Schottky Barrier Rectifiers, Surface Mount

3 A, 40 V-100 V

SS34FA-S310FA

SOD−123FL
CASE 425AB

Cathode Anode

Features

- Low Power Loss, High Efficiency
- Guard Ring for Overvoltage Protection
- High Surge Current Capability
- UL Flammability 94V−0 Classification
- MSL 1 per J−STD−020
- NRVB Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC−Q101 Qualified and PPAP Capable
- This Device is Pb−Free and RoHS Compliant

ABSOLUTE MAXIMUM RATINGS

(Values are at T_A = 25°C unless otherwise noted)

Symbol	Parameter	SS34FA	SS36FA	S310FA	Unit
V_{RRM}	Repetitive Peak Reverse Voltage	40	60	100	V
V_{RMS}	RMS Reverse Voltage	28	42	70	V
V_R	DC Blocking Voltage	40	60	100	V
$I_{F(AV)}$	Average Forward Rectified Current	3			A
I_{FSM}	Peak Forward Surge Current: 8.3 ms Single Half Sine−Wave Superimposed on Rated Load	80			A
T_J	Operating Junction Temperature Range	−55 to +125	−55 to +150		°C
T_{STG}	Storage Temperature Range	−55 to +150			°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

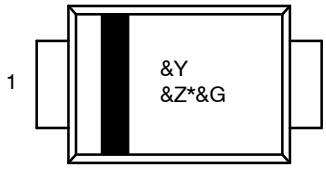
THERMAL CHARACTERISTICS

(Values are at T_A = 25°C unless otherwise noted) (Note 1)

Symbol	Parameter	Value	Unit
ψ_{JL}	Thermal Characteristics, Junction−to−Lead	16	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction−to−Ambient	152	°C/W

1. Per JESD51−3 Recommended Thermal Test Board. Device mounted on FR−4 PCB, board size = 76.2 mm × 114.3 mm.

MARKING DIAGRAM



&Y = Binary Calendar Year Coding Scheme
&Z = Assembly Plant Code
* = Specific Device Code (34L, 36L or 30L)
&G = Single Digit Weekly Date Code

ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

ELECTRICAL CHARACTERISTICS (Values are at T_A = 25°C unless otherwise noted)

Symbol	Parameter	Conditions	SS34FA	SS36FA	S310FA	Unit
V_F	Maximum Instantaneous Forward Voltage (Note 2)	I_F = 3 A	0.50	0.75	0.85	V
I_R	Maximum Reverse Current at Rated V_R	T_J = 25°C	0.5		0.1	mA
		T_J = 125°C	60	10	5	
C_J	Typical Junction Capacitance	V_R = 4 V, f = 1 MHz	152	117	78	pF
T_{rr}	Typical Reverse Recovery Time	I_F = 0.5 A, I_R = 1 A, I_{RR} = 0.25 A	12	11	8	ns

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

2. Pulse test with PW = 300 μs, 1% duty cycle.

ORDERING INFORMATION

Part Number	Top Mark	Package	Shipping†
SS34FA, NRVBSS34FA*	34L	SOD−123FL (Pb−Free)	3,000 / Tape & Reel
SS36FA, NRVBSS36FA*	36L	SOD−123FL (Pb−Free)	3,000 / Tape & Reel
S310FA, NRVBS310FA*	30L	SOD−123FL (Pb−Free)	3,000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

*NRVB Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC−Q101 Qualified and PPAP Capable

