SS1020FL THRU SS10200FL

1.0A Schottky Barrier Rectifier

Primary Characteristics

I_F	1.0	A
V_{RRM}	20~200	V
I_{FSM}	25	A
V_F	0.50~0.90	V

Features

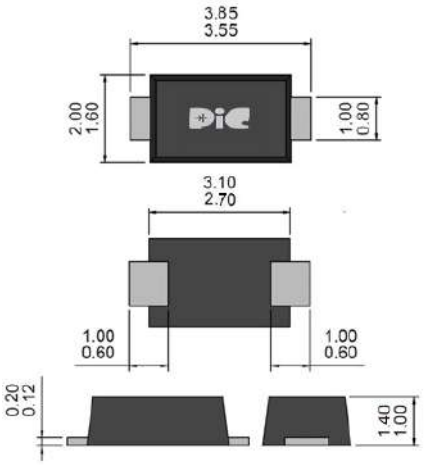
- Fast switching speed
- Surface mount package ideally suited for automatic insertion
- Low power loss, high efficiency
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC6 611249 Std..(Halogen Free)

Mechanical Data

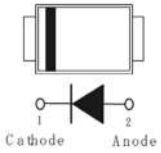
- Case : SOD-123FL Plastic
- Terminals : Solderable per MIL-STD-75 , Method 2026
- Polarity : Color band denotes cathode end

Package Outline Dimensions

SOD-123FL



Unit : millimeters



Electrical Characteristic Maximum Ratings (TA=25°C unless otherwisenoted)

Parameter	Symbol	SS1020FL	SS1040FL	SS1060FL	SS10100FL	SS10150FL	SS10200FL	Units
Marking Code	-	G2	G4	G6	G10	G15	G20	-
Reverse Voltage	V_R	20	40	60	100	150	200	V
Peak Reverse Voltage	V_{RRM}	20	40	60	100	150	200	V
Average Rectified Current	$I_{F(AV)}$	1.0						A
Non-repetitive Peak Forward Surge Current at t=8.3ms	I_{FSM}	25						A
Max. Forward Voltage at 1.0A	V_F	0.50		0.70	0.85	0.9		V
Max.Reverse Leakage Current at V_{RRM}	I_R	500						μA
Typical Thermal Resistance (Note 1)	$R_{\Theta JC}$	32						°C/W
(Note 2)	$R_{\Theta JA}$	200						
Typical Junction Capacitance Rating at V_R=0V	C_J	155		125	100	85		pF
Operating Junction and Storage Temperature range	T_J, T_{STG}	-55 to +150						°C

Notes: (1) Mounted on a FR4 PCB, single-sided copper, with 100cm^2 copper pad area.
(2) Mounted on a FR4 PCB, single-sided copper, mini pad.

