

TFPI250V Series

Recoverable Fuse

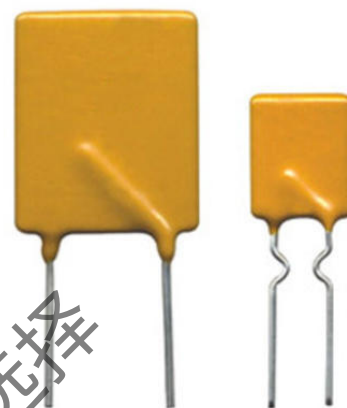
TOP-EMC

FEATURES

- Less Characteristics change after mounting and energization
- RoHS Compliant and Halogen Free
- Wide range of Operating Temperature(-40 to 85 degree)
- Voltage up to 250V
- Current 0.02 to 2A

APPLICATIONS

- Automotive
- (LED Lamp/Navigation/Motor/Electrical Component)
- Factory Automation Equipment(Motor Drive, Sensor controller)
- Charger



PRODUCT IDENTIFICATION

TFPI 250V 002
① ② ③

- ① Type : Resettable Fuse (DIP)
- ② Voltage: 250V=250V
- ③ Electricity: 002=0.02A

Performance Specification

Model	Ihold	Itrip	V _{max}	V _{max}	I _{max}	P _d	Maximum Time		Resistance		
			Operating	Interrupt			To Trip				
	(mA)	(mA)	(Vdc)	(Vrms)	(A)	Typ.	Current	Time	R _i min.	R _i max.	R ₁ max
						(W)	(A)	(Sec)	(Ω)	(Ω)	(Ω)
TFPI250V002	20	45	60	250	3	1.00	0.5	0.4	80	160	240
TFPI250V003	30	65	60	250	3	1.00	0.5	0.5	60	120	180
TFPI250V004	40	80	60	250	3	1.00	0.5	1.0	30	60	100
TFPI250V006	60	120	60	250	3	1.00	0.5	0.5	20	60	90
TFPI250V008	80	160	60	250	3	1.00	1.00	0.4	14	22	33
TFPI250V009	90	180	60	250	3	1.00	1.00	0.5	10	20	31
TFPI250V011	110	200	60	250	3	1.00	1.00	1.2	6.0	12	16
TFPI250V012	120	240	60	250	3	1.00	1.00	1.2	6.0	11	16
TFPI250V014	145	290	60	250	3	1.00	1.00	4	3.5	6.5	14
TFPI250V018	180	650	60	250	10	1.00	3.00	1.5	1.0	3.0	5.0
TFPI250V020	200	400	60	250	10	1.00	3.00	5.0	3.0	6.0	9.0
TFPI250V040	400	800	60	250	10	1.00	3.00	8.0	1.0	3.0	6.0
TFPI250V060	600	1200	60	250	10	1.00	3.00	12.0	0.6	2.0	5.0
TFPI250V080	800	1600	60	250	10	1.50	5.00	18.0	0.4	1.0	3.0
TFPI250V100	1000	2000	60	250	10	1.50	5.00	20.0	0.3	0.8	2.0
TFPI250V120	1200	2400	60	250	10	1.50	6.00	20.0	0.2	0.8	2.0
TFPI250V150	1500	3000	60	250	10	1.50	7.50	20.0	0.2	0.6	1.5
TFPI250V200	2000	4000	60	250	10	1.50	10.00	20.0	0.2	0.4	1.5

V_{max} = Maximum operating voltage device can withstand without damage at rated current (I_{max}).

I_{max} = Maximum fault current device can withstand without damage at rated voltage (V_{max}).

I_{hold} = Hold Current. Maximum current device will not trip in 25°C still air.

I_{trip} = Trip Current. Minimum current at which the device will always trip in 25°C still air.

P_d = Power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.

R_{i min/max} = Minimum/Maximum device resistance prior to tripping at 25°C.

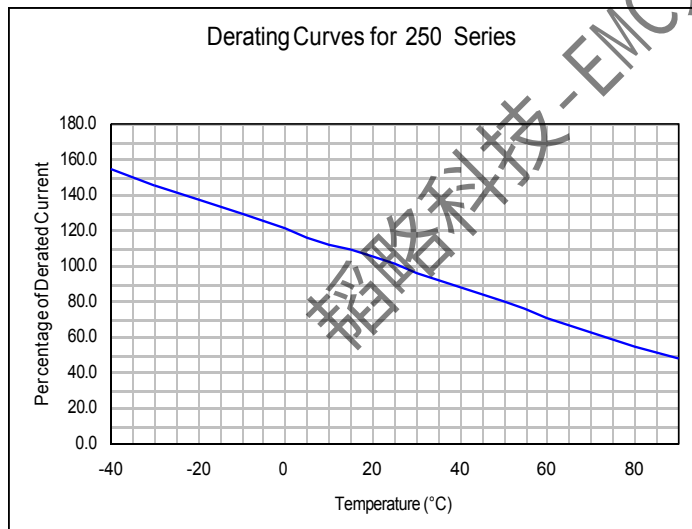
R_{1max} = Maximum device resistance is measured one hour post reflow.

CAUTION : Operation beyond the specified ratings may result in damage and possible arcing and flame.

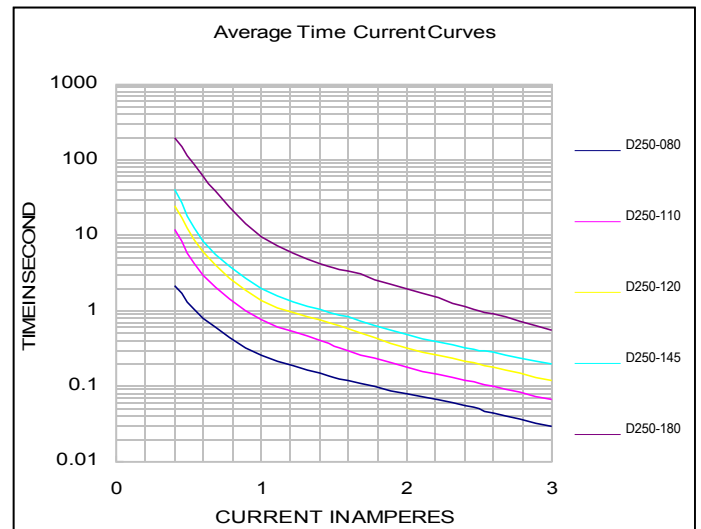
I_{hold} Versus Temperature

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
TFPI250V008	0.124	0.110	0.095	0.080	0.066	0.059	0.051	0.044	0.033
TFPI250V009	0.140	0.124	0.107	0.090	0.074	0.066	0.057	0.050	0.037
TFPI250V011	0.171	0.151	0.131	0.110	0.091	0.081	0.071	0.061	0.046
TFPI250V012	0.186	0.165	0.143	0.120	0.099	0.088	0.077	0.066	0.050
TFPI250V014	0.225	0.199	0.172	0.145	0.119	0.106	0.093	0.080	0.060
TFPI250V018	0.279	0.247	0.213	0.180	0.147	0.131	0.115	0.099	0.074

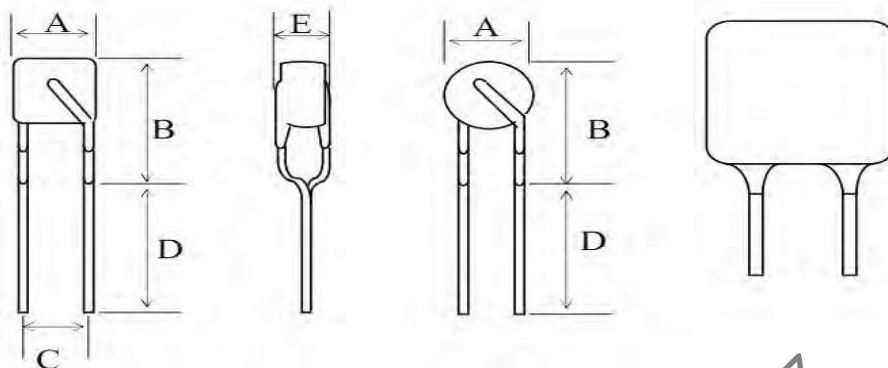
Thermal Derating Curve



Average Time - Current Curve



Physical Dimensions(mm.)

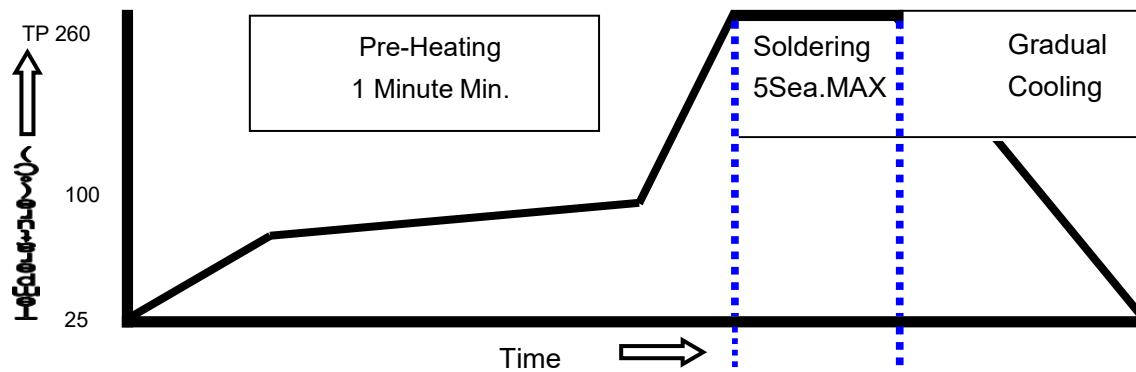


Model	A	B	C	D	E
	Max.	Max.	Typ.	Min.	Max.
TFPI250V008	6.5	12.0	5.1	5.0	3.8
TFPI250V009	6.5	12.0	5.1	5.0	3.8
TFPI250V011	6.5	15.0	5.1	5.0	3.8
TFPI250V012	7.0	15.0	5.1	5.0	3.8
TFPI250V014	7.0	13.5	5.1	5.0	3.8
TFPI250V018	10.5	16.5	5.1	5.0	3.8

Environmental Specifications

Test	Conditions	Resistance change
Passive aging	+85°C, 1000 hrs.	±5% typical
Humidity aging	+85°C, 85% R.H. , 168 hours	±5% typical
Thermal shock	+85°C to -40°C, 20 times	±33% typical
Resistance to solvent	MIL-STD-202,Method 215	No change
Vibration	MIL-STD-202,Method 201	No change
Ambient operating conditions : - 40 °C to +85 °C		
Maximum surface temperature of the device in the tripped state is 125 °C		

Soldering Parameters



WAVE SOLDERING INFORMATION	
Pre-Heating Zone	Max. ramping rate should not exceed 4°C/Sec.
Soldering Zone	Max. solder temperature should not exceed 260°C
Cooling Zone	Cooling by natural convection in air.
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CONTACT INFORMATION

SHENZHEN TOP-FLIGHT TECHNOLOGY CO.,LTD

4th Floor, C Building, Quansen Industrial Park , Bulong Road, Longhua New District, Shenzhen

Tel: 86-755-82908191 Fax: 86-755-82908701 Email: kang@topleve.com

Website: <http://www.topleve.com>