Features

- 10PIN SMD Package
- UL94V-0 Package Material
- Operating Temperature:-40°C TO +85°C
- Efficiency up to 90%
- Non isolated, no need for heatsinks
- Short circuit protection

RoHS Compliant

NON-ISOLATED
DC/DC Converter

Input Specifications

Input Voltage Range	:4.75~36Vdc
Input current no load	:3mA TYP
Input Filter	: Capacitor
Remote ON	: 3.2 ~ 5.5VDC or open circuit
Remote OFF	: 0 ~ 0.8VDC or short circuit pin 10 and 3/7
OFF Idle Current	: 0.2mA typ.

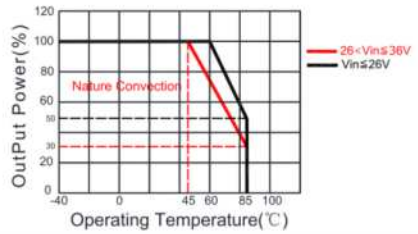
Output Specifications

Output Voltage	:3.3Vdc	
Output Voltage Accuracy	:±4%	@Vout=3.168~3.432Vdc @Vin=4.75~36Vdc
Output Voltage Adjustability (Trim)	:±10% max.	
Output Current	:1000mA	
Efficiency	:90% TYP @Min Vin :80% TYP @Max Vin	
Ripple / Noise	:75mVp-p MAX	@20MHz Bandwidth
Short Circuit Protection	:Continuous	@auto-recovery
Line Regulation	:±0.4% MAX	@ at Full Load
Load Regulation	:±0.6% MAX	@10% to 100% load
Capacitive load	:680uF MAX	

General Specifications

Operating Temperature Range		:-40°C ~ +85°C (with derating)	
Storage Temperature		:-55°C ~ +125°C	
Switching Frequency		:440KHz TYP	
Humidity		:95% MAX	
Cooling		:Free air convection	@(20 LFM)
MTBF		:>5000x10^3 Hours	MIL-HDBK-217F@25°C,Ground Benign.
Weight		:1.8g TYP	
EMI	CE	CISPR32/EN55032 CLASS B (see Fig. 2 for recommended circuit)	
	RE	CISPR32/EN55032 CLASS B (see Fig. 2 for recommended circuit)	
EMS	ESD	IEC/EN61000-4-2 Contact ±4kV perf.	Criteria B
	radiated immunity	IEC/EN61000-4-3, 10V/m	Criteria A
	EFT/burst	IEC/EN61000-4-4, ± 1kV (see Fig. 2 for recommended circuit)	Criteria B
	surge	IEC/EN61000-4-5, line-line ± 1kV (see Fig. 2 for recommended circuit)	Criteria B
	conducted immunity	IEC/EN61000-4-6, 3 Vr.m.s	Criteria A

Temperature Derating Graph

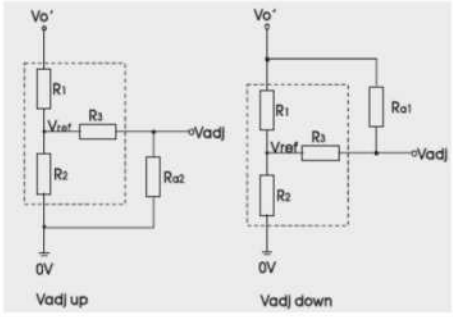


Part Number

13DS - 3R3 - 1A
A B C

A:Series
B:Output Voltage
C:Output Current

Application of Vadj and calculation of Vadj resistance



Calculation formula of Vadj resistance:

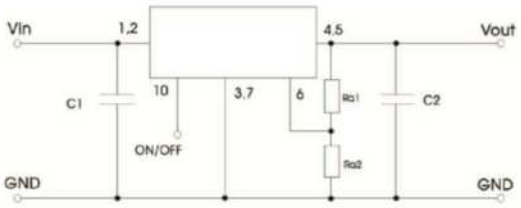
up: $R_{a2}=\frac{aR_2}{R_2-a}-R_3$ $a=\frac{Vref}{Vo'-Vref}\cdot R_1$

down: $R_{a1}=\frac{aR_1}{R_1-a}-R_3$ $a=\frac{Vo'-Vref}{Vref}\cdot R_2$

Ra1, Ra2 is Vadj resistance, a is a self-defined parameter, with no real meaning.
Vo' for the actual needs of the up or down regulated voltage

R1/KΩ	R2/KΩ	R3/KΩ	Vref/V
75	24	33	0.8

Typical Application Circuit

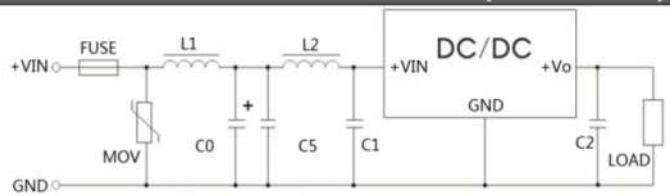


Flg.1

Vin	C1	SingleVout	C2
24Vdc	10μF/50V	3.3Vdc	22μF/16V

1. C1 and C2 are required and should be connected close to the pin terminal of the module.
2. For capacitance of C1 and C2 refer to table, it can be increased properly if required, and tantalum or low ESR electrolytic capacitors may also suffi ce.
3. Cannot be used in parallel for output and hot swap.

