Surface Mount Schottky Barrier Rectifiers

1 General Description

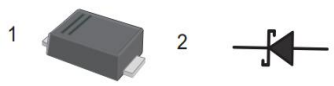
1.1 Features

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

REVERSE VOLTAGE
20-200V
FORWARD CURRENT
3Ampere

1.2 Typical Applications

- These Schottky barrier diodes are designed for high-speed rectification, low forward voltage drop applications. Widely used in switching power supplies, DC-DC converters, consumer electronics, instrumentation, reverse polarity protection and freewheeling circuits



PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

1.3 Mechanical Data

- Case: SMAF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Marking Code: SS32F-SS320F

2 Maximum Ratings(TA=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	SS32F	SS34F	SS34AF	SS36F	SS38F	SS310F	SS312F	SS315F	SS320F	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	40	45	60	80	100	120	150	200	V
Maximum RMS Voltage	V_{RMS}	14	28	31.5	42	56	70	84	105	140	V
Maximum DC Blocking Voltage	V_{DC}	20	40	45	60	80	100	120	150	200	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	3.0									A
Non-Repetitive Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	80									A
Operating Temperature Range	T_J	-55 to +125		-55 to +150							℃
Storage Temperature Range	T_{STG}	-55 to +150									℃
Thermal Resistance(Note 3)	$R_{\theta JA}$	70									°C/W
	$R_{\theta JC}$	18									

Notes: 1.Single phase, half wave, 60Hz resistive or inductive load,for capacitive load, derate by 20%.

2.Measured at 1.0MHz and applied reverse voltage of 4.0V DC;

3.P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

3 Electrical Characteristics(TA=25℃ Unless otherwise specified)

PARAMETER		SYMBOL	SS32F	SS34F	SS34AF	SS36F	SS38F	SS310F	SS312F	SS315F	SS320F	UNIT
Maximum instantaneous Forward Voltage drop per diode at 3A		V_F	0.55		0.70			0.85		0.95		V
Typical Junction Capacitance(Note 2)		C_j	250				180					pF
Reverse Current at Rated DC Blocking Voltage	Ta =25℃	I_R	0.5				0.3					mA
	Ta=100℃		5				3					