TYPICAL PERFORMANCE CHARACTERISTICS

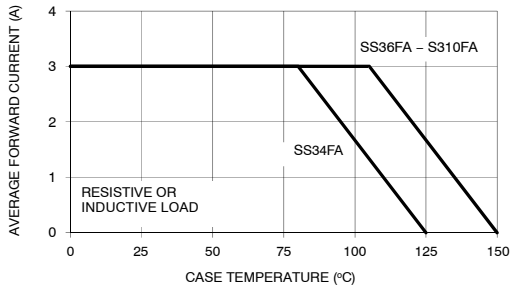


Figure 1. Forward Current Derating Curve

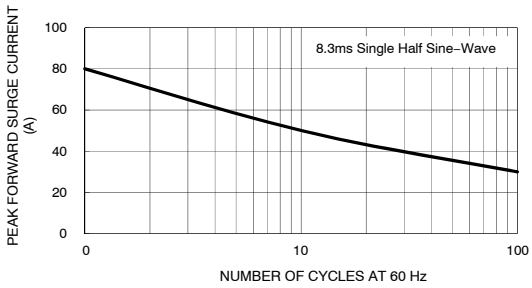


Figure 2. Maximum Non−Repetitive Forward Surge Current

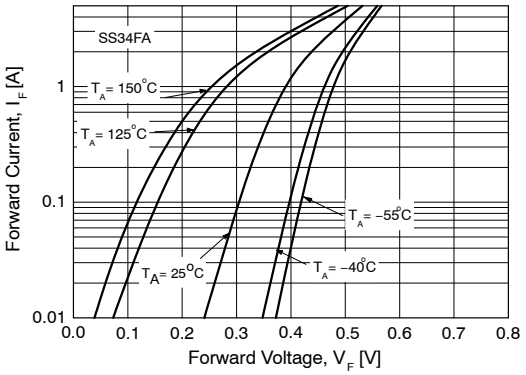


Figure 3. Typical Forward Characteristics

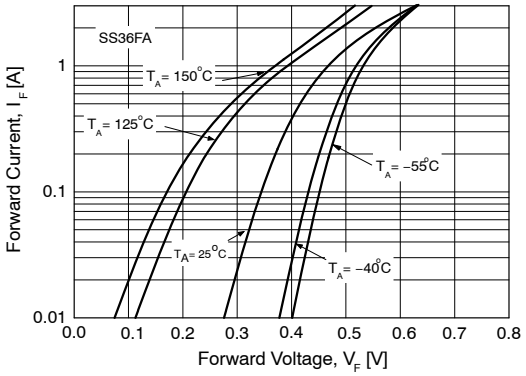


Figure 4. Typical Forward Characteristics

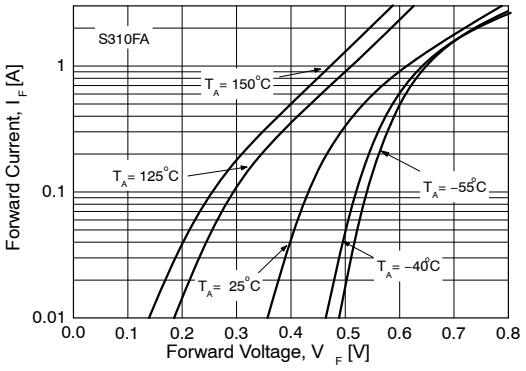


Figure 5. Typical Forward Characteristics

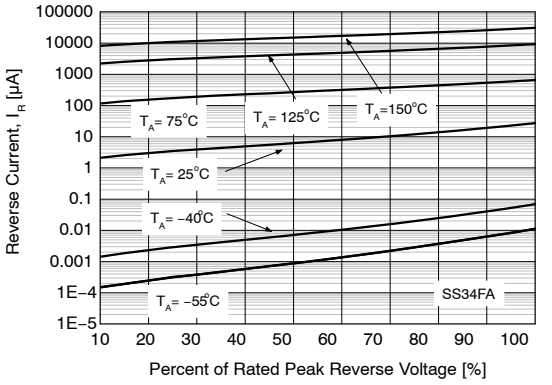


Figure 6. Typical Reverse Characteristics

TYPICAL CHARACTERISTICS (CONTINUED)