EMC (CLASS B) compliance circuit

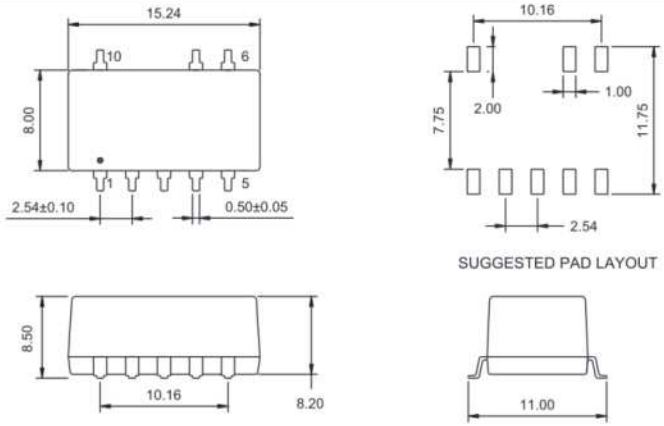


FUSE: choose according to actual input current

Flg.2

Component	Value	Component	Value
MOV	S20K30	C0	680μF/50V
L1	82μH	C1,C2	refer to Flg.1
L2	68μH	C5	4.7μF/50V

Outline Dimensions



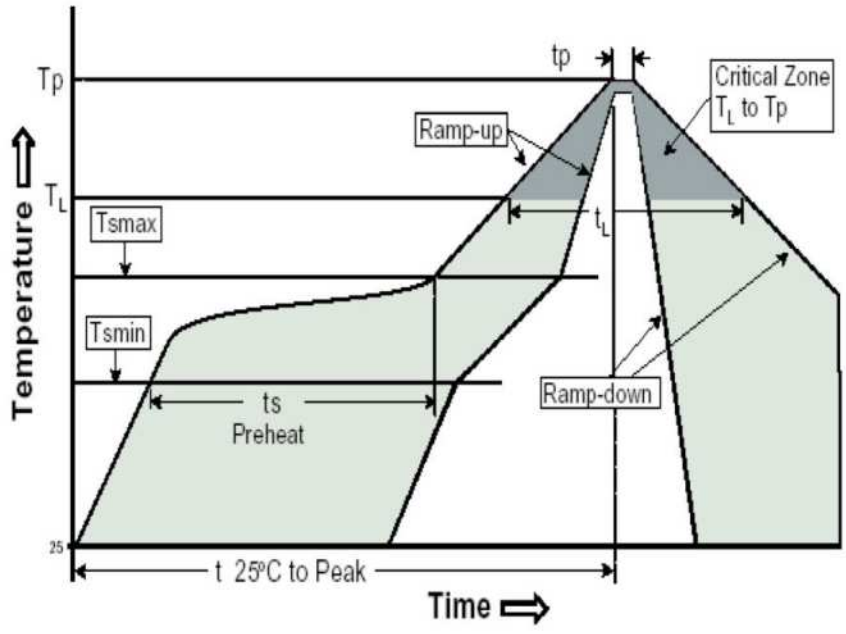
PIN Assignment

PIN	1.2	3.7	4.5	6	10
FUNCTION	+Vin	GND	+Vout	V adj	Remote On/Off

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)	3^0C /second max.
Preheat -Temperature Min (Ts_{min}) -Temperature Max (Ts_{max}) -Time (ts_{min} to ts_{max})	 150^0C 200^0C 60-180 seconds
Time maintained above: -Temperature (T_L) -Time (t_L)	 217^0C 60-150 seconds
Peak/Classification Temperature (Tp)	240 ± 5^0C
Time within 5^0C of actual Peak Temperature (tp)	20-40 seconds
Ramp-Down Rate	6^0C/seconds max
Time 25^0C to Peak Temperature	6 minutes max.



