

SCHOTTKY BARRIER DIODE

FEATURES

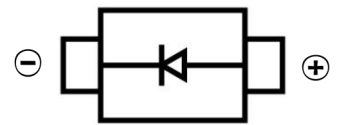
- Small Surface Mount device
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications



SMAF

MECHANICAL DATA

- Case: SMAF
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.027 grams (approximate)



MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	SS52F	SS54F	SS56F	SS58F	SS510F	SS512F	SS515F	SS520F	Unit
Repetitive peak reverse voltage	V_{RRM}	20	40	60	80	100	120	150	200	V
DC Reverse Voltage	V_R	20	40	60	80	100	120	150	200	V
RMS Reverse Voltage	V_{RMS}	14	28	42	56	70	84	105	140	V
Non-Repetitive Peak Forward Surge Current @ $t = 8.3\text{ ms}$	I_{FSM}	150								A
Mean rectifying current	I_F	5.0								A
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	50								$^\circ\text{C/W}$
Junction Temperature	T_J	125				150				$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150								$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	SS52F	SS54F	SS56F	SS58F	SS510F	SS512F	SS515F	SS520F	Unit	Conditions
Forward voltage	V_F	0.55	0.70	0.85				0.95	V	$I_F=5\text{A}$	
Reverse current $T=25^\circ\text{C}$	I_R	0.5				0.2				mA	$V=V_R$
Reverse current $T=100^\circ\text{C}$	I_R	20		10		2		mA			
Junction capacitance	C_J	200								pF	$V_R=4\text{V}, f=1\text{MH}$

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Typical Characteristics

Fig.1 Forward Current Derating Curve

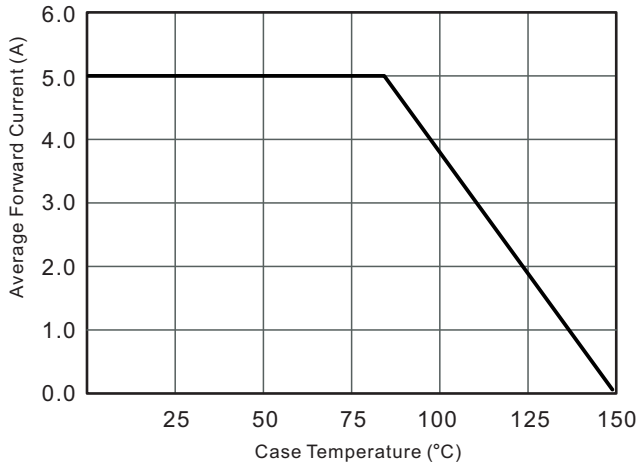


Fig.2 Typical Reverse Characteristics

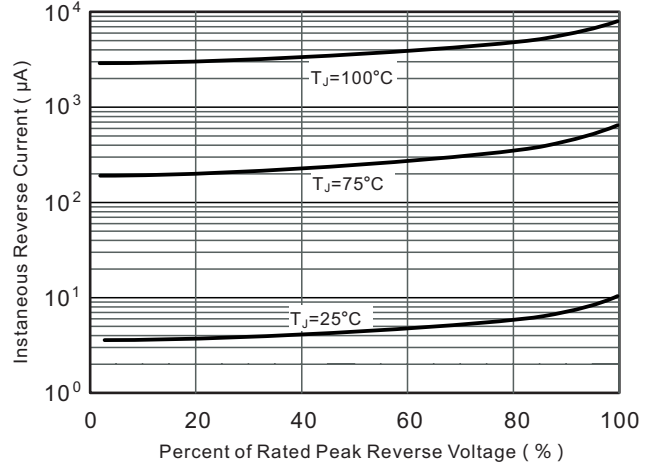


Fig.3 Typical Forward Characteristic

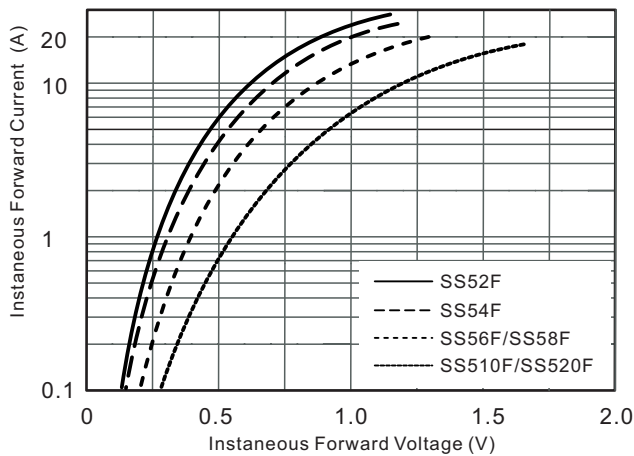


Fig.4 Typical Junction Capacitance

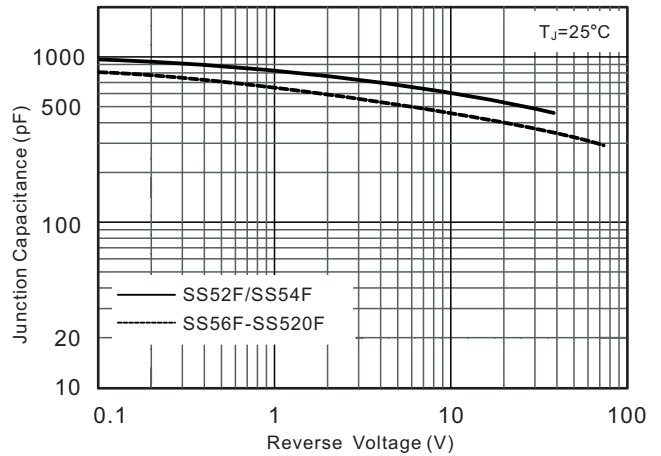


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

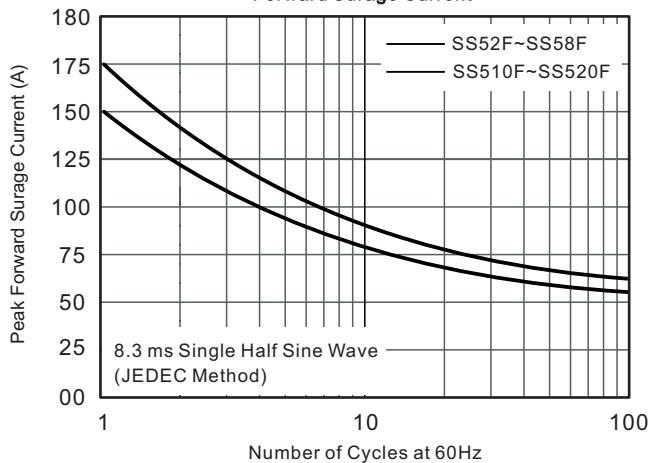
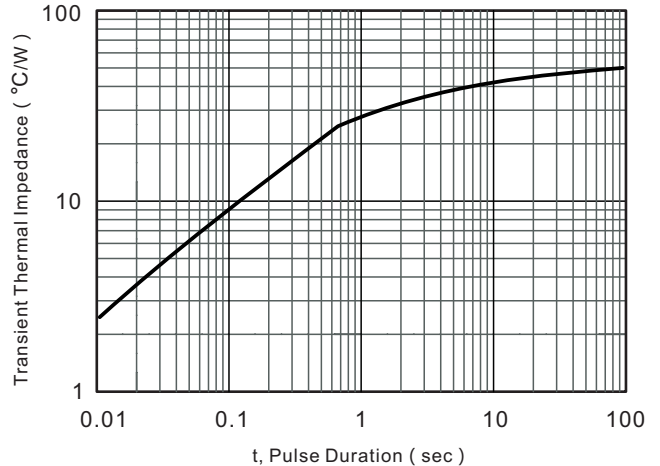
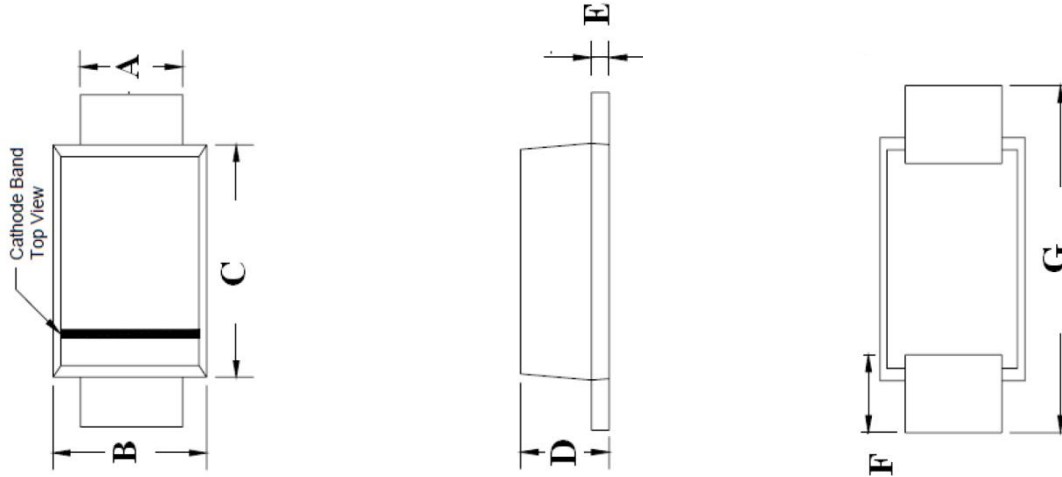


Fig.6- Typical Transient Thermal Impedance



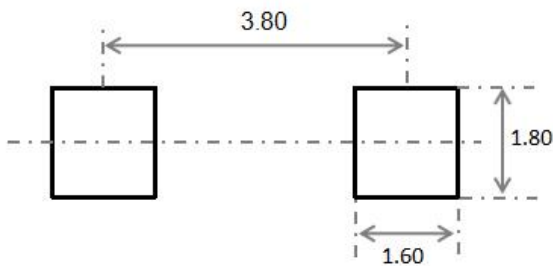
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SMAF Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.30	1.60	0.051	0.063
B	2.40	2.80	0.094	0.110
C	3.25	3.65	0.128	0.144
D	1.10	1.40	0.043	0.055
E	0.15	0.25	0.006	0.010
F	0.70	1.20	0.028	0.047
G	4.40	4.90	0.173	0.193

SMAF Suggested Pad Layout



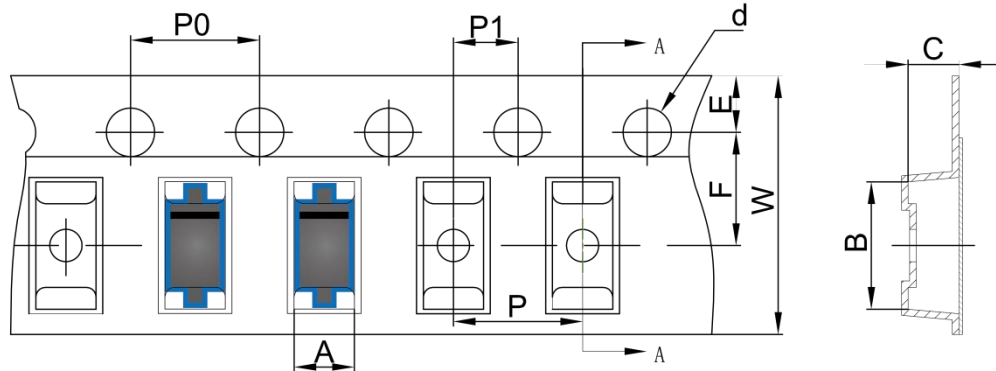
Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

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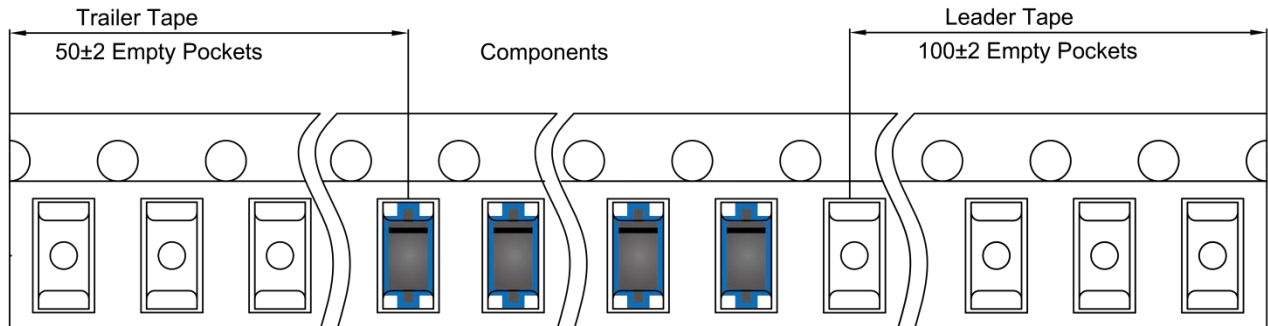
SMAF Tape and Reel

SMAF Embossed Carrier Tape

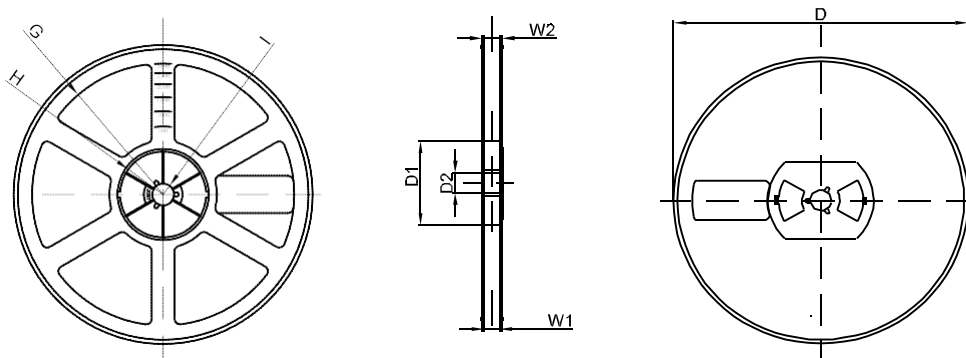


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMAF	2.79	5.35	1.48	Ø1.50	1.75	5.50	4.00	4.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SMAF Tape Leader and Trailer



SMAF Reel



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	12.40	17.60
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1