Rating and Characteristics Curves

Fig. 1 Forward Current Derating Curve

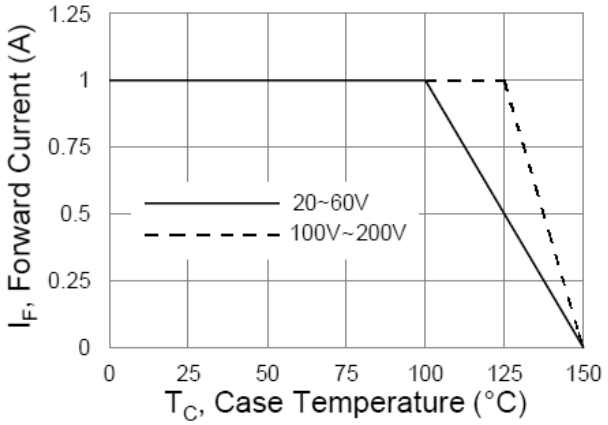


Fig. 2 Typical Junction Capacitance

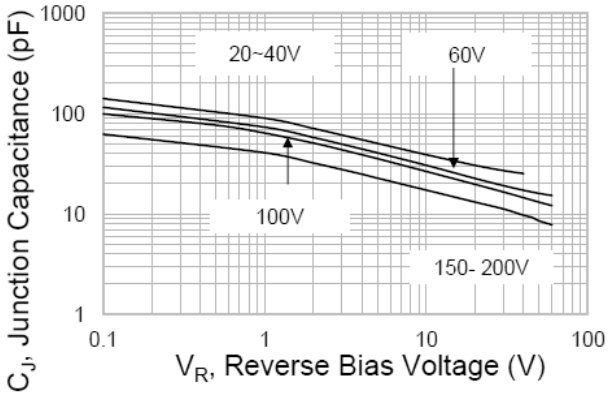


Fig. 3 Typical Reverse Characteristics

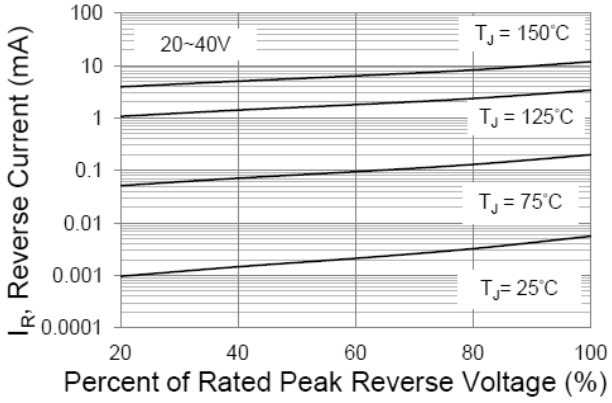


Fig. 4 Typical Reverse Characteristics