Packing Information:

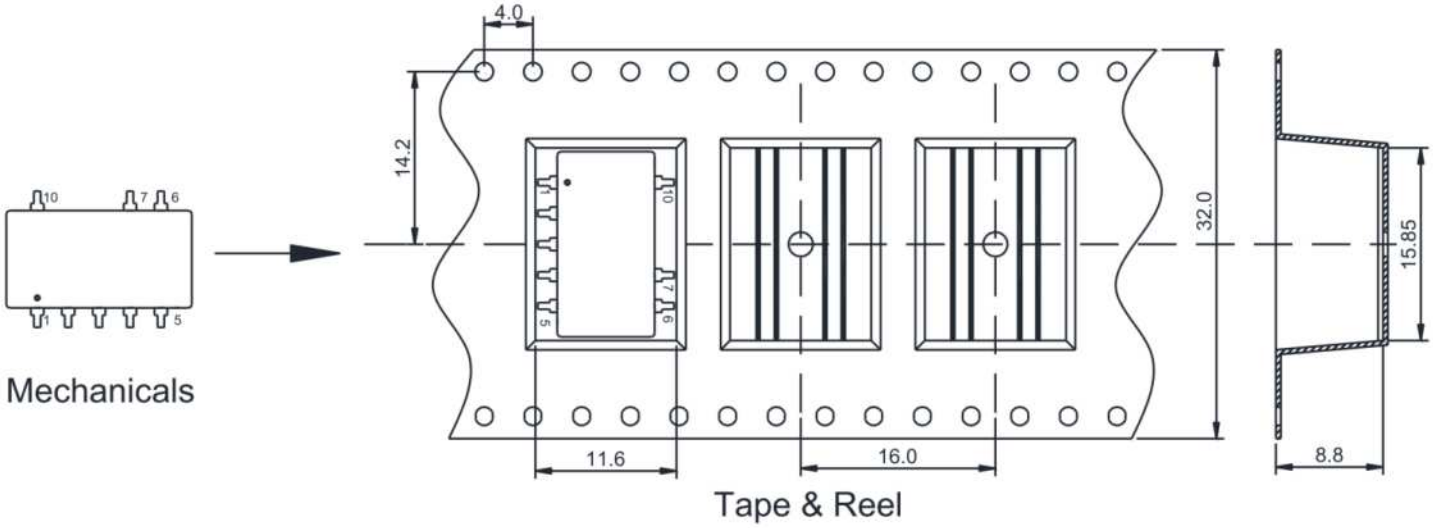
1.Weight----------1.8 grams/pcs

2.Tape & Reel------- 500 pcs

3. outer carton unit：4000pcs/box

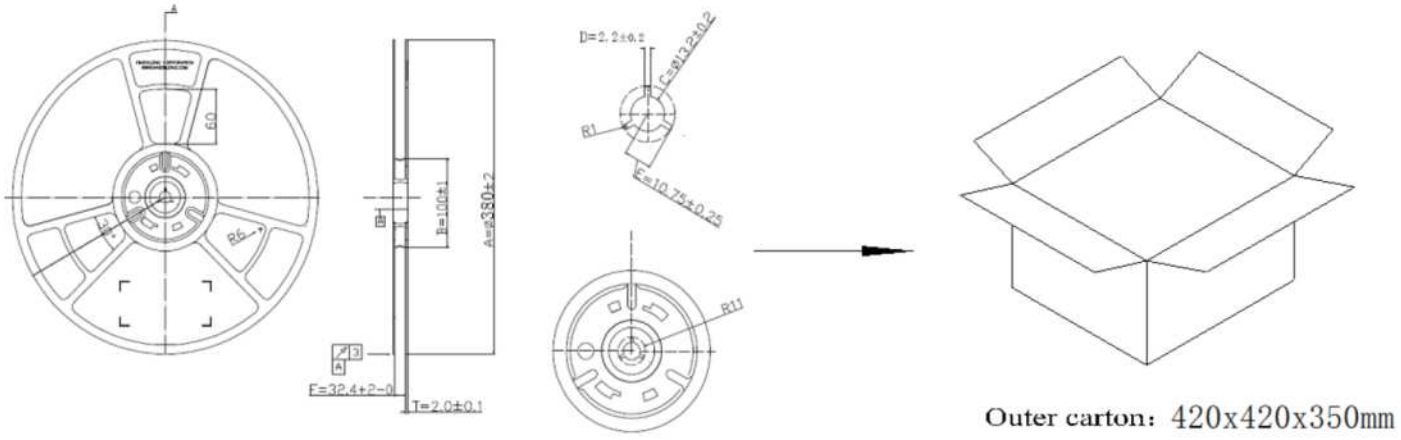
4. outer carton unit：8T&R/box

5.Weight: 12.2kg per carton



Mechanicals

Tape & Reel



Outer carton：420x420x350mm