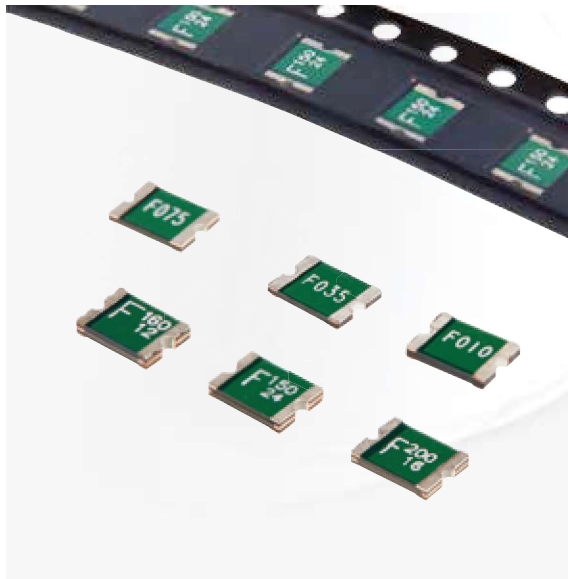


FSMD1812 Series



Application

All high-density boards

Product Features

Small surface mount, Solid state Faster time to trip than standard SMD devices Lower resistance than standard SMD devices



Operation Current

0.10A~3.00A

Maximum Voltage

6V~60V_{DC}



Temperature Range

-40°C to 85°C

Agency Recognition

AGENCY	AGENCY FILE NUMBER
	UL(E211981)
	C-UL(E211981)
	TÜV (R50004084/R50090556)



SVHC Compliant

Electrical Characteristics (23°C)

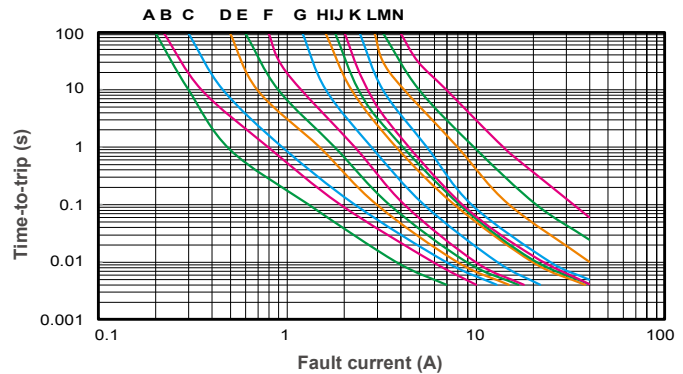
Part Number	Hold Current	Trip Current	Rated Voltage	Max. Current	Typ. Power	Max. Time to trip		Resistance	
						Current	Time	R _{MIN}	R _{1MAX}
	I _H , A	I _T , A	V _{MAX} , V _{DC}	I _{MAX} , A	Pd, W	A	Sec	Ohms	Ohms
FSMD010-R	0.10	0.30	60.0	100	0.8	8.0	0.020	1.600	15.000
FSMD014-R	0.14	0.30	60.0	100	0.8	8.0	0.008	1.200	6.500
FSMD020-R	0.20	0.40	30.0	100	0.8	8.0	0.020	0.800	5.000
FSMD020-60-R	0.20	0.40	60.0	100	0.8	8.0	0.020	0.800	5.000
FSMD030-R	0.30	0.60	30.0	100	0.8	8.0	0.100	0.200	1.750
FSMD035-R	0.35	0.70	16.0	100	0.8	8.0	0.100	0.320	1.500
FSMD035-30-R	0.35	0.70	30.0	100	0.8	8.0	0.100	0.320	1.500
FSMD050-R	0.50	1.00	16.0	100	0.8	8.0	0.150	0.150	1.000
FSMD050-30-R	0.50	1.00	30.0	100	0.8	8.0	0.150	0.150	1.000
FSMD075-R	0.75	1.50	16.0	100	0.8	8.0	0.200	0.110	0.450
FSMD075-24R	0.75	1.50	24.0	100	1.0	8.0	0.200	0.110	0.290
FSMD075-33R	0.75	1.50	33.0	100	1.0	8.0	0.200	0.110	0.400
FSMD110-R	1.10	2.20	8.0	100	0.8	8.0	0.300	0.040	0.210
FSMD110-16-R	1.10	2.20	16.0	100	0.8	8.0	0.500	0.060	0.180
FSMD110-24R	1.10	2.20	24.0	100	1.0	8.0	0.500	0.060	0.200
FSMD110-33R	1.10	2.20	33.0	100	0.8	8.0	0.500	0.060	0.200
FSMD125-R	1.25	2.50	6.0	100	0.8	8.0	0.400	0.050	0.140
FSMD125-16R	1.25	2.50	16.0	100	0.8	8.0	0.400	0.050	0.140
FSMD150-R	1.50	3.00	8.0	100	0.8	8.0	0.500	0.040	0.110
FSMD150-12R	1.50	3.00	12.0	100	1.0	8.0	0.500	0.040	0.110
FSMD150-24R	1.50	3.00	24.0	100	1.0	8.0	1.500	0.040	0.120
FSMD160-R	1.60	3.20	8.0	100	0.8	8.0	0.500	0.030	0.100
FSMD160-12R	1.60	3.20	12.0	100	1.0	8.0	1.000	0.030	0.100
FSMD160-16R	1.60	3.20	16.0	100	1.0	8.0	1.000	0.030	0.100
FSMD160-24R	1.60	3.20	24.0	100	1.0	8.0	1.000	0.030	0.100
FSMD200R	2.00	3.50	8.0	100	1.0	8.0	2.000	0.020	0.070
FSMD200-16R	2.00	3.50	16.0	100	1.0	8.0	5.000	0.020	0.085
FSMD260R	2.60	5.00	8.0	100	1.0	8.0	2.500	0.015	0.047
FSMD260-13R	2.60	5.00	13.2	100	1.3	8.0	5.000	0.015	0.050
FSMD260-16R	2.60	5.00	16.0	100	1.3	8.0	5.000	0.015	0.050
FSMD300R	3.00	5.00	6.0	100	1.0	8.0	4.000	0.012	0.040

Thermal Derating for PPTC Device at Various Ambient Temperatures

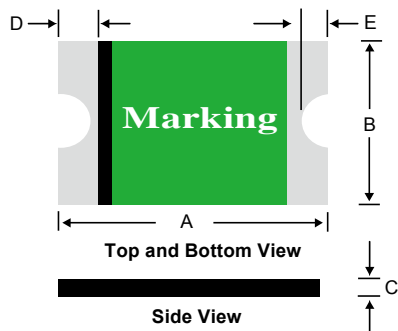
TEMPERATURE	-40°C	-20°C	0°C	23°C	30°C	40°C	50°C	60°C	70°C	85°C
DERATING %	145%	130%	116%	100%	91%	84%	78%	69%	61%	50%

Typical Time-To-Trip at 23°C

- A = FSMD010-R
- B = FSMD014-R
- C = FSMD020-R / 020-60-R
- D = FSMD030-R
- E = FSMD035-R / 035-30-R
- F = FSMD050-R / 050-30-R
- G = FSMD075-R / 075-24R/075-33R
- H = FSMD110-R / 110-16-R / 110-24R / 110-33R
- I = FSMD125-R / 125-16R
- J = FSMD150-R / 150-12R / 150-24R
- K = FSMD160-R / 160-12R / 160-16R / 160-24R
- L = FSMD200R / 200-16R
- M = FSMD260R / 260-13R / 260-16R
- N = FSMD300R



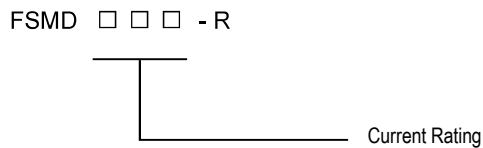
FSMD1812 Product Dimensions (mm)



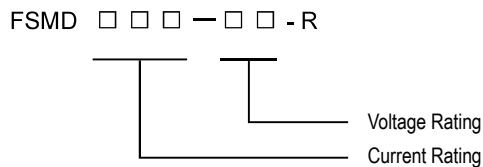
*For Reflow Soldering Profile information, please refer to P.73 " IX APPENDIX - SMD PRODUCT SOLDER REFLOW RECOMMENDATIONS "

