

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°C/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU
- AEC-Q101 qualified and PPAP capable



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°C 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	°C
Storage temperature range	T_{stg}	-55 to +150	°C

Electrical Characteristcs (T_a=25°C Unless Otherwise Noted)

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instaneous Forward Voltage	I _F =1.0A	T _J =25°C	V _F ¹⁾	0.82	0.85	V
		T _J =125°C		0.67	-	
Reverse Current	V _R =200V	T _J =25°C	I _R ²⁾	-	5	μA
		T _J =125°C		-	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 _{θJA} ^{3) 4)}	150	°C/W
	R _{θJM}	30	

3.The heat generated must be less than the thermal conductivity from junction-to-ambient: $dP_c/dT_j < 1/R_{\theta JA}$

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)
SS120S-V-SMAF	T/R	Φ178	3000	180×180×105	6	550×200×205	5	90

RATINGS AND CHARACTERISTIC OF SS120S-V

Fig.1-Forward Current Derating Curve

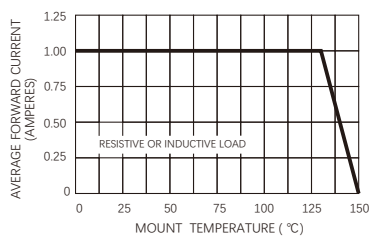


Fig.2-Maximum Non-repetitive Peak Forward Surge Current

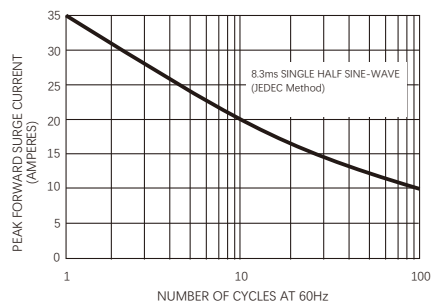


Fig.3-Typical Instantaneous Forward Characteristics

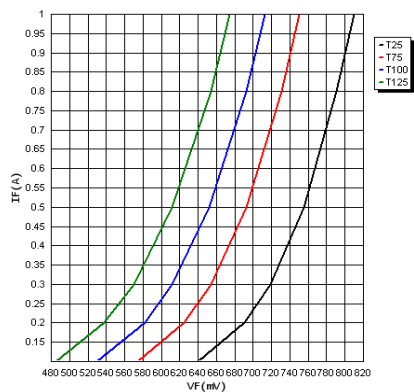


Fig.4-Typical Reverse Characteristics

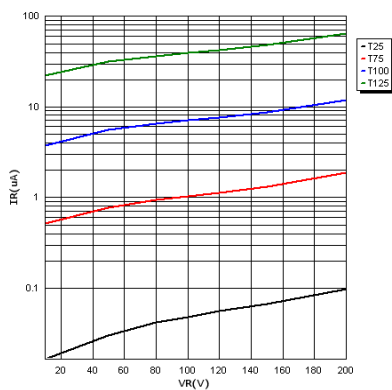
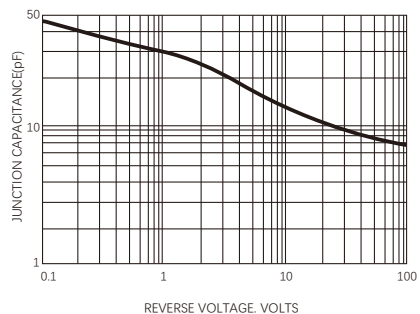
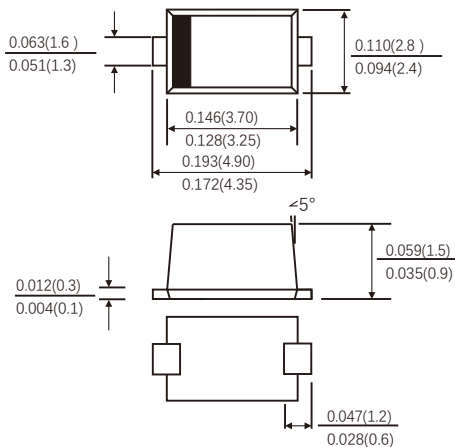


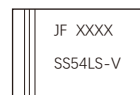
FIG.5-TYPICAL JUNCTION CAPACITANCE



SMAF



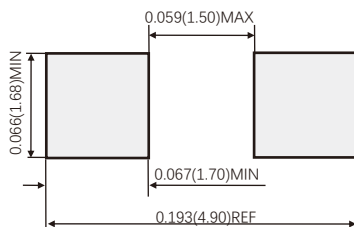
Marking



Marking:

JF:Logo
xxxx:Tracing code
SS54LS-V: Type

Suggested PAD Layout



Dimensions in inches and (millimeters)

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