

**FEATURES:**

- 1 Watt SIP Package
- Efficiency to 82%
- 100% Burned In
- UL 94V-0 Package Material
- Custom Solutions Available
- Unregulated Output Types
- UL Recognized



**1 Watt DC-DC Converter**  
**ES3R-03S05P3**

**1 Watt Single O/P**  
**Isolated DC/DC Converter**



**Input Specifications**

Input Voltage:	3.3Vdc
Input Voltage Range:	±10%

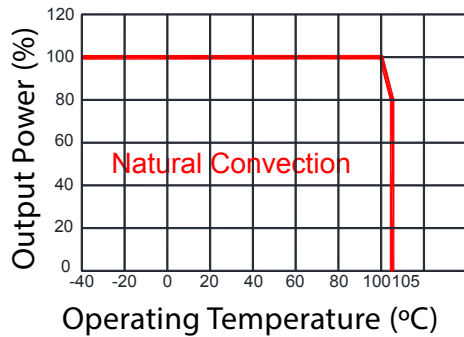
**Output Specifications**

Output Voltage:	5Vdc
Output Voltage Accuracy:	±5% @Vout=4.75~5.25Vdc@Vin=3.3Vdc
Output Current:	200mA
Efficiency:	82% TYP
Ripple / Noise:	30mVp-p TYP, 75mVp-p MAX @20MHz bandwidth
Short Circuit Protection:	Continuous
Line Regulation:	±1.2% TYP @For 1.0% OF Vin
Load Regulation:	±15% MAX @10% to 100% full load
Capacitive Load:	2400uF MAX

**General Specifications**

Operating Temperature Range:	-40°C ~ +105°C
Storage Temperature:	-55°C ~ +125°C
Switching Frequency:	215KHz 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:	1.28g TYP

## Temperature Derating Graph

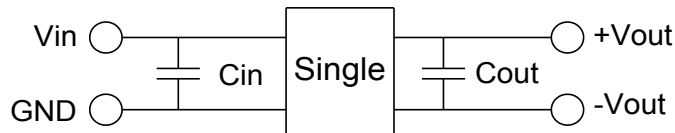


## Part Number

ES3 R - 03 S 05 P 3  
A B C D E F G

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

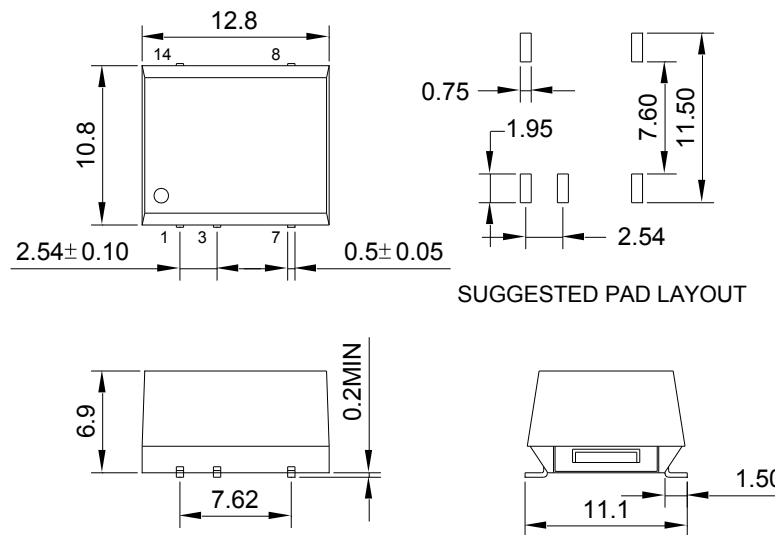
## Recommended Test Circuit



Vin	Cin	Single Vout	Cout
3.3Vdc	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.

## Outline Dimensions



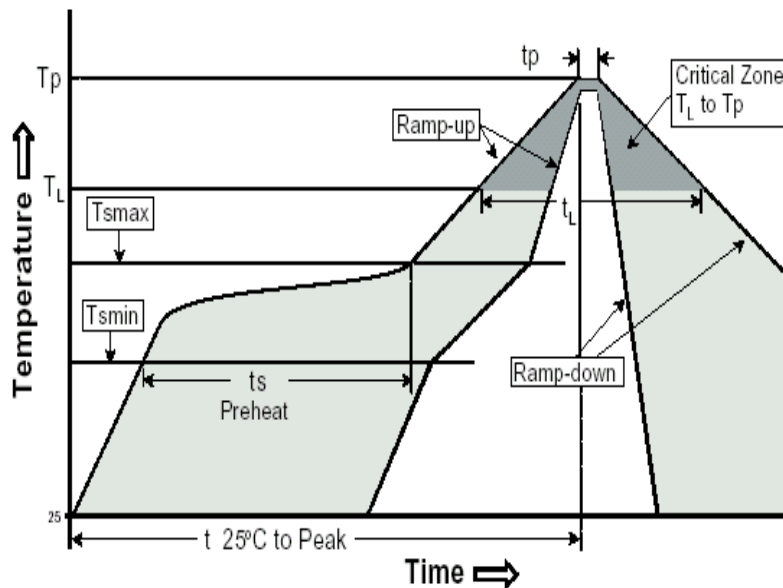
UNIT: mm unless otherwise specified, all tolerances are ±0.25

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

**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"> <li>- Temperature Min (Ts min)</li> <li>- Temperature Max (Ts max)</li> <li>- Time (ts min to ts max)</li> </ul>	150°C 200°C 60-180 seconds
Time Maintained Above: <ul style="list-style-type: none"> <li>- Temperature (<math>T_L</math>)</li> <li>- Time (<math>t_L</math>)</li> </ul>	217°C 60-150 seconds
Peak/Classification Temperature ( $T_p$ )	240±5°C
Time within 5°C of Actual Peak Temperature ( $t_p$ )	20-40 seconds
Ramp-Down Rate	6°C/seconds max
Time 25°C to Peak Temperature	6 minutes max.



**Packaging Information**

- 1. Weight: 1.28 grams/pcs
- 2. Tape & Reel: 400 pcs
- 3. Outer Carton Unit: 4000 pcs/box
- 4. Outer Carton Unit: 10 T&R/box
- 5. Weight: 10.5kg per carton