Part Number	A		B		C		D		E	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
FSMD010-R	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	0.25	0.65
FSMD014-R	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	0.25	0.65
FSMD020-R	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	0.25	0.65
FSMD020-60-R	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	0.25	0.65
FSMD030-R	4.37	4.73	3.07	3.41	0.40	0.70	0.30	0.95	0.25	0.65
FSMD035-R	4.37	4.73	3.07	3.41	0.40	0.70	0.30	0.95	0.25	0.65
FSMD035-30-R	4.37	4.73	3.07	3.41	0.40	0.70	0.30	0.95	0.25	0.65
FSMD050-R	4.37	4.73	3.07	3.41	0.35	0.65	0.30	0.95	0.25	0.65
FSMD050-30-R	4.37	4.73	3.07	3.41	0.45	0.75	0.30	0.95	0.25	0.65
FSMD075-R	4.37	4.73	3.07	3.41	0.35	0.65	0.30	0.95	0.25	0.65
FSMD075-24R	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65
FSMD075-33R	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65
FSMD110-R	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	0.25	0.65
FSMD110-16-R	4.37	4.73	3.07	3.41	0.25	0.90	0.30	0.95	0.25	0.65
FSMD110-24R	4.37	4.73	3.07	3.41	0.80	1.30	0.25	0.95	0.25	0.65
FSMD110-33R	4.37	4.73	3.07	3.41	0.80	1.30	0.25	0.95	0.25	0.65
FSMD125-R	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	0.25	0.65
FSMD125-16R	4.37	4.73	3.07	3.41	0.50	1.00	0.30	0.95	0.25	0.65
FSMD150-R	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	0.25	0.65
FSMD150-12R	4.37	4.73	3.07	3.41	0.60	1.10	0.25	0.95	0.25	0.65
FSMD150-24R	4.37	4.73	3.07	3.41	0.60	1.55	0.25	0.95	0.25	0.65
FSMD160-R	4.37	4.73	3.07	3.41	0.25	0.90	0.30	0.95	0.25	0.65
FSMD160-12R	4.37	4.73	3.07	3.41	0.60	1.35	0.25	0.95	0.25	0.65
FSMD160-16R	4.37	4.73	3.07	3.41	0.60	1.35	0.25	0.95	0.25	0.65
FSMD160-24R	4.37	4.73	3.07	3.41	0.55	1.20	0.25	0.95	0.25	0.65
FSMD200R	4.37	4.73	3.07	3.41	0.55	1.20	0.25	0.95	0.25	0.65
FSMD200-16R	4.37	4.73	3.07	3.41	0.60	1.55	0.25	0.95	0.25	0.65
FSMD260R	4.37	4.73	3.07	3.41	0.55	1.20	0.25	0.95	0.25	0.65
FSMD260-13R	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65
FSMD260-16R	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65
FSMD300R	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65

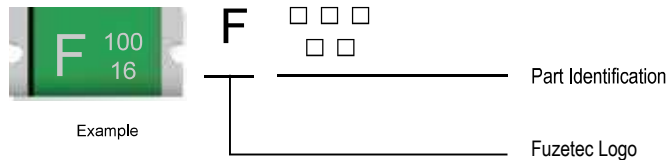
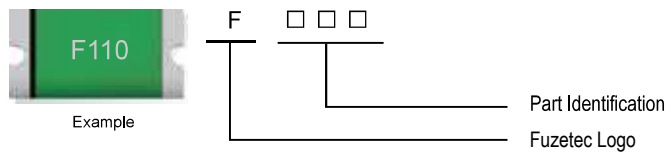
Part Numbering System



OR



Part Marking System



Package Information

Part Number	Standard Package
FSMD010-R~FSMD075-R	2.0K Reel/Tape
FSMD075-24R~FSMD075-33R	1.5K Reel/Tape
FSMD110-R~FSMD110-16-R	2.0K Reel/Tape
FSMD110-24R~FSMD110-33R	1.5K Reel/Tape
FSMD125-R	2.0K Reel/Tape
FSMD125-16R	1.5K Reel/Tape
FSMD150-R~FSMD200R	2.0K Reel/Tape
FSMD200-16R	1.5K Reel/Tape
FSMD260R	2.0K Reel/Tape
FSMD260-13R~FSMD300R	1.5K Reel/Tape

Physical specifications

Termination pad materials	Pure Tin
Soldering characteristics	Meets EIA specification RS 186-9E, ANSI/J-std-002 Category 3

Warning :



- Each product should be carefully evaluated and tested for their suitability of application.
- Operation beyond the specified maximum ratings or improper use may result in damage and possible electrical arcing and/or flame.
- PPTC device are intended for occasional overcurrent protection. Application for repeated overcurrent condition and/or prolonged trip are not anticipated.
- Avoid contact of PPTC device with chemical solvent, including some inert material such as silicone based oil, lubricant and etc. Prolonged contact will damage the device performance.
- Additional protection mechanism are strongly recommended to be used in conjunction with the PPTC device for protection against abnormal or failure conditions.
- Avoid use of PPTC device in a constrained space such as potting material, housing and containers where have limited space to accommodate device thermal expansion and/or contraction.