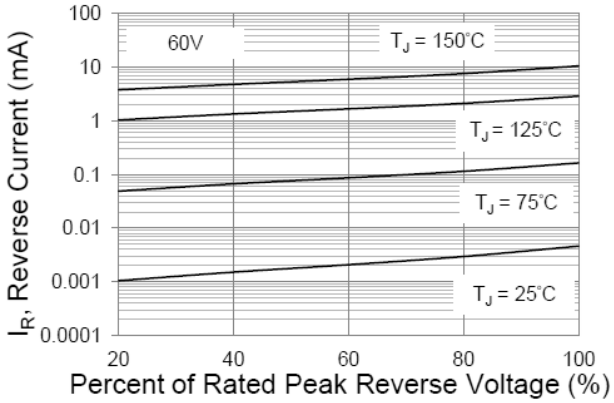


Fig. 5 Typical Reverse Characteristics

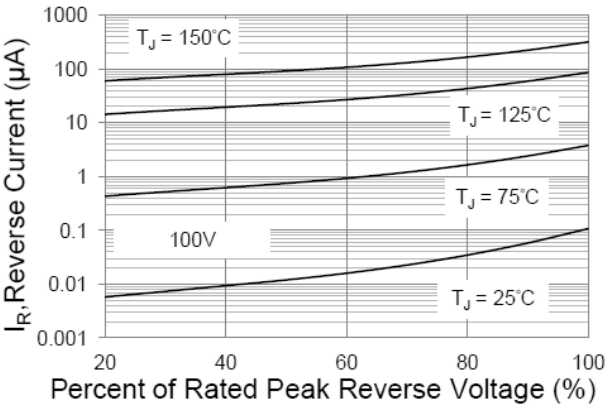


Fig. 6 Typical Reverse Characteristics

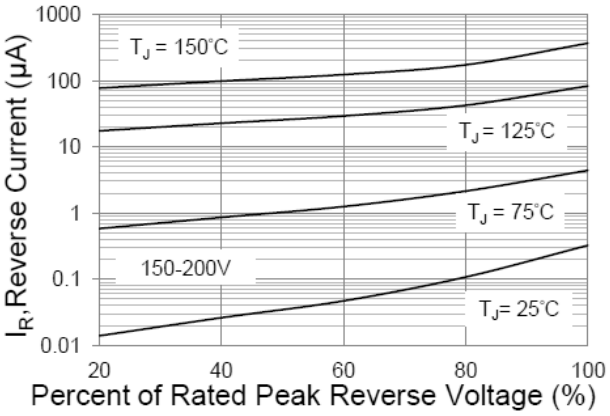


Fig. 7 Typical Forward Characteristics

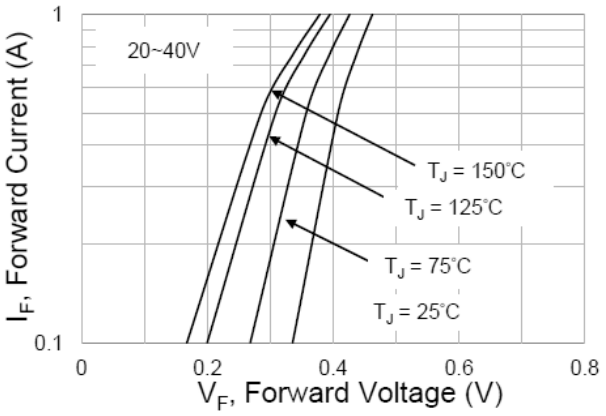


