

Features

- 2WATT SMD PACKAGE
- EFFICIENCY TO 85%
- 100% BURNED IN
- UL 94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE
- UNREGULATED OUTPUT TYPES



2 Watt DC/DC Converter

2 Watt Single O/P
Isolated DC-DC Converter

Input Specifications

| | |
|---------------------|--------|
| Input Voltage | :12Vdc |
| Input Voltage Range | :±10% |

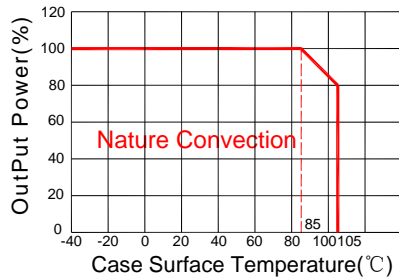
Output Specifications

| | | |
|--------------------------|----------------------------------------------|------------------------------|
| Output Voltage | :5Vdc | |
| Output Voltage Accuracy | :±5% | @Vout=4.75-5.25Vdc@Vin=12Vdc |
| Output Current | :400mA | |
| Efficiency | :85% 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 | :250KHz TYP | |
| Humidity | :95% MAX | |
| Isolation Voltage | :3000Vdc | @Input to Output (60sec/0.5mA) |
| Isolation Resistance | :1000MΩ MIN | @ 500Vdc |
| Cooling | :Free air convection | |
| MTBF | :>3500000 Hours | MIL-HDBK-217F@25°C,Ground Benign. |
| Case Material | :DAP | |
| Weight | :1.36g 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

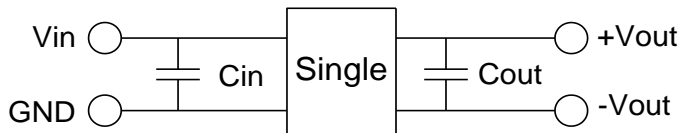


Part Number

13DS1C - 12 S 05 N 2 P 2 H3
A B C D E F G H I

A:Series
B:Input Voltage
C:Single Output
D:Output Voltage
E:Unregulated(N)
F:Package
G:Protection
H:Output Power
I:Isolation Voltage

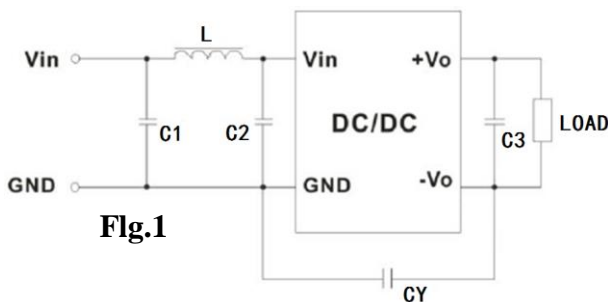
Recommended Test Circuit



| Vin | Cin | SingleVout | Cout |
|-------|-----------|------------|----------|
| 12Vdc | 2.2μF/25V | 5Vdc | 10μF/16V |

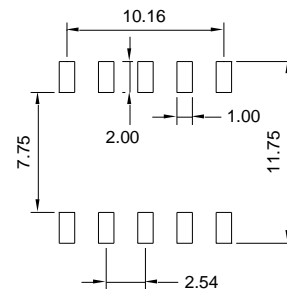
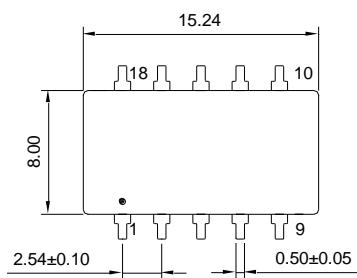
To make sure the product work at perfect operation status with full loading external capacitor is necessary and it is recommended to use high frequency low resistance electrolytic capacitor.

