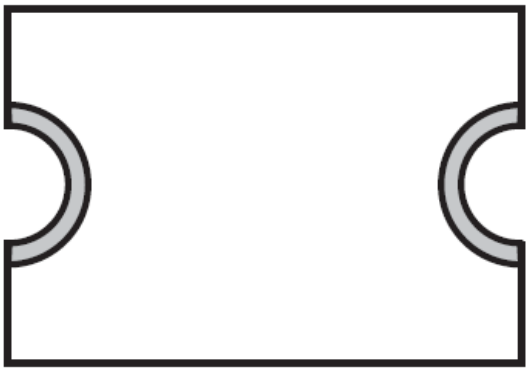
1. Scope

This specification applies for the Lead-Free SMD Resettable fuse series .

2. Construction



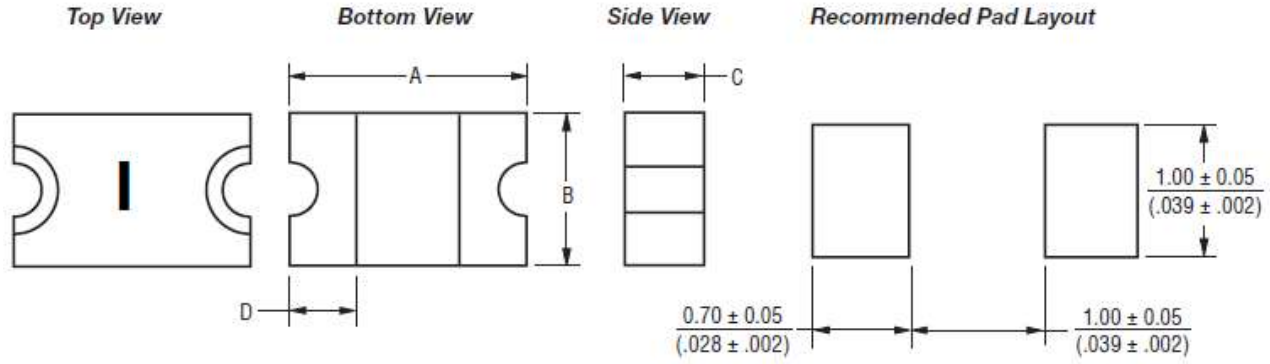
Terminal material:
Electroless Ni under immersion Au

Termination pad solderability:
Standard Au finish:
Meets ANSI/J-STD-002 Category 2.

3. Type Designation

TRF	06	—	035	V06	—	T	F
SMD Resettable fuse	Size: 06:0603(1608)		I-hold: 035:0.35A	Vmax(Vdc): V06: 6V, V08: 8V, V12: 12V, V13: 13.2V, V15: 15V, V16: 16V, V30: 30V, V60: 60V		Packaging: E:Embossed Tape, T:Paper Tape	Lead Free

4. Dimensions



Dimensions

Unit: mm

Part Designation	A		B		C		D
	Min.	Max.	Min.	Max.	Min.	Max.	Min.
TRF06-020V09-TF	1.45	1.85	0.65	1.05	0.30	0.65	0.20
TRF06-035V06-TF	1.45	1.85	0.65	1.05	0.30	0.65	0.20
TRF06-050V06-TF	1.45	1.85	0.65	1.05	0.65	1.00	0.20

Packaging : TRF06-020V09-TF & TRF06-035V06-TF = 6000 pcs. per reel;

TRF06-050V06-TF = 4000 pcs. per reel

5. Applications and ratings

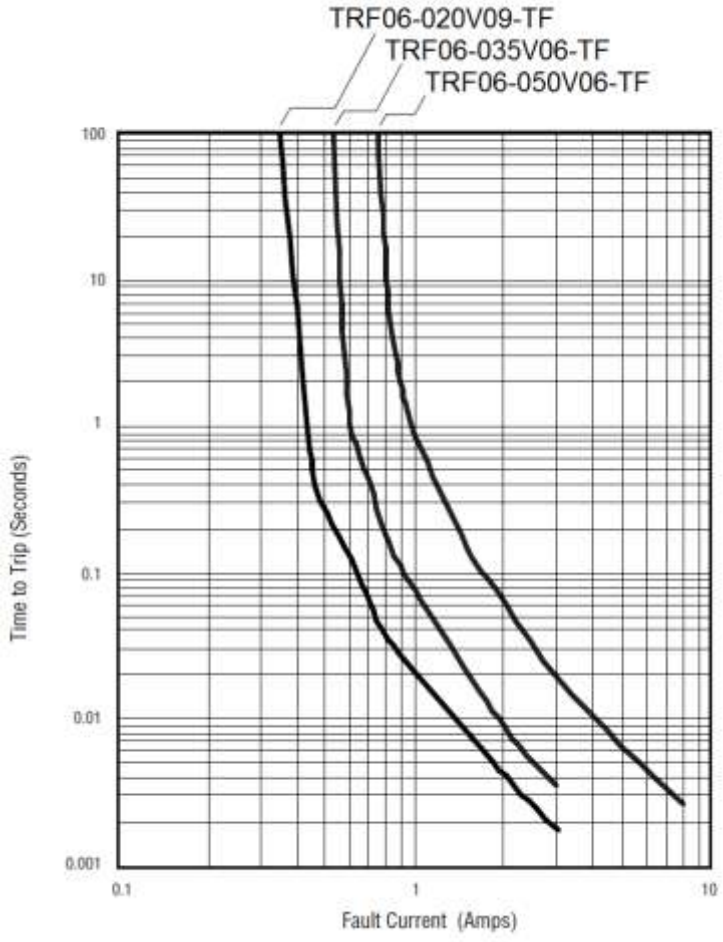
Part Designation	V_{max} (Vdc)	I_{max} (A)	I_{hold} at 23℃ (A)	I_{trip} at 23℃ (A)	P_d Typ. (W)	Maximum time to trip at 23℃		Resistance at 23℃	
						Current (A)	Time (Sec)	Ri_{min} (Ω)	$R1_{max}$ (Ω)
TRF06-020V09-TF	9	40	0.20	0.5	0.5	1	0.6	0.55	3.5
TRF06-035V06-TF	6	40	0.35	0.75	0.5	8	0.1	0.2	1.4
TRF06-050V06-TF	6	40	0.50	1	0.5	8	0.1	0.1	0.8