Fig. 8 Typical Forward Characteristics

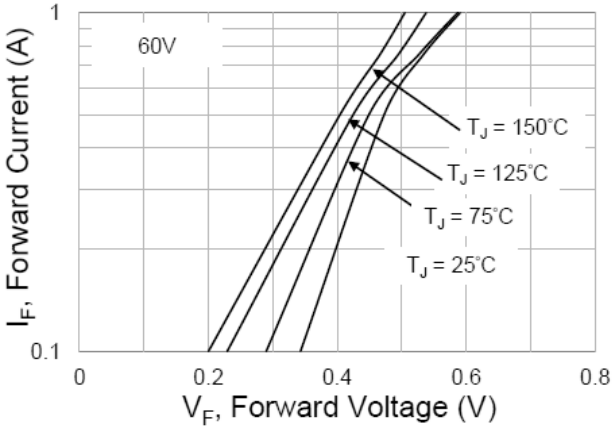


Fig. 9 Typical Forward Characteristics

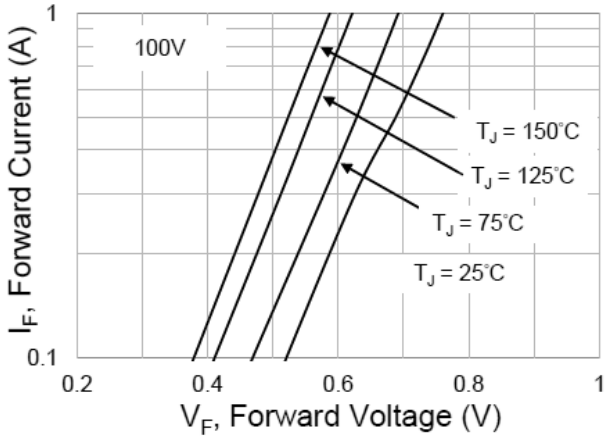


Fig. 10 Typical Forward Characteristics

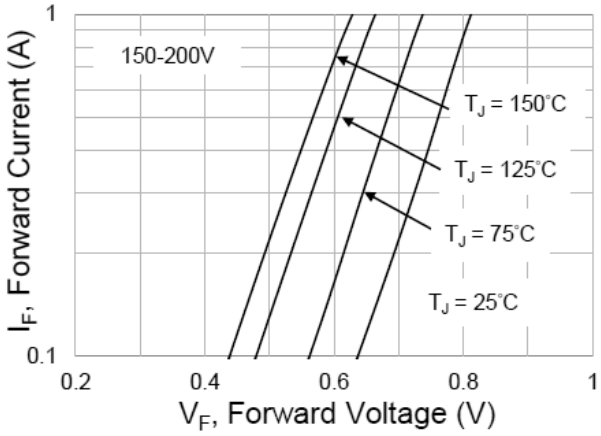
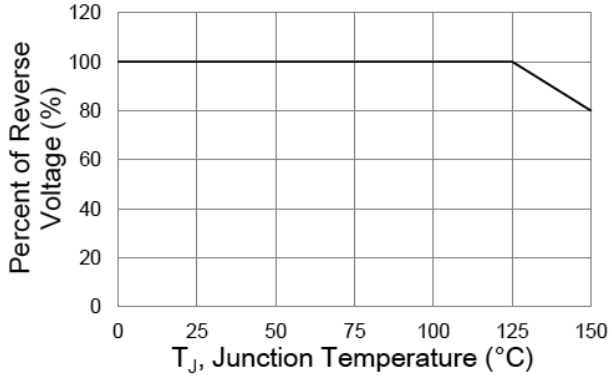
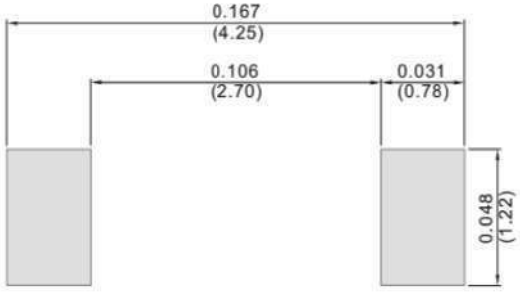