4 Characteristics Curves(TA=25℃ Unless otherwise specified)

Fig.1 Forward Current Derating Curve

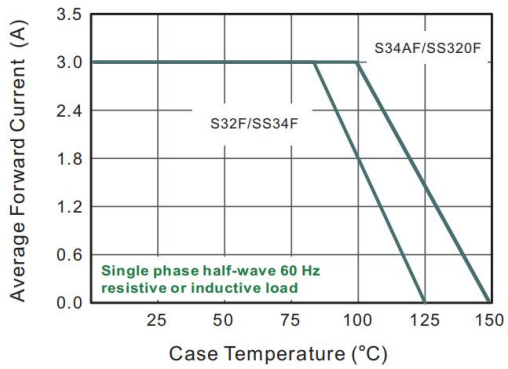


Fig.2 Typical Reverse Characteristics

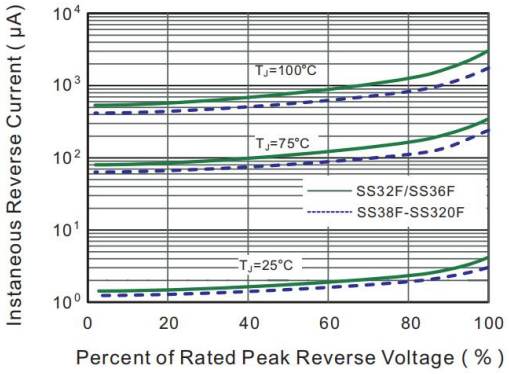


Fig.3 Typical Forward Characteristic

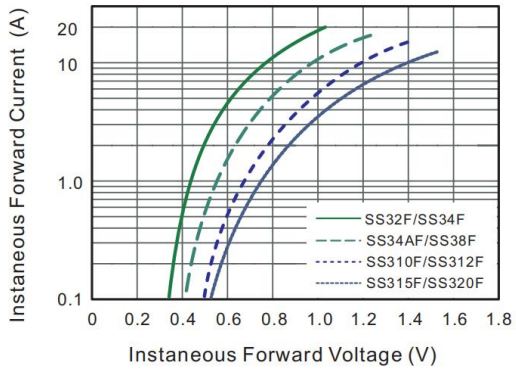


Fig.4 Typical Junction Capacitance

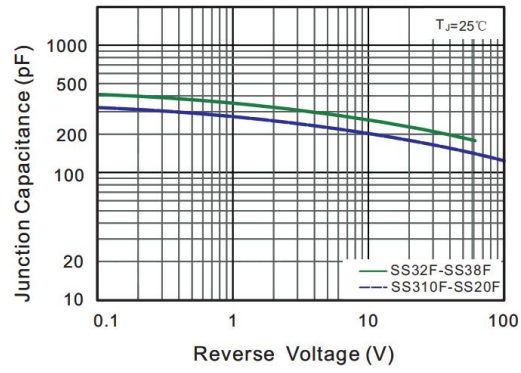


Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

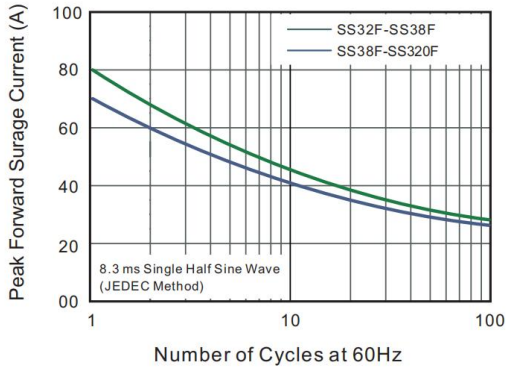
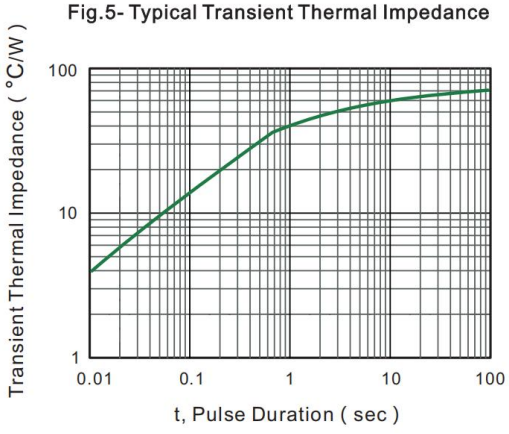
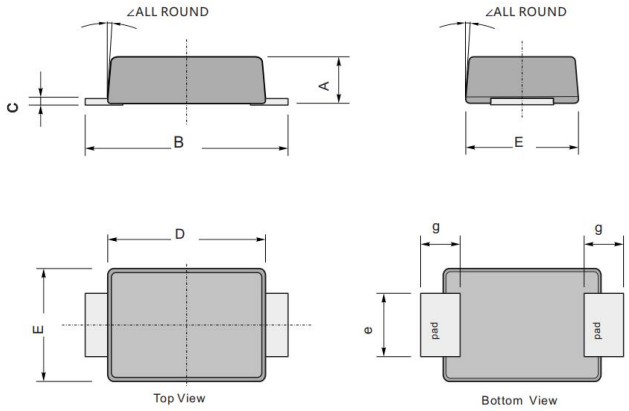


Fig.5- Typical Transient Thermal Impedance



5 Package Outline Dimensions

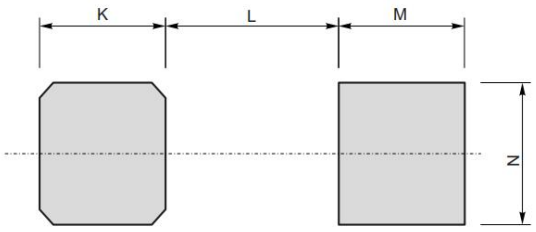


Symbol	UNIT(mm)		UNIT(mil)	
	Min	Max	Min	Max
A	0.9	1.2	35	47
B	4.4	4.9	173	193
C	0.12	0.20	4.7	4.9
D	3.3	3.7	130	146
E	2.4	2.7	94	106
e	1.3	1.6	51	63
g	0.8	1.2	31	47
∠	5°			

6 Ordering Information

PACKAGE	UNIT WEIGHT (g)	PACKAGING	REEL (pcs)
SMAF	Consult	Reel	3000

7 Suggested Pad Layout



Symbol	TYP.	
	UNIT(mm)	UNIT(mil)
K	1.6	63
L	2.2	86
M	1.6	63
N	1.8	71

8 Marking Code

Type Number	SS32F	SS34F	SS34AF	SS36F	SS38F	SS310F	SS312F	SS315F	SS320F
Marking Code	SS32F	SS34F	SS34AF	SS36F	SS38F	SS310F	SS312F	SS315F	SS320F

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