REOMAX

APPROVAL SHEET

MODEL NO.：	SMD0603-005-33V

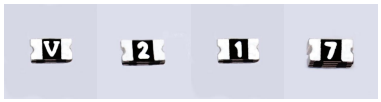
CUSTOMER：

CUSTOMER'S APPROVAL：

AUTHORIZED SIGNATURE/STAMP：

DATE

Submitted by:	Chen
Approved by:	YC Lin
DATE:	6-Apr-23



SMD0603-005-33V

Features

- Surface Mount Devices
- Lead free device
- Size 1.5*0.8 mm / 0.06*0.03 inch
- Surface Mount packaging for automated assembly

Applications

Almost anywhere there is a low voltage power supply, up to 15V and a load to be protected, including:

- Computer mother board, Modem. USB hub
- PDAs & Charger, Analog & digital line card
- Digital cameras, Disk drivers, CD-ROMs,

Performance Specification

Model	Marking	V_{max} (Vdc)	I_{max} (A)	I_{hold} @25°C (A)	I_{trip} @25°C (A)	P_d Typ. (W)	Maximum Time To Trip Current (A)	Maximum Time To Trip Time (Sec)	Resistance Ri_{min} (Ω)	Resistance R1max (Ω)	Agency Approval UL	Agency Approval TUV
SMD0603-005-33V	V	33	40	0.05	0.20	0.5	0.5	1.00	2.000	25.000		

Ihold = Hold Current. Maximum current device will not trip in 25°C still air.
Itrip = Trip Current. Minimum current at which the device will always trip in 25°C still air.
Vmax = Maximum operating voltage device can withstand without damage at rated current (Imax).
Imax = Maximum fault current device can withstand without damage at rated voltage (Vmax).
Pd = Power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.
Rimin/max = Minimum/Maximum device resistance prior to tripping at 25°C.
$R1_{max}$ = Maximum device resistance is measured one hour post reflow.
CAUTION : Operation beyond the specified ratings may result in damage and possible arcing and flame.

Environmental Specifications

Test	Conditions
Passive aging	+85°C, 1000 hrs.
Humidity aging	+85°C, 85% R.H. , 168 hours
Thermal shock	+85°C to -40°C, 20 times
Resistance to solvent	MIL-STD-202,Method 215
Vibration	MIL-STD-202,Method 201
Ambient operating conditions : - 40 °C to +85 °C	
Maximum surface temperature of the device in the tripped state is 125 °C	
In case of special use,please contact our engineer	

Agency Approvals :

Regulation/Standard: Pb RoHS **2015/863/EU**

HF **EN14582**

I_{hold} Versus Temperature

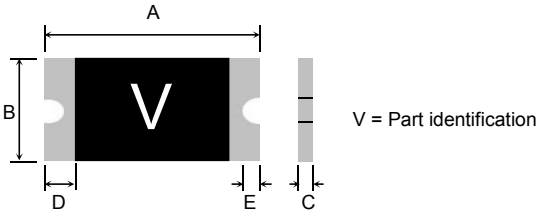
Model	Maximum ambient operating temperature (T_{mao}) vs. hold current (I_{hold})								
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
SMD0603-005-33V	0.072	0.065	0.058	0.05	0.041	0.037	0.033	0.030	0.024

SMD0603-005-33V

Construction And Dimension (Unit:mm)

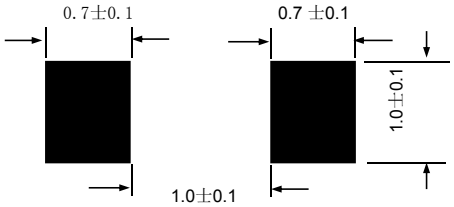
Model	A		B		C		D	E
	Min.	Max.	Min.	Max.	Min.	Max.	Min	Min
SMD0603-005-33V	1.45	1.85	0.65	1.05	0.40	1.00	0.15	0.08

Dimensions & Marking



V = Part identification

Recommended Pad Layout (mm)



Termination Pad Characteristics

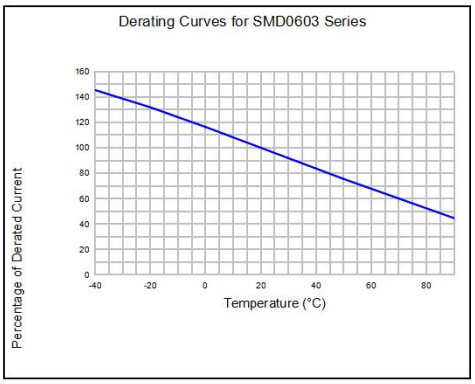
Terminal pad materials： Tin-plated Nickel-Copper

Terminal pad solderability： Meets EIA specification RS186-9E and ANSI/J-STD-002 Category 3.

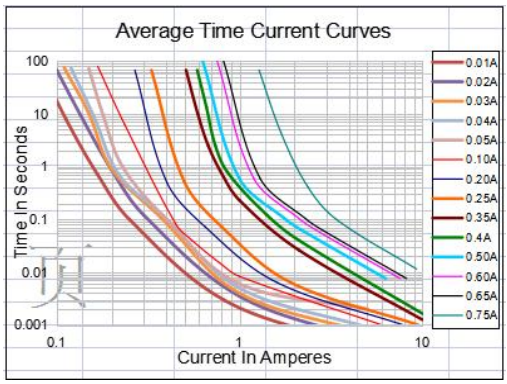
Rework

Use standard industry practices, the removal device must be replaced with a fresh one.

Thermal Derating Curve



Typical Time-To-Trip At 25°C

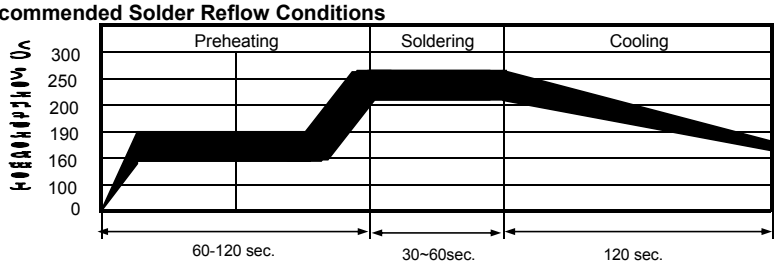


WARNING:

· Use PPTC beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
· PPTC are intended for protection against occasional over current or over temperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.
· Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal, and mechanical procedures for electronic components.
· Use PPTC with a large inductance in circuit will generate a circuit voltage (L di/dt) above the rated voltage of the PPTC.
· Avoid impact PPTC device its thermal expansion like placed under pressure or installed in limited space.
· Contamination of the PPTC material with certain silicon based oils or some aggressive solvents can adversely impact the performance of the devices. PPTC SMD can be cleaned by standard methods.
· Requests that customers comply with our recommended solder pad layouts and recommended reflow profile. Improper board layouts or reflow profile could negatively impact solderability performance of our devices.

SMD0603-005-33V

Recommended Solder Reflow Conditions



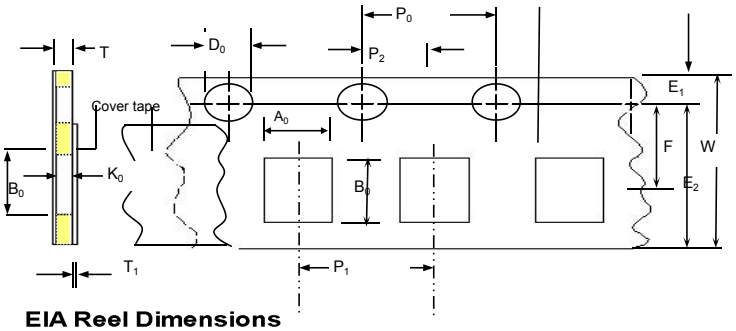
- Recommended reflow methods：IR, vapor phase oven, hot air oven.
- Devices are not designed to be wave soldered to the bottom side of the board.
- Recommended maximum paste thickness is 0.25 mm (0.010 inch).
- Devices can be cleaned using standard method and solvents.

Note：If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

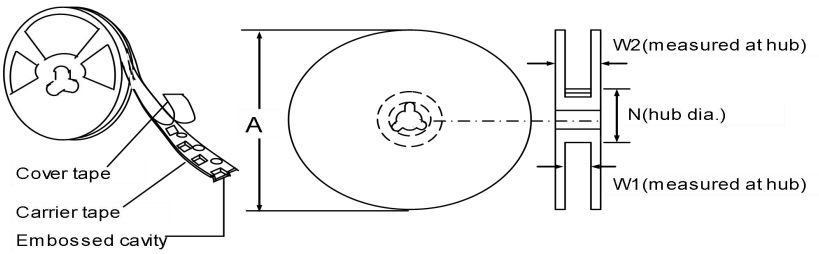
Tape And Reel Specifications (mm)

Governing Specifications	
W	8.0 ± 0.2
P_0	4.0 ± 0.10
P_1	4.0 ± 0.10
P_2	2.0 ± 0.05
A_0	1.05 ± 0.10
B_0	1.85 ± 0.10
D_0	1.55 + 0.05
F	3.5 ± 0.05
E_1	1.75 ± 0.10
E_2min.	6.25
T	0.75
T_1max.	0.1
K_0	0.75/0.95 ± 0.1
Leader min.	390
Trailer min.	160
Reel Dimensions	
A max.	178
N min.	60
W_1	9.0 ± 0.5
W_2	12.0 ± 0.05

Paper Tape Component Dimensions



EIA Reel Dimensions



Storage And Handling

- Storage conditions：40°C max, 70% R.H.
- Devices may not meet specified performance if storage conditions are exceeded.

Order Information **Packaging**

SMD0603	005-33V	Tape & Reel Quantity
Product name	Hold	
Size 1608 mm / 0603 inch	Current	5,000 pcs/reel
SMD：surface mount device	0.05A	

Tape & reel packaging per EIA481-1