Fig. 11 Operating Temperature Derating Curve



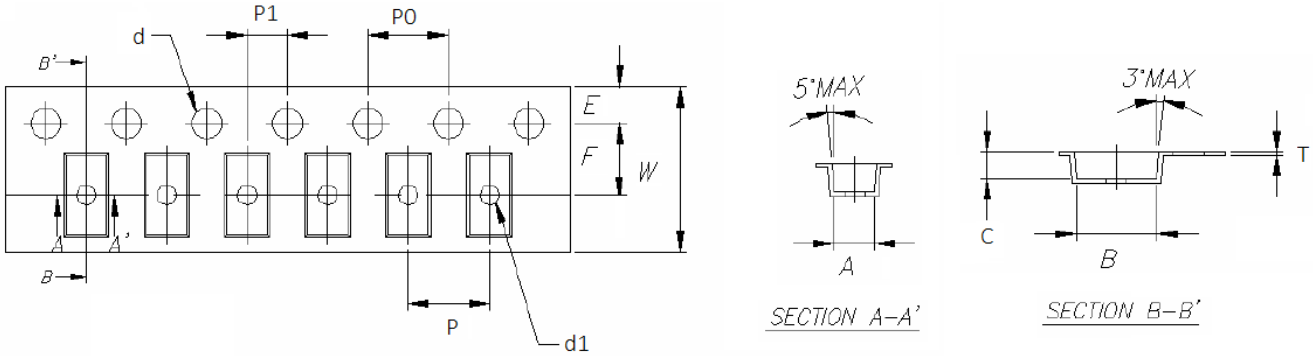
Pad Layout

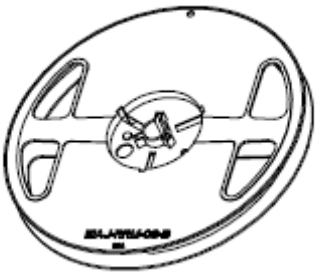


Unit: mm

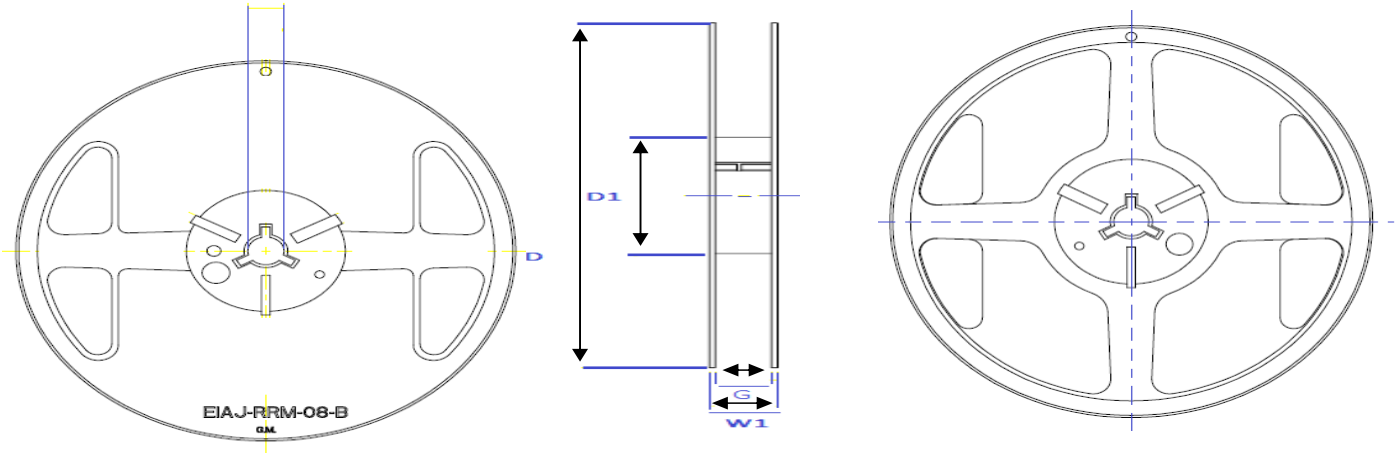
Packaging Specifications

Package	W (mm)	A (mm)	B (mm)	C (mm)	d1 (mm)	d (mm)	E (mm)	F (mm)	P (mm)	P0 (mm)	P1 (mm)	T (mm)
SOD-123FL	8±0.2	2.00±0.1	3.85±0.1	1.1±0.1	1.0	1.50±0.1	1.75±0.1	3.5±0.05	4±0.1	4±0.05	2±0.05	0.23±0.05
SOD-123HE	8±0.3	2.00±0.1	4.00±0.1	1.45±0.1	1.0	1.55±0.1	1.75±0.1	3.5±0.05	4±0.1	4±0.10	2±0.05	0.23±0.10
SOD-323FL	8±0.2	1.37±0.1	2.75±0.1	0.85±0.1	1.00	1.60±0.1	1.75±0.1	3.50±0.05	4±0.1	4±0.10	-	0.20±0.10
SOD-323HE	8±0.3	1.60±0.1	2.80±0.1	0.95±0.1	1.0	1.50±0.1	1.75±0.1	3.5±0.05	4±0.1	4±0.10	2±0.05	0.23±0.10
SMAF	12±0.3	2.9±0.1	5.5±0.1	2.1±0.1	1.5	1.55±0.1	1.75±0.1	5.5±0.05	4±0.1	4±0.10	2±0.05	0.23±0.10
SMA-S	12±0.2	2.65±0.1	5.25±0.1	1.35±0.1	1.0	1.55±0.1	1.75±0.1	5.5±0.05	4±0.1	4±0.05	2±0.05	0.23±0.10
SMA-HE	12±0.2	2.65±0.1	5.25±0.1	1.35±0.1	1.0	1.55±0.1	1.75±0.1	5.5±0.05	4±0.1	4±0.05	2±0.05	0.23±0.10

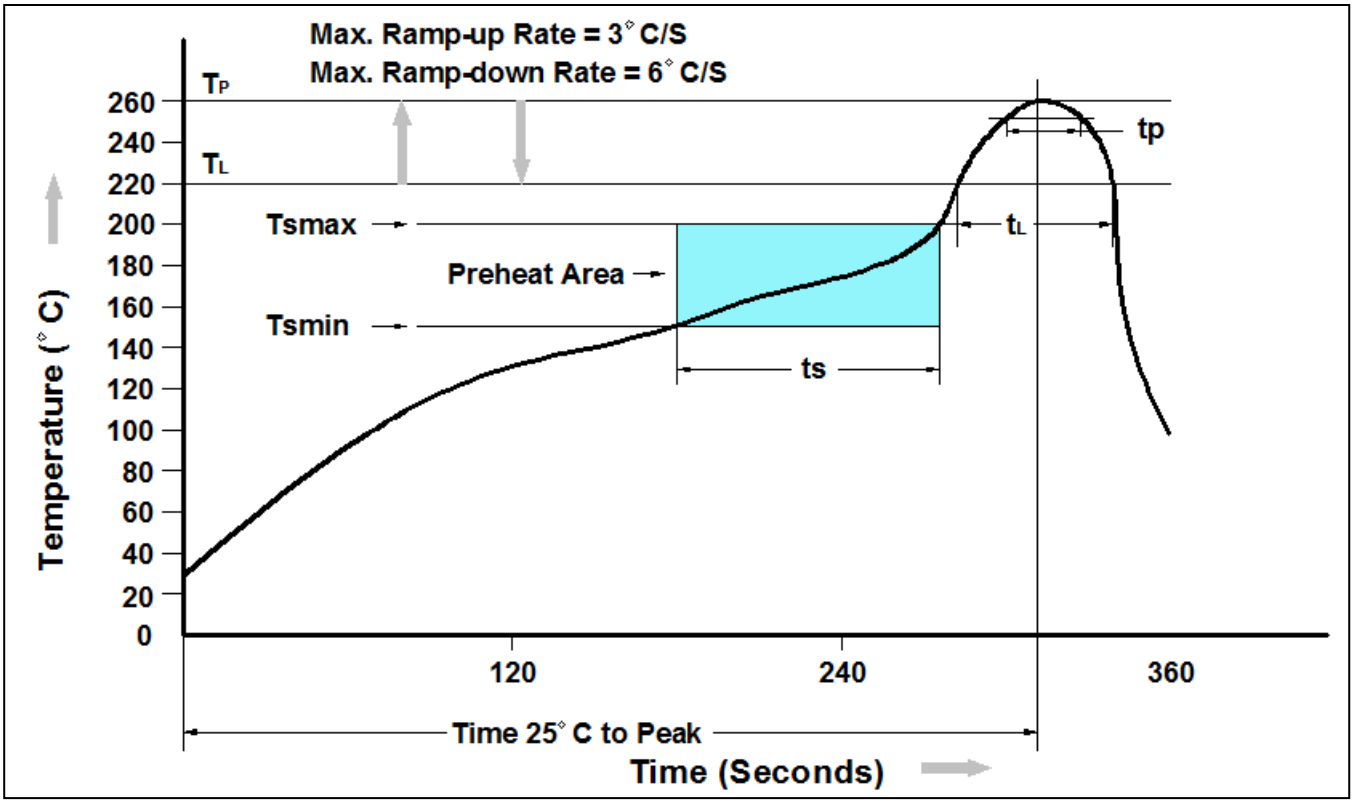




Package	D (max.) (mm)	D1 (min.) (mm)	D2 (mm)	G (min.) (mm)	W1 (min.) (mm)
SOD-123FL	178	50.0	13.0±0.2	8.4	11.4
SOD-123HE	178	50.0	13.0±0.2	8.4	11.4
SOD-323FL	178	50.2	13.0±0.2	8.0	11.5
SOD-323HE	178	50.0	13.0±0.2	8.4	11.4
SMAF	178	50.0	13.0±0.2	12.4	18.0
	330	50.0	13.0±0.2	12.4	18.0
SMA-S	178	50.0	13.0±0.2	12.4	18.0
SMA-HE	178	50.0	13.0±0.2	12.4	18.0



Recommand IR Reflow Soldering Thermal Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (Tsmin)	150°C
Temperature Max. (Tsmax)	200°C
Time (ts) from (Tsmin to Tsmax)	60-120 seconds
Average Ramp-up Rate (tL to tP)	3°C/second max.
Liquidous Temperature (TL)	217°C
Time (tL) Maintained Above (TL)	60 – 150 seconds
Peak Temperature	260°C +0°C / -5°C
Time (tP) within 5°C of actual Peak Temperature	30 seconds
Ramp-down Rate (TP to TL)	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.

Ordering Information

Part Number	Description	Quantity
SS1020FL~SS10200FL	SOD-123FL Reel	3000 pcs

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