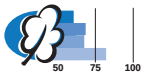
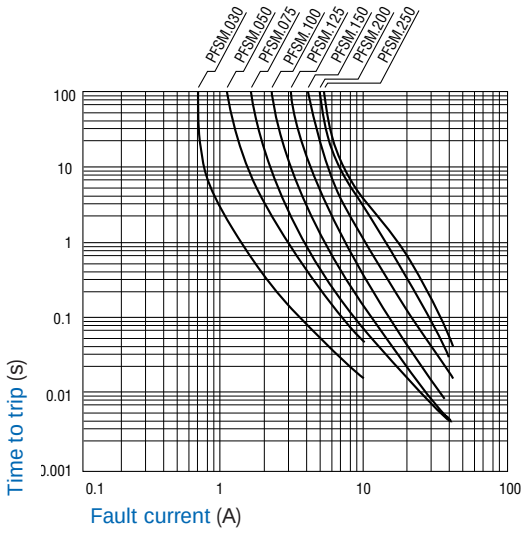
Surface Mount PTC-Fuses Type PFSM

5,4 x 8,0 mm
fast tripping
Packaged per EIA 481-2

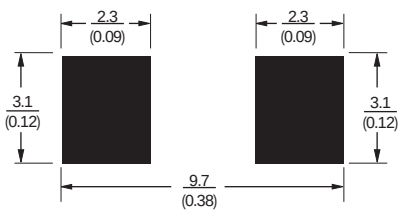
Agency recognition:
UL, CSA, TÜV



Typical Time to Trip at 23 ˚C

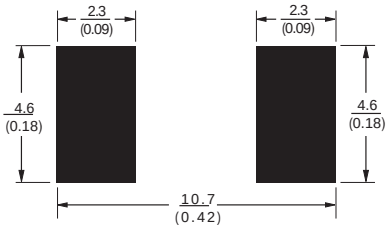


Recommended Pad Layout



PFSM 030, 050, 075, 100, 125

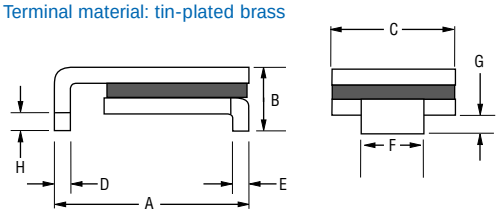
Recommended Pad Layout



PFSM 150, 200, 250, 260

Dimensions in mm (Inches)

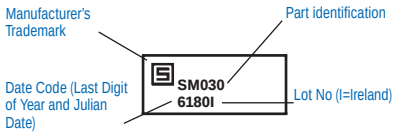
Terminal material: tin-plated brass



Side View End View

Typical Part Marking

Layout may vary



Applications

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

- PC Motherboards
- Computer Cards
- POS-Equipment

Environmental Characteristics

Operating/Storage Temperature	-40 °C to +85 °C	
Maximum Device Surface Temperature in Tripped State	125 °C	
Passive Aging	+85 °C, 1000 hours	±5% typ. resist. change
Humidity Aging	+85 °C, 85% R.H. 1000 hours	±5% typ. resist. change
Thermal Shock *)	+85 °C/–40 °C 10 times	±10% typ. resist. change
Mechanical Shock	MIL-STD-202, Method 213, Condition 1 (100 g, 6 sec.)	No resistance change
Solvent Resistance	MIL-STD-202, Method 215	No change
Vibration	MIL-STD-883C, Method 2007.1, Condition A	No change

*) MIL-STD-202F, Method 107G

Test Procedures And Requirements For Model PFSM Series

Test	Test Conditions	Accept/Reject Criteria
Visual/Mech.	Verify dimensions and materials	Per PF physical description
Resistance	In still air @ 23 °C	$R_{min} \le R \le R_{max}$
Time to Trip	At spezified current, V_{max}, 23 °C	T ≤ max. time to trip (sec.)
Hold Current	30 min. at I_{hold}	No trip
Trip Cycle Life	V_{max}, I_{max}, 100 cycles	No arcing or burning
Trip Endurance	V_{max}, 48 hours	No arcing or burning
Solderability	MIL-STD-202, Method 208	95% min. coverage

Electrical Characteristics

Type / Typ	I_{max}	V_{max}	I_{hold}	I_{trip}	Initial Resistance		1 Hour (R1) Post-Reflow Resistance	Max. Time to trip at 23 °C		Tripped Power Dissipation
			Amperes		Ohms at 23 °C		Ohms at 23 °C	Amps	Seconds	Watts at 23 °C
	A	V	Hold	Trip	$R_{min.}$	$R_{max.}$	$R_{1\ max.}$		max.	nom.
PFSM.030.2	10	60	0.30	0.60	1.20	2.40	4.80	1.5	3.0	1.7
PFSM.050.2	10	30	0.50	1.00	0.35	0.70	1.40	2.5	4.0	1.7
PFSM.075.2	40	30	0.75	1.50	0.35	0.70	1.00	8.0	0.30	1.7
PFSM.100.2	40	15	1.10	2.20	0.12	0.24	0.48	8.0	0.50	1.7
PFSM.125.2	40	15	1.25	2.50	0.07	0.14	0.25	8.0	2.0	1.7
PFSM.150.2	40	15	1.50	3.00	0.06	0.12	0.25	8.0	5.0	1.9
PFSM.200.2	40	15	2.00	4.00	0.05	0.10	0.125	8.0	12.0	1.9
PFSM.250.2	40	15	2.50	5.00	0.035	0.08	0.085	8.0	25.0	1.9
PFSM.260.2	40	6	2.60	5.20	0.0025	0.075	0.075	8.0	20.0	1.7

Packaging

Blistertape

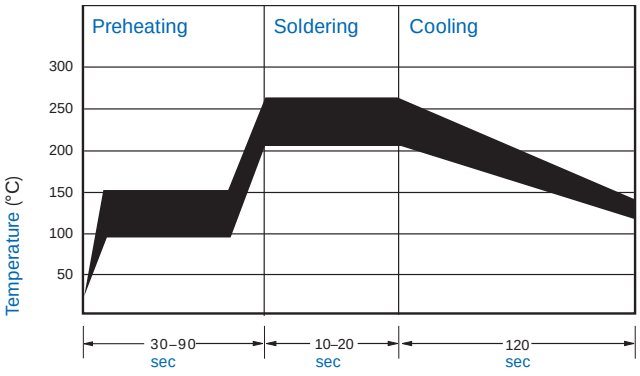
PFSM.030 to PFSM.125 = 2000 pcs. per reel
PFSM.150 to PFSM.260 = 1500 pcs. per reel

Dimensions

Type / Typ	A		B		C		D		E		F		G		H	
	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.
PFSM.030.2	6.73	7.98		3.18		5.44	0.56	0.71	0.56	0.71	2.16	2.41	0.66	1.37	0.43	
PFSM.050.2	6.73	7.98		3.18		5.44	0.56	0.71	0.20	0.30	2.16	2.41	0.66	1.37	0.43	
PFSM.075.2	6.73	7.98		3.18		5.44	0.56	0.71	0.56	0.71	2.16	2.41	0.66	1.37	0.43	
PFSM.100.2	6.73	7.98		3.00		5.44	0.56	0.71	0.56	0.71	2.16	2.41	0.66	1.37	0.43	
PFSM.125.2	6.73	7.98		3.00		5.44	0.56	0.71	0.56	0.71	2.16	2.41	0.66	1.37	0.43	
PFSM.150.2	8.00	9.50		3.00		6.71	0.56	0.71	0.56	0.71	3.68	3.94	0.66	1.37	0.43	
PFSM.200.2	8.00	9.50		3.00		6.71	0.56	0.71	0.56	0.71	3.68	3.94	0.66	1.37	0.43	
PFSM.250.2	8.00	9.50		3.00		6.71	0.56	0.71	0.56	0.71	3.68	3.94	0.66	1.37	0.43	
PFSM.260.2	6.73	7.98		3.00		5.44	0.56	0.71	0.56	0.71	2.16	2.41	0.66	1.37	0.43	

Dimensions in mm

Solder Reflow And Rework Recommendations



Solder reflow

- Recommended reflow methods: I_R, vapor phase oven, hot air oven
- Devices are not designed to be wave soldered to the bottom side of the board
- Gluing the devices is not recommended
- Recommended maximum paste thickness is 0.25 mm (.010 inch)
- Devices can be cleaned using standard industry methods and solvents

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

Rework

- A device should not be reworked

Thermal Derating Chart - I_{hold} (Amps)

Type	Ambient Operating Temperature								
	40˚C	–20 ˚C	0 ˚C	23 ˚C	40 ˚C	50 ˚C	60 ˚C	70 ˚C	85 ˚C
PFSM.030.2	0.45	0.40	0.35	0.30	0.25	0.23	0.20	0.17	0.14
PFSM.050.2	0.76	0.67	0.59	0.50	0.42	0.38	0.33	0.29	0.23
PFSM.075.2	1.13	1.01	0.88	0.75	0.62	0.56	0.50	0.44	0.34
PFSM.100.2	1.66	1.47	1.29	1.10	0.91	0.83	0.73	0.64	0.50
PFSM.125.2	1.89	1.68	1.46	1.25	1.04	0.94	0.83	0.73	0.56
PFSM.150.2	2.27	2.01	1.76	1.50	1.25	1.13	0.99	0.87	0.68
PFSM.200.2	3.02	2.68	2.34	2.00	1.66	1.50	1.32	1.16	0.90
PFSM.250.2	3.78	3.35	2.93	2.50	2.08	1.88	1.65	1.45	1.13
PFSM.260.2	3.64	3.25	2.91	2.60	2.26	2.08	1.95	1.74	1.48

How To Order

PF SM . XXX . X

PTC-Fuse

Style
SM = 8 mm Surface Mount Component

Hold Current, I_{hold}
030–250 (0.30 Amps–2.50 Amps)

Packaging Options
Packaged per EIA 481-2
.2 = Blistertape