

FEATURES:

- 2 Watt SIP Package
- Efficiency to 84%
- 100% Burned In
- No-Load Input Current as Low as 5mA
- UL 94V-0 Package Material
- Custom Solutions Available
- Unregulated Output Types
- UL Recognized



2 Watt DC-DC Converter
ES3-05S052P3

2 Watt Single O/P
Isolated DC/DC Converter



Input Specifications

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

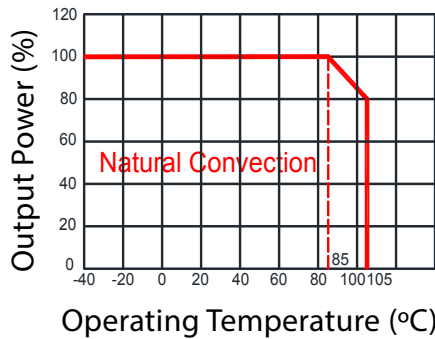
Output Specifications

Output Voltage:	5Vdc
Output Voltage Accuracy:	±5% @Vout=4.75~5.25Vdc@Vin=5Vdc
Output Current:	400mA
Efficiency:	84% TYP
Ripple / Noise:	75mVp-p TYP, 150mVp-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:	1.2g 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

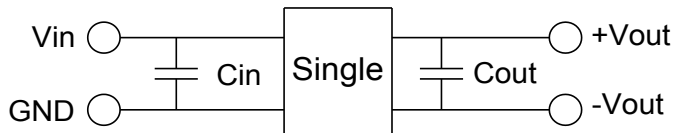


Part Number

ES3 - 05 S 05 2 P 3
A B C D E F G

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

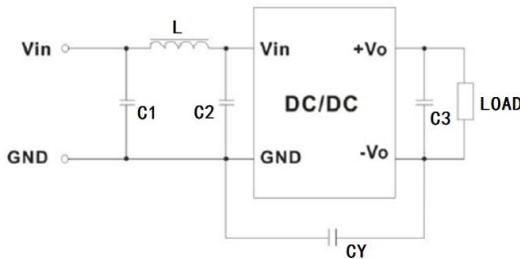
Recommended Test Circuit



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

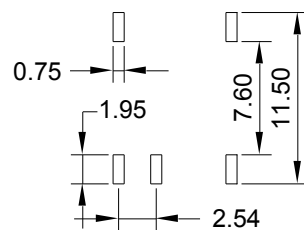
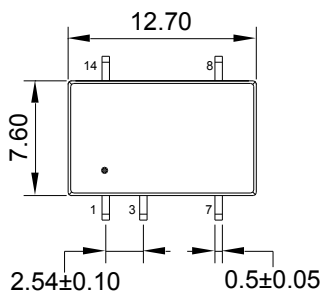
To make sure the product works at perfect operation status, a full loading external capacitor is necessary and it is recommended to use a high frequency low resistance electrolytic capacitor.

EMC (CLASS B) Compliance Circuit

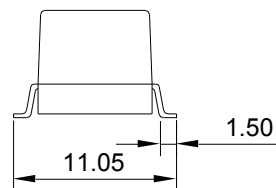
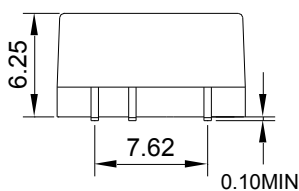


EMC Recommended Circuit Value Table		
EMI	C1	4.7µF /50V
	C2	4.7µF /50V
	CY	1nF/4kV
	C3	Recommended Test Circuit
	L	6.8µH

Outline Dimensions



SUGGESTED PAD LAYOUT



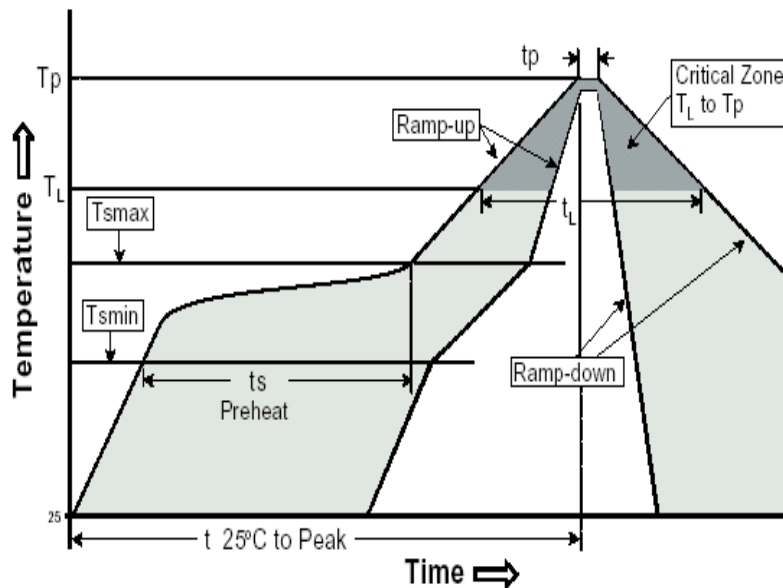
Pin	1	3	7	8	14
Single	-Vin	+Vin	-Vout	+Vout	NC

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

- 1. Weight: 1.2 grams/pcs
- 2. Tape & Reel: 350 pcs
- 3. Outer Carton Unit: 3500 pcs/box
- 4. Outer Carton Unit: 10 T&R/box
- 5. Weight: 9.5kg per carton