EMC (CLASS B) compliance circuit

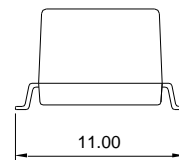
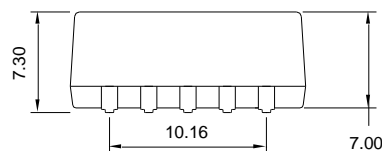


| EMC recommended circuit value table | | |
|-------------------------------------|----|--------------------------|
| EMI | C1 | 4.7μF /50V |
| | C2 | 4.7μF /50V |
| | CY | 1nF/4kV |
| | C3 | Recommended Test Circuit |
| | L | 6.8μH |

Outline Dimensions



SUGGESTED PAD LAYOUT



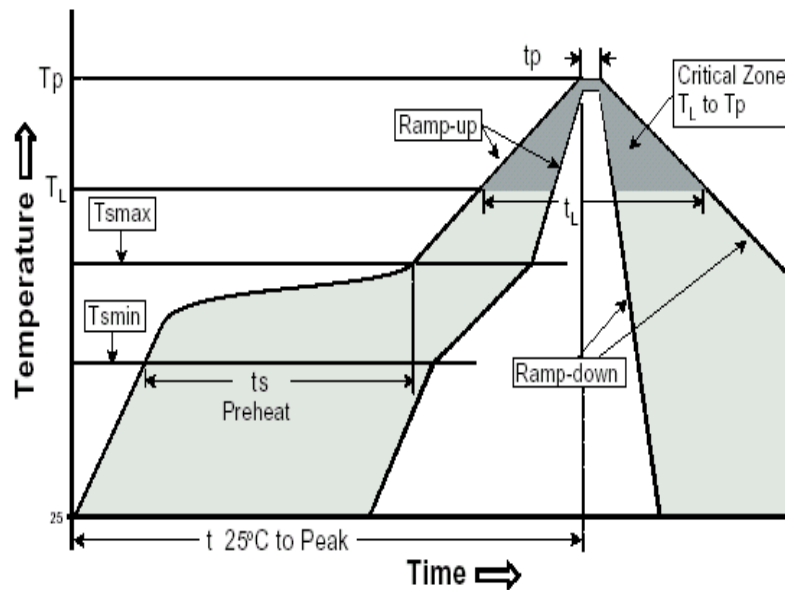
UNIT:mm Unless otherwise specified,all tolerances are ±0.25

| PIN | 1 | 3 | 9 | 14 | Other |
|--------|------|------|-------|-------|-------|
| Single | -Vin | +Vin | -Vout | +Vout | NC |

RoHS compliant type

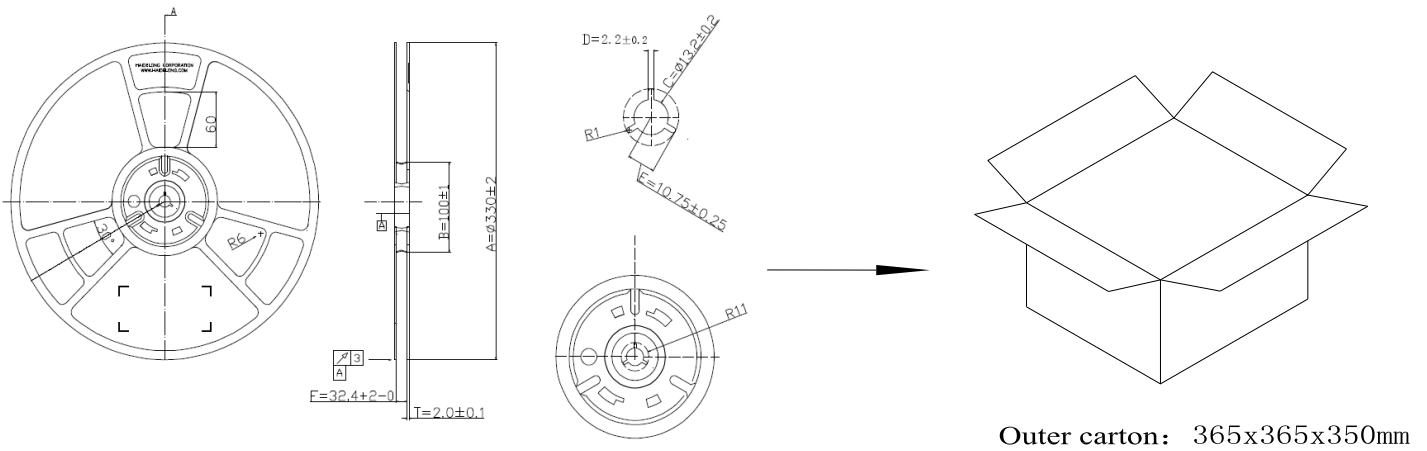
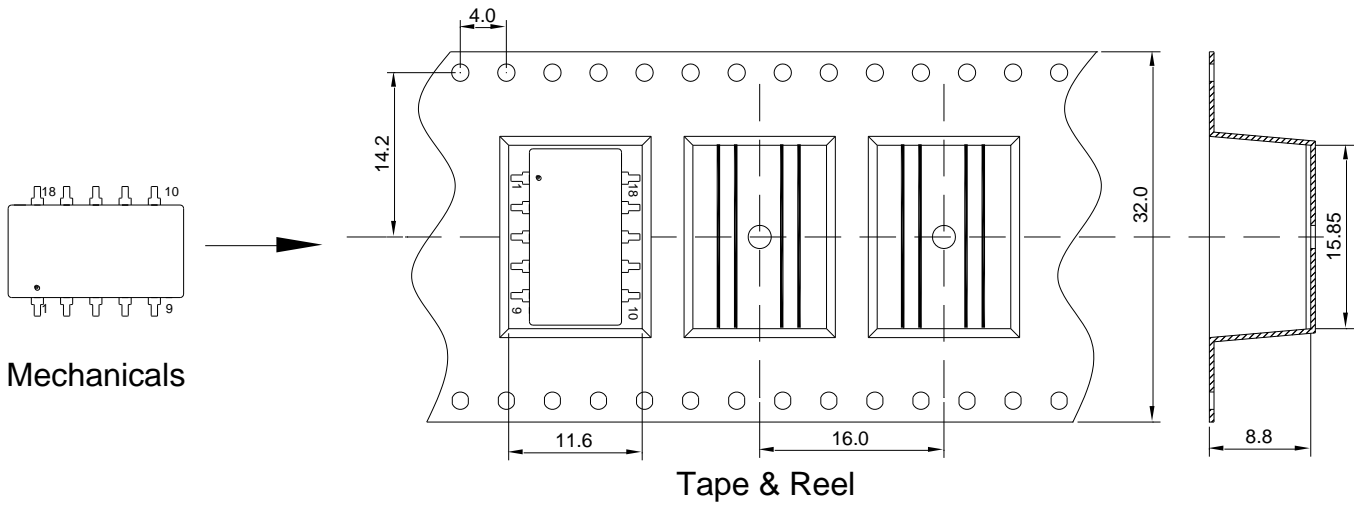
Our RoHS parts just can withstand IR Reflow peak temperature: 240degC +/-5degC as the following profile:

| Profile Feature | Pb-Free Assembly |
|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Average Ramp-Up Rate (Ts _{max} to Tp) | 3°C /second max. |
| Preheat -Temperature Min (Ts _{min}) -Temperature Max (Ts _{max}) -Time (ts _{min} to ts _{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 (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. |



Packing Information:

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

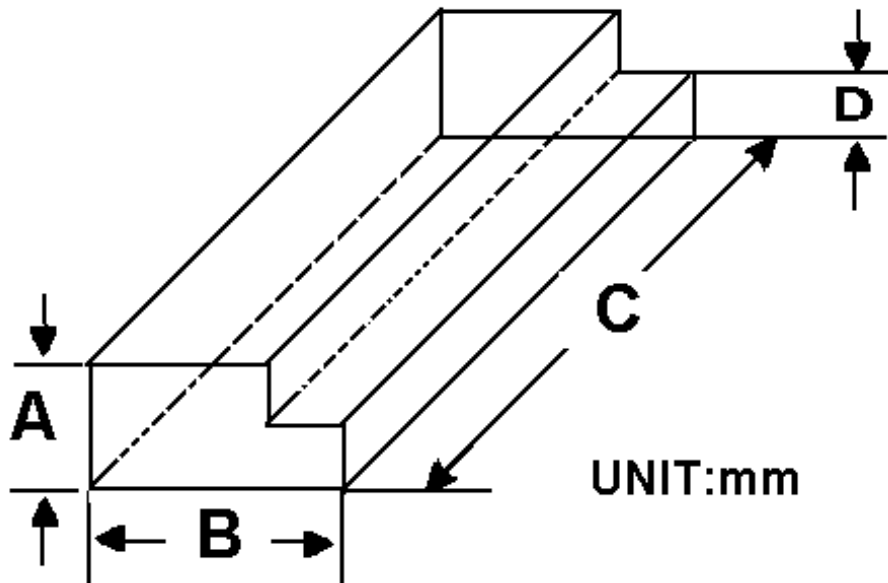


Packing Information:

Weight-----1.36grams/pcs

TUBE-----33pcs

Weight: 65g per tube



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

Outer carton unit: 3300pcs/100Tube/box

Weight: 7.5kg per carton

