

FEATURES:

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



1 Watt DC-DC Converter
ES3R-05S05R3

1 Watt Single O/P
Isolated DC/DC Converter



Input Specifications

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

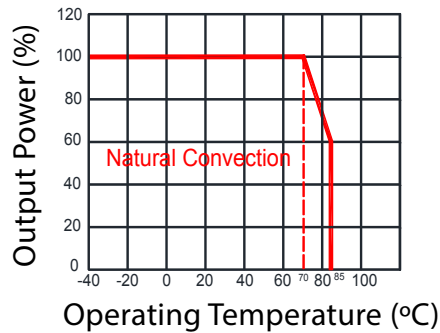
Output Specifications

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

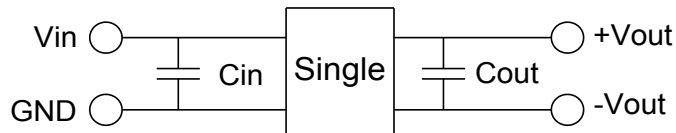


Part Number

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

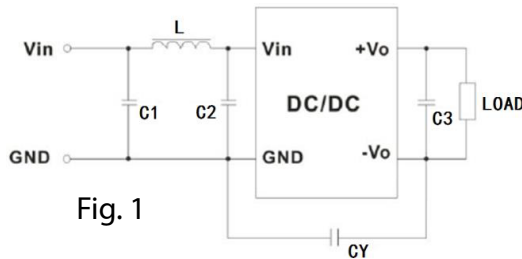
Recommended Test Circuit



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

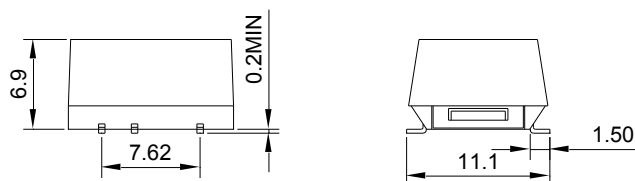
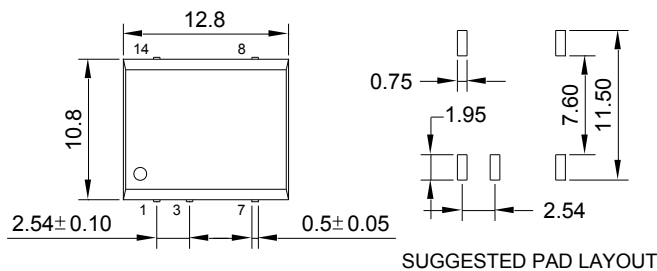
To make sure the product works at perfect operation status, a full loading external capacitor is necessary and it is recommended to use a high frequency low resistance electrolytic capacitor.

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



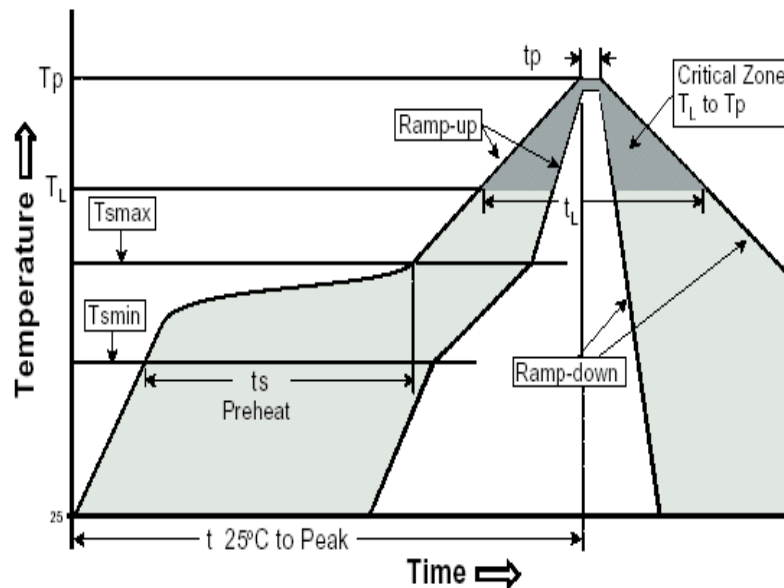
Pin	1	3	7	8	14
Single	-Vin	+Vin	-Vout	+Vout	NC

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

RoHS Compliant Type

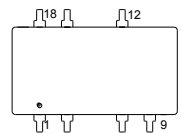
Our RoHS parts can withstand IR Reflow peak temperature: $240^{\circ}\text{C} \pm 5^{\circ}\text{C}$ as the following profile:

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (T_s max to T_p)	$3^{\circ}\text{C} / \text{second max.}$
Preheat - Temperature Min (T_s min) - Temperature Max (T_s max) - Time (t_s min to t_s max)	150°C 200°C 60-180 seconds
Time Maintained Above: - Temperature (T_L) - Time (t_L)	217°C 60-150 seconds
Peak/Classification Temperature (T_p)	$240 \pm 5^{\circ}\text{C}$
Time within 5°C of Actual Peak Temperature (t_p)	20-40 seconds
Ramp-Down Rate	$6^{\circ}\text{C} / \text{seconds max}$
Time 25°C to Peak Temperature	6 minutes max.

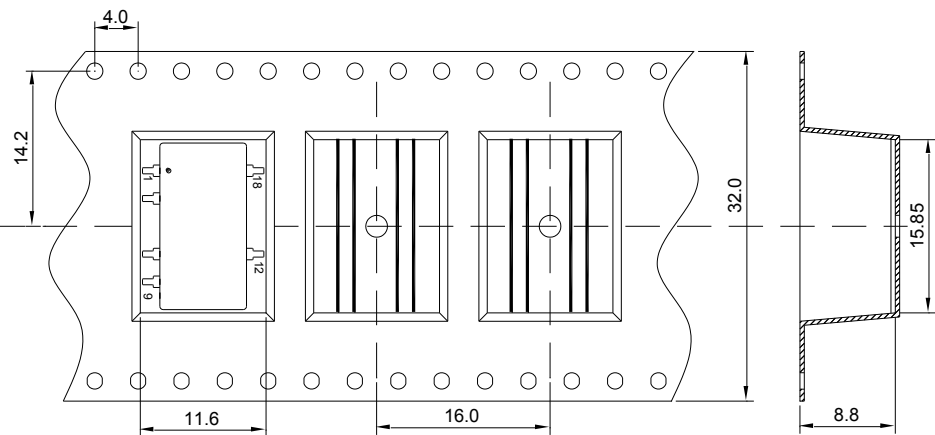


Packaging Information

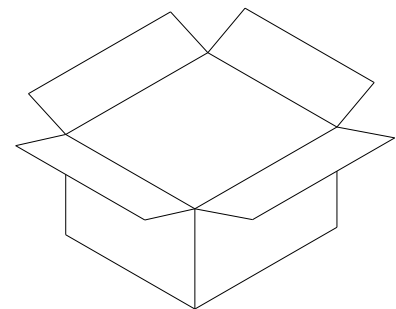
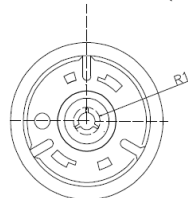
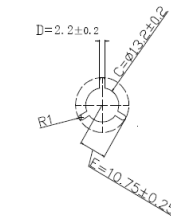
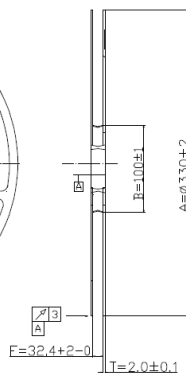
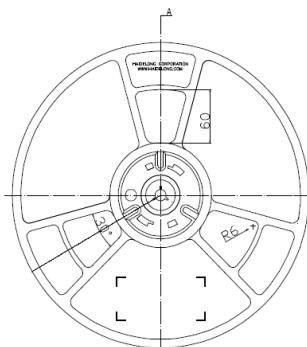
1. Weight: 1.36 grams/pcs
2. Tape & Reel: 350 pcs
3. Outer Carton Unit: 2800 pcs/box
4. Outer Carton Unit: 8 T&R/box
5. Weight: 8.8kg per carton



Mechanicals



Tape & Reel



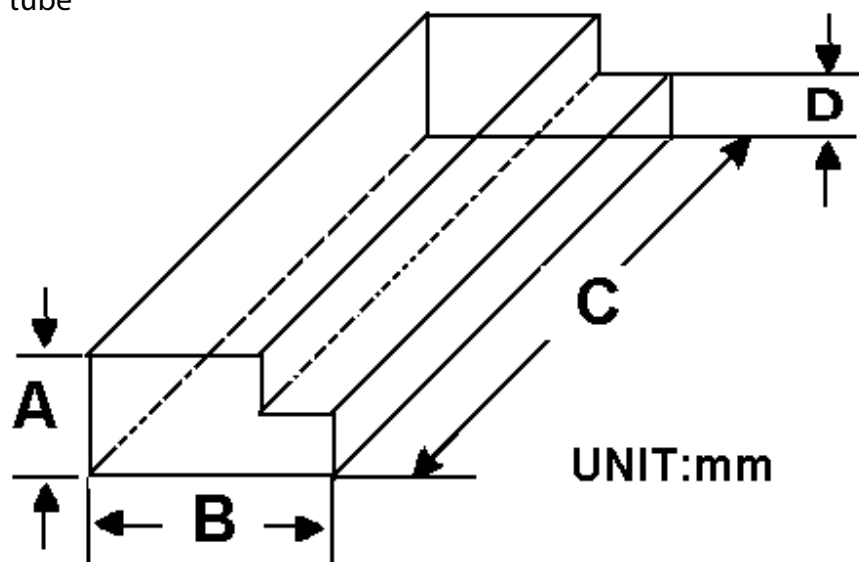
Outer carton: 365x365x350mm

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

