

**Features**

- 1.65WATT SMD PACKAGE
- 2:1 WIDE INPUT VOLTAGES
- EFFICIENCY TO 72%
- 100% BURNED IN
- UL 94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE
- REGULATED OUTPUT TYPES



**1.65 Watt DC/DC Converter**

WIDE INPUT VOLTAGE RANGE  
1.65 WATT DC-DC CONVERTER

**Input Specifications**

Input Voltage	:24Vdc
Input Voltage Range	:18-36Vdc

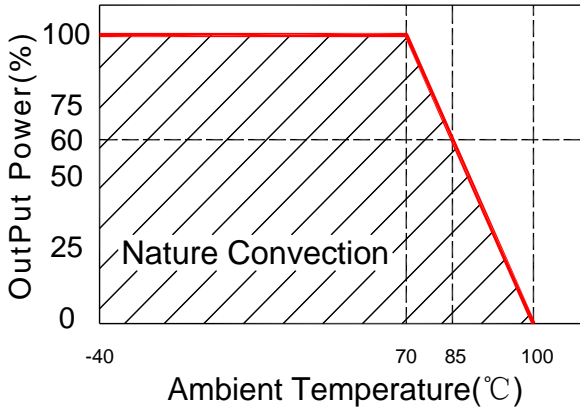
**Output Specifications**

Output Voltage	:3.3Vdc	
Output Voltage Accuracy	:±5%	@ Vout=3.135-3.465Vdc@ Vin=18-36Vdc
Output Current	:500mA	
Efficiency	:72% TYP	
Ripple / Noise	:100mVp-p MAX	@20MHz Bandwidth
Short Circuit Protection	:Continuous	
Line Regulation	:±0.5% MAX	@ LL to HL at Full Load
Load Regulation	:±1.0% MAX	@ 0% to 100%FL

**General Specifications**

Operating Temperature Range	:-40°C ~ +85°C	
Storage Temperature	:-55°C ~ +125°C	
Switching Frequency	:100KHz TYP	
Humidity	:95% MAX	
Isolation Voltage	:1500Vdc	@ Input to Output ( 60sec/0.5mA )
Isolation Resistance	:1000MΩ MIN	@ 500Vdc
Cooling	:Free air convection	
MTBF	:>1000000 Hours	MIL-HDBK-217F@25°C,Ground Benign.
Case Material	:DAP	
Weight	:3.9g TYP	

Temperature Derating Graph

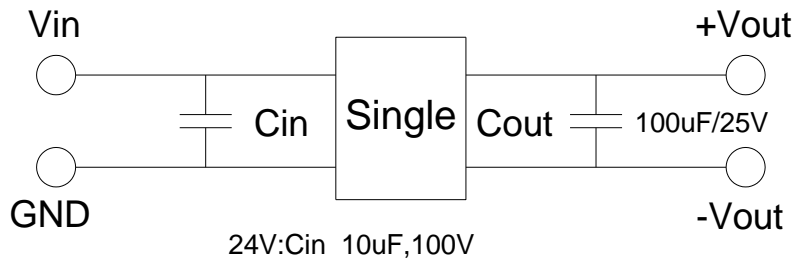


Part Number

28D - 24 S 03 R  
 A B C D E

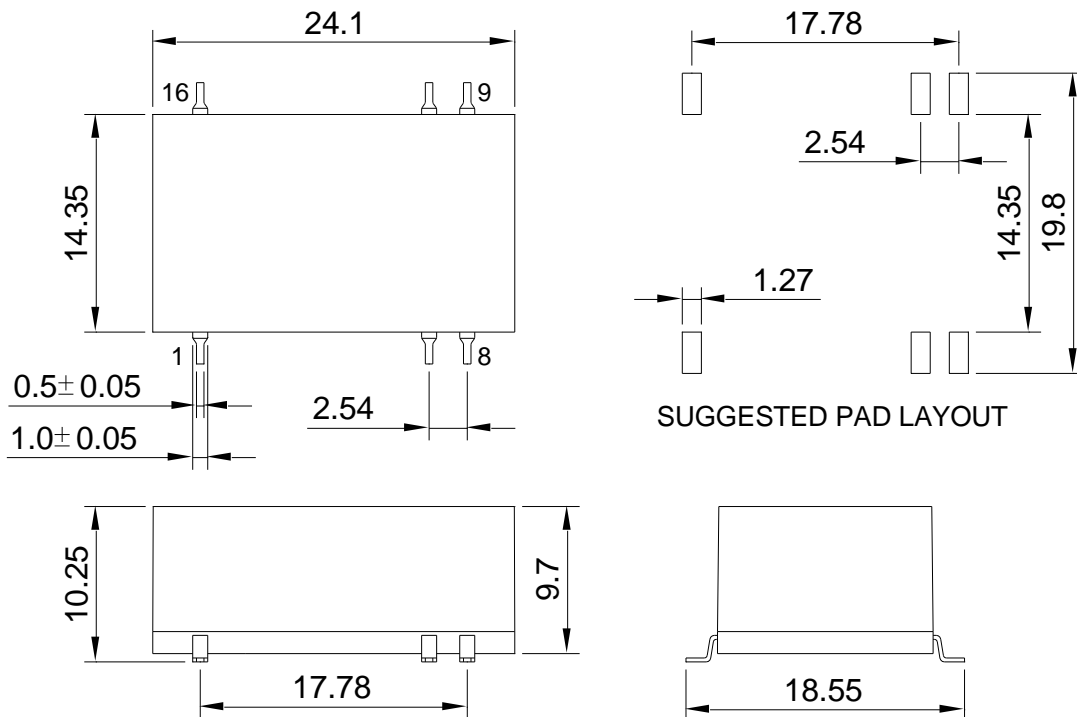
A:Series  
 B:Input Voltage  
 C:Single Output  
 D:Output Voltage  
 E:Regulated(R)

Recommended Test Circuit



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.

Outline Dimensions



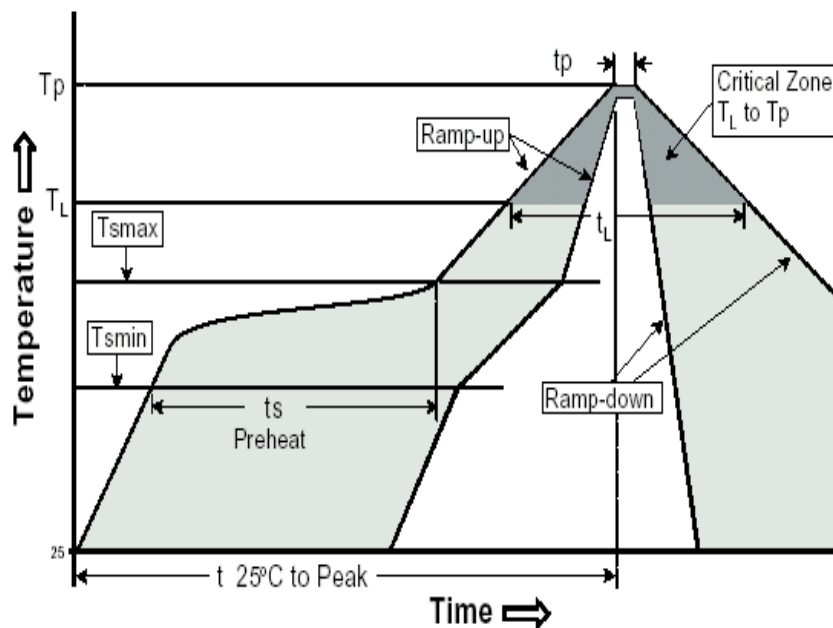
UNIT:mm Unless otherwise specified,all tolerances are ±0.25

<b>PIN</b>	1	7	8	9	10	16
<b>Single</b>	-Vin	NC	NC	+Vout	-Vout	+Vin

## RoHS compliant type

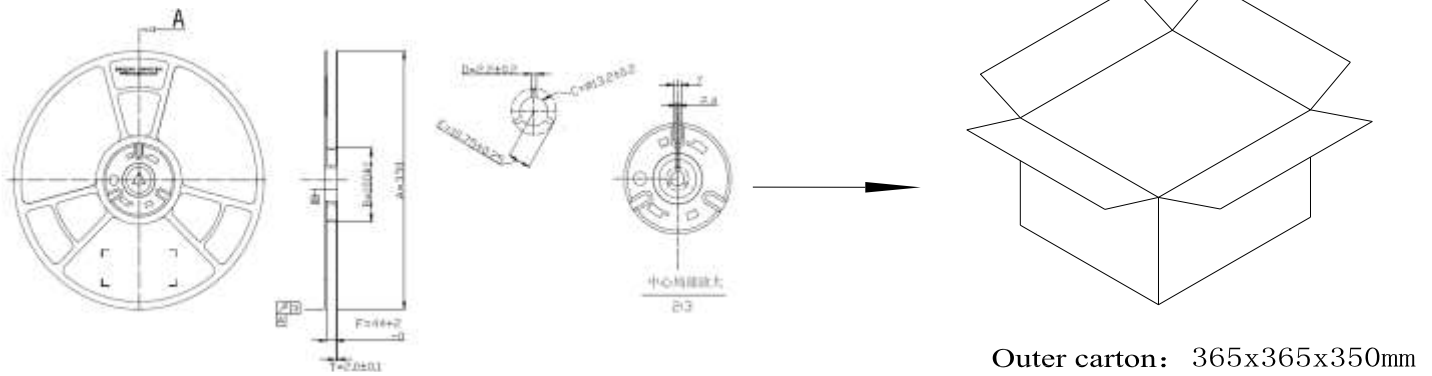
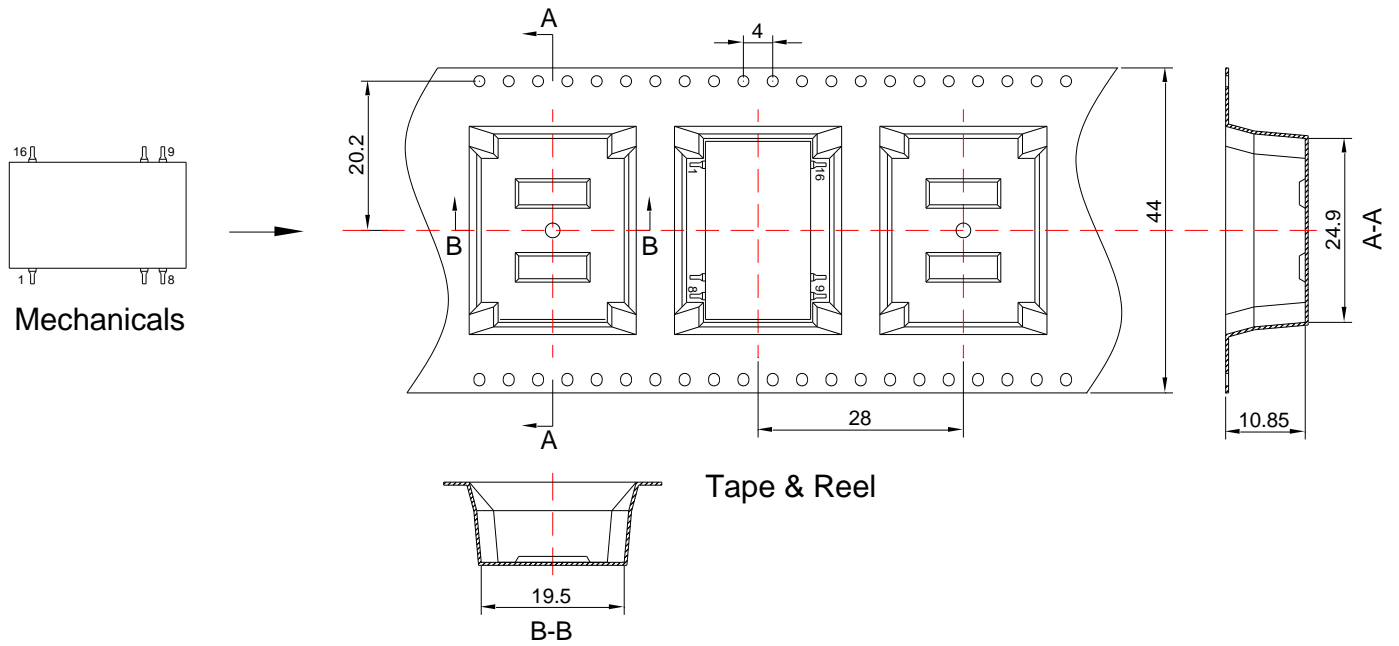
Our RoHS parts just can withstand IR Reflow peak temperature: 240degC +/-5degC as the following profile:

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate ( $T_{s\ max}$ to $T_p$ )	3°C /second max.
<b>Preheat</b> -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
<b>Time maintained above:</b> -Temperature ( $T_L$ ) -Time ( $t_L$ )	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.



**Packing Information:**

- 1.Weight-----3.9 grams/pcs
- 2.Tape & Reel----- 200pcs
3. outer carton unit: 1200pcs/box
4. outer carton unit: 6T&R/box
- 5.Weight: 7.8kg per carton



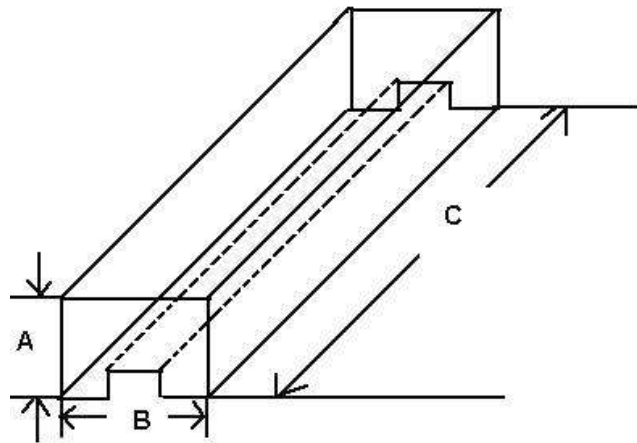
Outer carton: 365x365x350mm

**Packing Information:**

Weight----- 3.9 grams/pcs

TUBE----- 20pcs

Weight: 112.3g per tube



UNIT:mm

Size(mm)		
A	B	C
18.0	20.0	520

Outer carton unit: 1440pcs/72Tube/box

Weight: 8.2kg per carton

