C1	4.7μF /50V
	C2	4.7μF /50V
	CY	1nF/4kV
	C3	Recommended Test Circuit
	L	6.8μH

Outline Dimensions



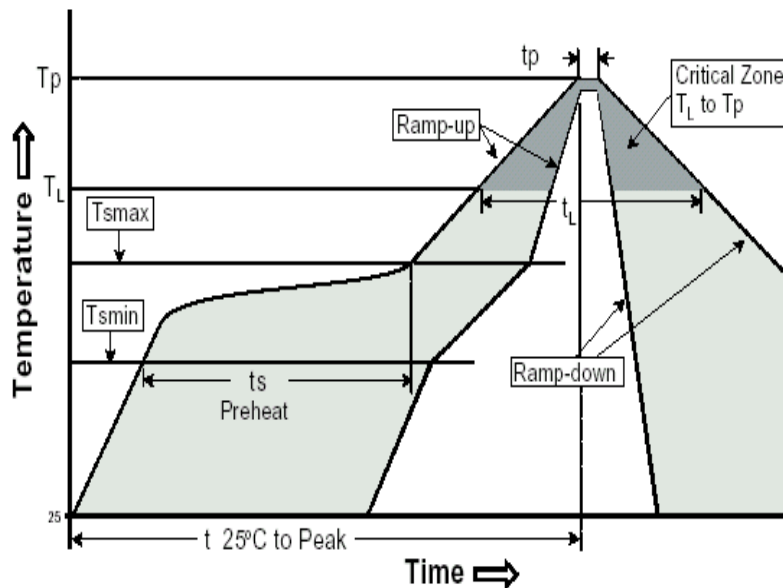
Pin	1	3	7	8	14
Single	-Vin	+Vin	-Vout	+Vout	NC

UNIT: mm unless otherwise specified, all tolerances are ±0.25

RoHS Compliant Type

Our RoHS parts can withstand IR Reflow peak temperature: 240°C +/-5°C as the following profile:

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (Ts max to Tp)	3°C /second max.
Preheat <ul style="list-style-type: none"> - Temperature Min (Ts min) - Temperature Max (Ts max) - Time (ts min to ts max) 	150°C 200°C 60-180 seconds
Time Maintained Above: <ul style="list-style-type: none"> - Temperature (T_L) - Time (t_L) 	217°C 60-150 seconds
Peak/Classification Temperature (Tp)	240±5°C
Time within 5°C of Actual Peak Temperature (tp)	20-40 seconds
Ramp-Down Rate	6°C/seconds max
Time 25°C to Peak Temperature	6 minutes max.

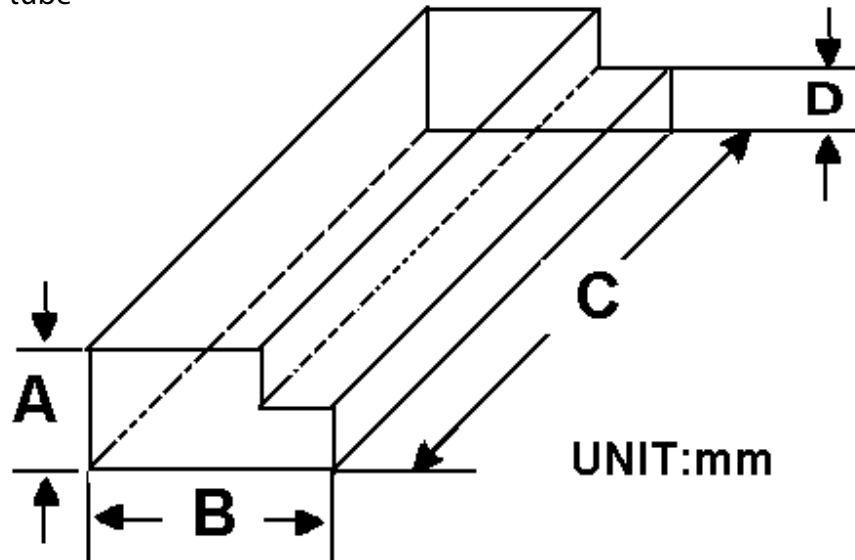


Packaging Information

Weight: 1.36 grams/pcs

TUBE: 33 pcs

Weight: 65g per tube



Size (mm)			
A	B	C	D
9.50	16.50	522	5.00

Outer carton unit: 3300pcs/100Tubes/box

Weight: 7.5 kg per carton

