

FM180-NFLT Thru FM1100-NFLT

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FM180-NFLT Thru FM1100-NFLT

1.0A Surface Mount Schottky Barrier Rectifier : 80V ~ 100V

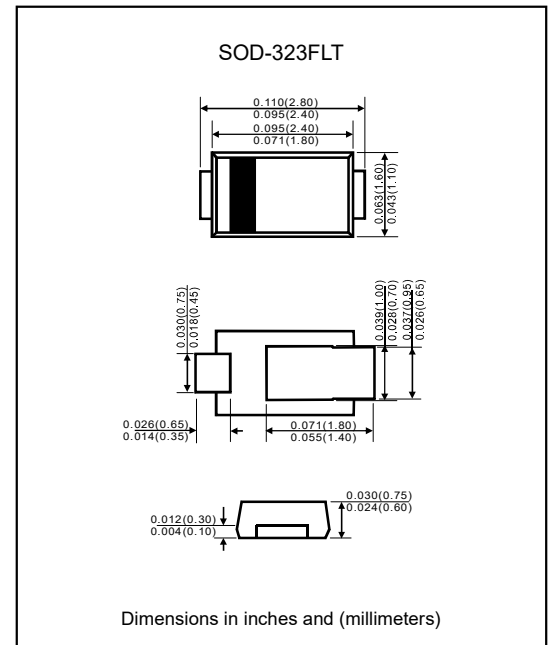
Features

- Low forward voltage drop.
- High forward surge current capability.
- Metal silicon junction, majority carrier conduction.
- High temperature soldering guaranteed: 260°C@10seconds.
- Robust guarding for over voltage protection.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen-free parts, ex. FM180-NFLT-H.

Mechanical data

- Epoxy:UL94-V0 rated flame retardant.
- Case : Molded plastic, SOD-323FLT.
- Terminals : Matte tin plated leads, solderable per J-STD-002, and JESD22-B102.
- Polarity : Indicated by cathode band.
- Mounting Position : Any.

Package Outline



Maximum ratings (At $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	FM180-NFLT	FM190-NFLT	FM1100-NFLT	Unit
Peak repetitive reverse voltage	V_{RRM}	80	90	100	V
RMS Reverse voltage	V_{RMS}	56	63	70	V
DC Blocking voltage	V_{DC}	80	90	100	V
Forward current	$I_{F(AV)}$	1			A
Peak forward surge current, 8.3ms single half sine wave	I_{FSM}	25			A
Junction temperature	T_J	+150			°C
Storage temperature range	T_{STG}	-55 to +150			°C
Thermal resistance from junction to ambient (Note 1)	$R_{\theta JA}$	88			°C/W
Thermal resistance from junction to case (Note 1)	$R_{\theta JC}$	35			
Thermal resistance from junction to lead (Note 1)	$R_{\theta JL}$	22			

Electrical characteristics (At $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Forward voltage (Note 2)	$I_F=1\text{A}$ ($T_A=25^\circ\text{C}$)	V_F			0.85	V
Reverse leakage current (Note 3)	Rated V_R ($T_J=25^\circ\text{C}$)	I_R			30	μA
	Rated V_R ($T_J=100^\circ\text{C}$)				10	mA

Note: 1. Device mounted on p.c.b. with 2.2cm x 1.7cm x 1mm copper pad area.

2. Pulse test: 300 μs pulse width, 1% duty cycle.

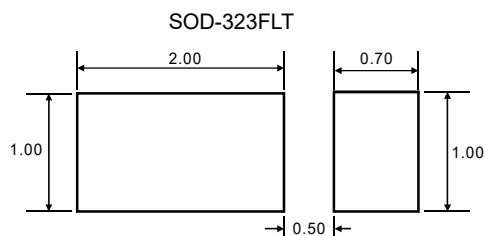
3. Pulse test: pulse width 40ms.