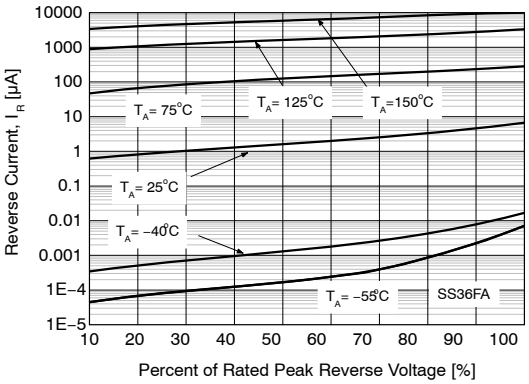


Figure 7. Typical Reverse Characteristics

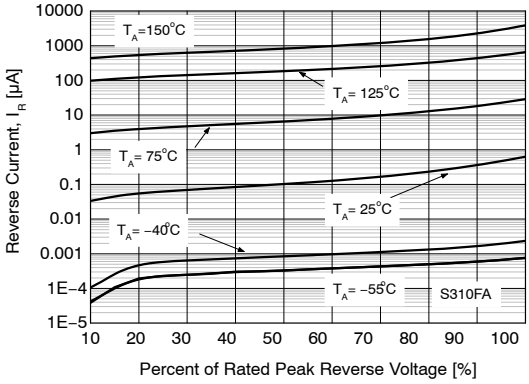


Figure 8. Typical Reverse Characteristics

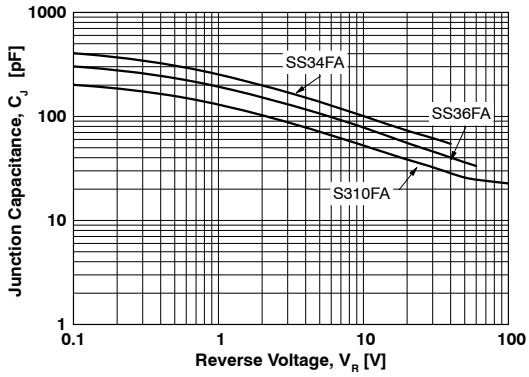
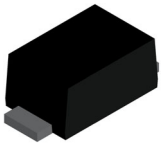


Figure 9. Typical Junction Capacitance



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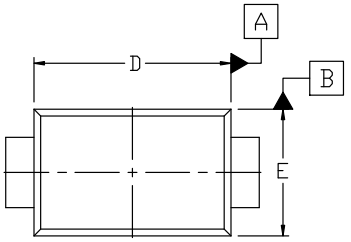
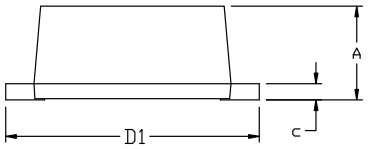
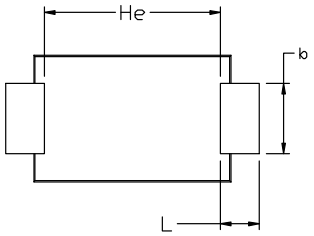


TOP VIEW



FRONT VIEW

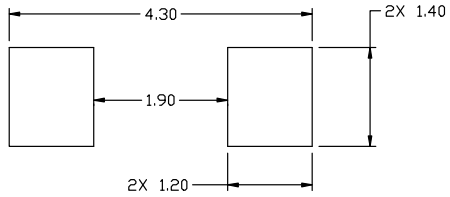


BOTTOM VIEW

NOTES:

1. NO INDUSTRY STANDARD APPLIES TO THIS PACKAGE.
2. ALL DIMENSIONS ARE IN MILLIMETERS.
3. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND THE BAR PROTRUSIONS.

DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	1.23	1.33	1.43
b	0.80	1.00	1.20
c	0.16	0.23	0.30
D	2.70	2.80	2.90
D1	3.40	3.60	3.80
E	1.70	1.80	1.90
He	2.45	---	2.60
L	0.35	0.60	0.85



RECOMMENDED
MOUNTING FOOTPRINT*

* For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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DESCRIPTION:	**SOD−123FA**	**PAGE 1 OF 1**

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