I_{hold} = Hold Current. Maximum current device will sustain for 30min without tripping in 23°C still air.
I_{trip} = Trip Current. Minimum current at which the device will trip in 23°C still air.
V_{max} = Maximum voltage device can withstand without damage at rated current.
I_{max} = Maximum fault current device can withstand without damage at rated voltage.
P_d = Power dissipated from device when in the tripped state at 23°C still air.
Ri_{min} = Typical resistance of device in initial (un-soldered) state.
$R1_{max}$ = Maximum resistance of device at 23°C measured one hour post reflow.
CAUTION:Operation beyond the specified ratings may result in damge and possibile arcing and flame.

6. Thermal Derating Chart

Part	Maximum ambient operating temperature(T_{mao}) vs. hold current (I_{hold}) (Amps)								
Designation	-40℃	-20℃	0℃	23℃	40℃	50℃	60℃	70℃	85℃
TRF06-020V09-TF	0.27	0.25	0.23	0.20	0.17	0.14	0.12	0.10	0.07
TRF06-035V06-TF	0.47	0.41	0.38	0.35	0.29	0.26	0.24	0.20	0.14
TRF06-050V06-TF	0.67	0.59	0.54	0.50	0.41	0.37	0.34	0.29	0.20

7. Typical Time to Trip at 23 °C



The Time to Trip curves represent typical performance of a device in a simulated application environment. Actual performance in specific customer applications may differ from these values due to the influence of other variables.

8. Environment

8.1 Operating Conditions

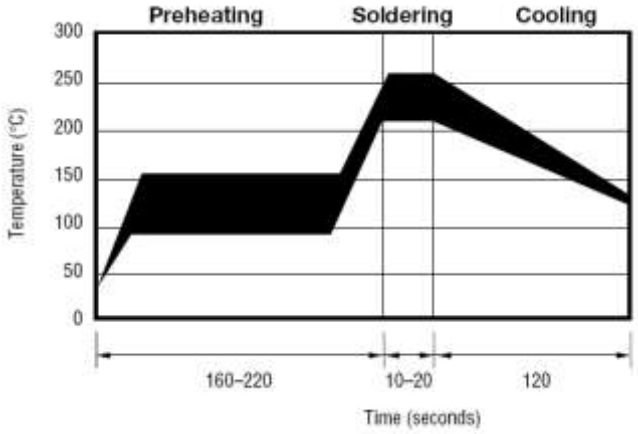
Operating Temperature: -40℃ to 85℃

Device Surface Temperature in Tripped State: 125℃ max

8.2 Environmental Specifications

TEST ITEM	Condition	Resistance Change
Passive aging	85℃,1000hr	±5% typical
Humidity aging	85℃,85%R.H,1000hr	±5% typical
Thermal shock	85℃ to -40℃,20times	±10% typical
Resistance to solvent	MIL-STD-202,Method215	No change
Vibration	MIL-STD-883C,Method2007.1 Condition A	No change

8.3 Solder Reflow Recommendations

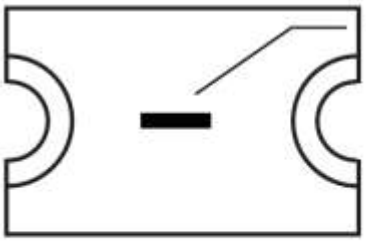


- Recommend reflow methods : IR, vapor phase oven, hot air oven.
- Devices are not designed to be wave soldered to the bottom side of the board.
- Recommended maximum paste thickness is 0.25 mm(0.010 inch).
- Devices can be cleaned using standard method and solvents.

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

9. Typical Part Marking

Represents total content. Layout may vary.



– PART IDENTIFICATION:
TRF06-020V09-TF = |
TRF06-035V06-TF = •
TRF06-050V06-TF = —

BIWEEKLY DATE CODE WILL APPEAR ON THE PACKAGING LABEL:
WEEK 1 AND 2 = A
WEEK 51 AND 52 = Z

10. Storage Conditions:

Temperature : 40℃max, Humidity : 40%~70%

11. Shelf Life:

2 years from manufacturing date

12. Taping & Reel

Tape Dimensions	TRF06 Series per EIA 481-1
W	8.0 ± 0.1 (0.315 ± 0.004)
P_0	4.0 ± 0.1 (0.157 ± 0.004)
P_1	4.0 ± 0.05 (0.157 ± 0.002)
P_2	2.0 ± 0.05 (0.079 ± 0.002)
A_0	1.17 ± 0.05 (0.046 ± 0.002)
B_0	2.02 ± 0.05 (0.079 ± 0.002)
D_0	1.55 ± 0.05 (0.061 ± 0.002)
F	3.5 ± 0.05 (0.138 + 0.002)
E_1	1.75 ± 0.1 (0.069 ± 0.004)
T max.	0.95 ± 0.05 (0.037 ± 0.002)
10 P_0	40.0 ± 0.1 (1.575 ± 0.004)

Reel Dimensions

A max.	185 (7.283)
N min.	50 (1.97)
W_1	8.4 + 1.5/ -0.0 (0.331 + 0.059/-0)
W_2 max.	14.4 (0.567)

DIMENSIONS: MM (INCHES)