FM180-NFLT Thru FM1100-NFLT**Pinning information**

Pin	Simplified outline	Symbol
Pin1 Cathode Pin2 Anode		

Marking

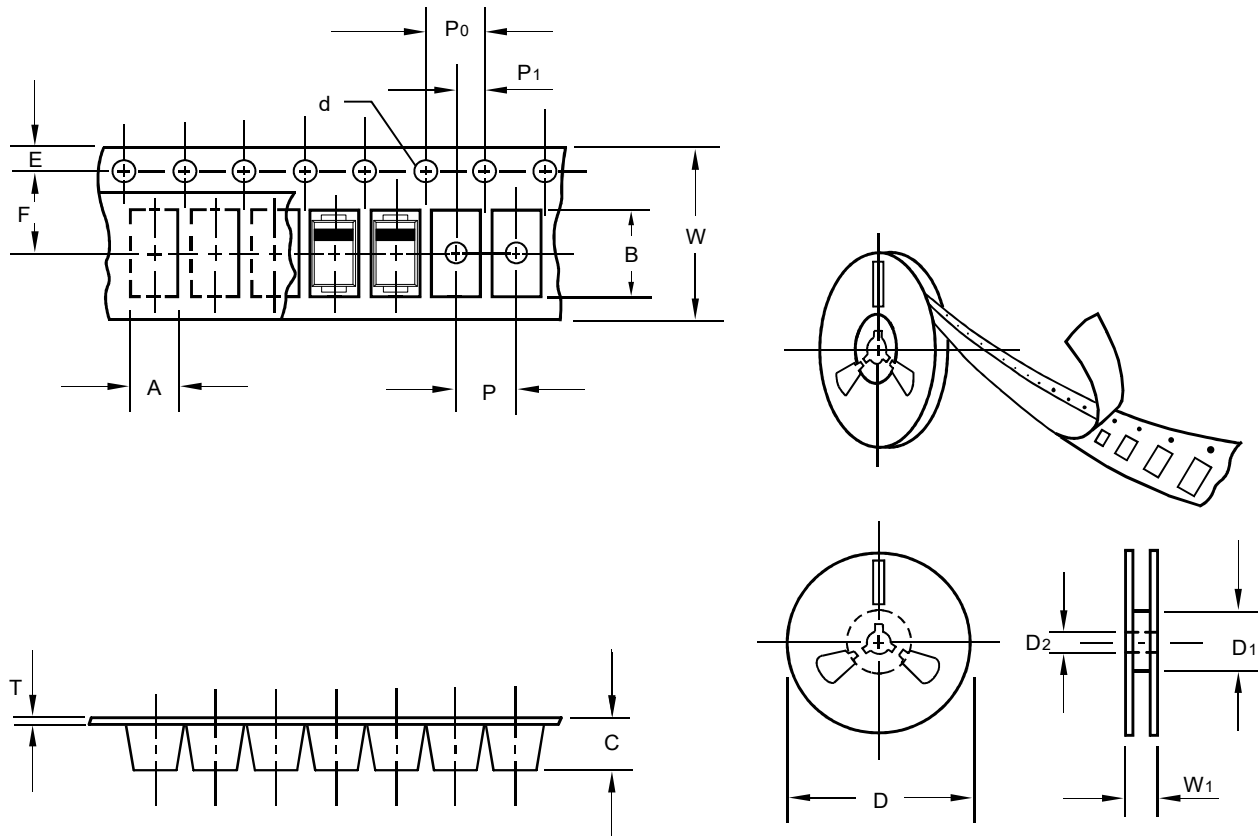
Type number	Marking code
FM180-NFLT	18
FM190-NFLT	19
FM1100-NFLT	1A

Suggested solder pad layout

Dimensions in millimeters

FM180-NFLT Thru FM1100-NFLT

Packing information



unit:mm

Item	Symbol	Tolerance	SOD-323FLT
Carrier width	A	0.1	1.46
Carrier length	B	0.1	3.30
Carrier depth	C	0.1	1.20
Sprocket hole	d	0.1	1.50
13" Reel outside diameter	D	2.0	-
13" Reel inner diameter	D1	min	-
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	min	62.00
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Carrier thickness	T	0.05	0.25
Tape width	W	0.1	8.00
Reel width	W1	1.0	11.40

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

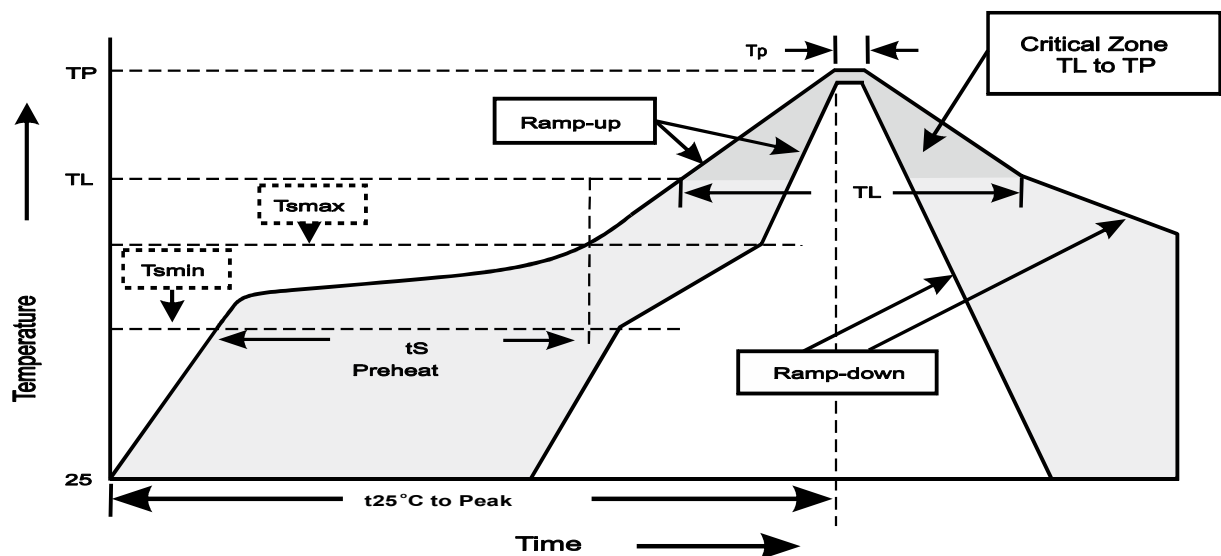
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Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)
SOD-323FLT	7"	4,000	4.0	40,000	183*123*183	178	382*257*387	320,000

Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(TL to TP)	<3°C/sec
Preheat - Temperature Min(Tsmin) - Temperature Max(Tsmax) - Time(min to max)(ts)	150°C 200°C 60~120sec
Tsmax to TL - Ramp-upRate	<3°C/sec
Time maintained above: - Temperature(TL) - Time(tL)	217°C 60~260sec
Peak Temperature(TP)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(tp)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes