AUTOMOTIVE SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 200 Volts
Forward Current - 1.0Amperes

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High surge capability
- High temperature soldering guaranteed:260℃/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU
- AEC-Q101 qualified and PPAP capable

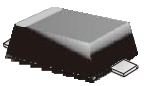
IATF16949认证

AEC-Q101 Qualified

Mechanical Data

- Case: SMAF molded plastic body
- Terminals: Solder Plated, solderable per MIL-STD-750,method 2026
- Polarity: Color band denotes cathode end

SMAF



Typical Applications

For use in low voltage ,high frequency inverters ,DC/DC converters, free wheeling ,and polarity protection applications

Maximum Ratings

(Ratings at 25℃ ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	200	V
Maximum average forward rectified current (see fig.1)	$I_{F(AV)}$	1.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	35	A
Operating junction temperature range	T_J	-55 to+150	℃
Storage temperature range	T_{stg}	-55 to+150	℃

Electrical Characteristcs (T_a=25℃ Unless Otherwise Noted)

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instaneous Forward Voltage	I_F=1.0A	T_J=25℃	V_F 1)	0.82	0.85	V
		T_J=125℃		0.67	–	
Reverse Current	V_R= 200V	T_J=25℃	I_R 2)	–	5	μA
		T_J=125℃		–	1.0	mA
Typical Junction Capacitance	4V, 1MHz		C_J	19		pF

Notes: 1. Pulse test: 300 μs pulse width, 1% duty cycle
2. Pulse test: pulse width≤40ms

Thermal Characteristcs

Parameter	Symbol	SMAF	Unit
Typical thermal resistance	$R_{\theta JA}$ 3) 4)	150	℃/W
	$R_{\theta JM}$	30	

3. The heat generated must be less than the thermal conductivity from junction-to-ambient: $dP_D/dT_J < 1/R_{\theta JA}$
4. Thermal resistance junction-to-ambient to follow JEDEC51-2A, device mounted on FR4 PCB, 2 oz., standard footprint
5. Thermal resistance junction-to-mount to follow JEDEC51-14 transient dual interface test method (TDIM)

Availabale Pack Information

Product code	Pack	Reel Size (mm)	Quantity (pcs/reel)	Box Size L×W×H (mm)	Quantity (reel/box)	Carton Size L×W×H (mm)	Quantity (box/carton)	Quantity(carton) (K)
KSS120S-V-SMAF	T/R	Φ178	3000	180×180×105	6	550×200×205	5	90

Fig.1-Forward Current Derating Curve

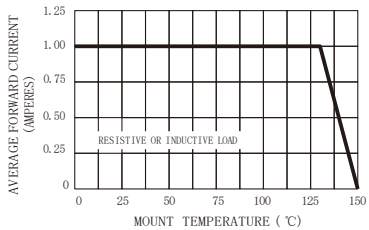


Fig.2-Maximum Non-repetitive Peak Forward Surge Current

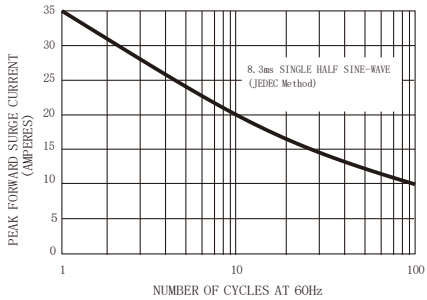


Fig.3-Typical Instantaneous Forward Characteristics

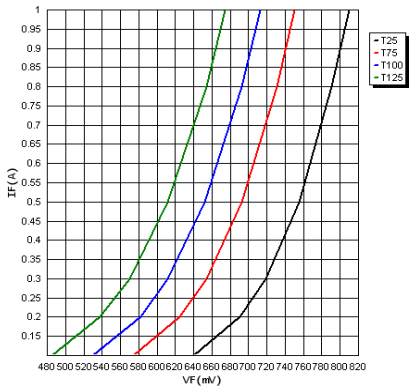


Fig.4-Typical Reverse Characteristics

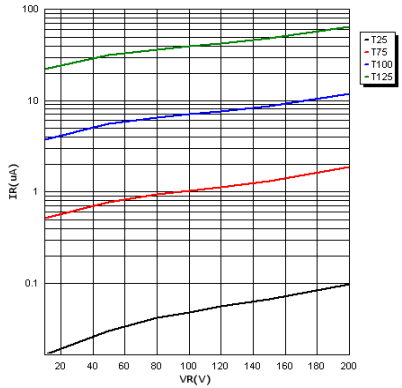
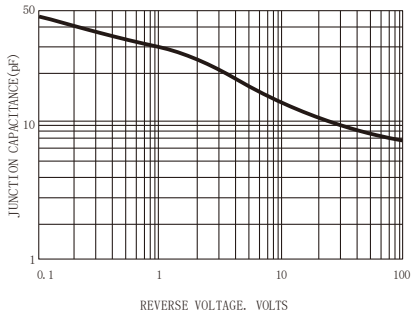
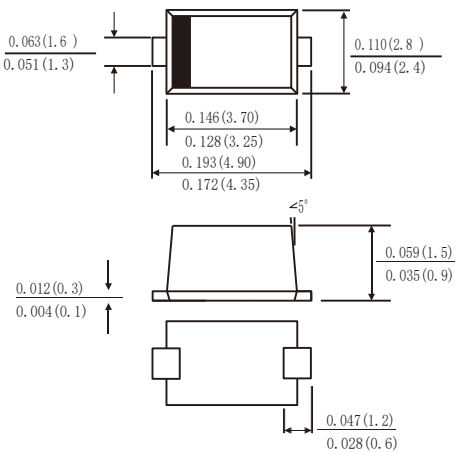


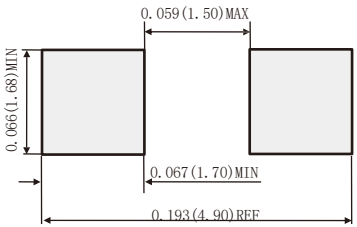
FIG.5-TYPICAL JUNCTION CAPACITANCE



SMAF



Suggested PAD Layout



Dimensions in inches and (millimeters)

Marking

Marking:
xxxx:Tracing code
SS120S-V: Type