

FEATURES

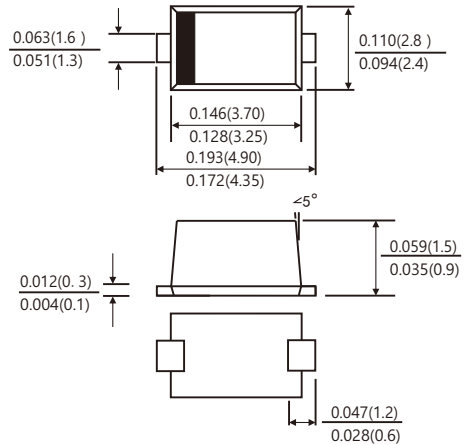
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Very low profile - typical height of 1.0 mm
- Ideal for automated placement
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High surge capability
- High temperature soldering guaranteed:260°C/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU



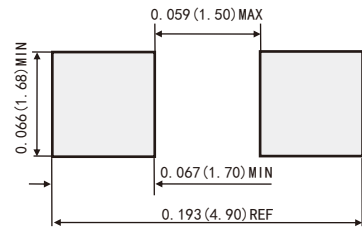
MECHANICAL DATA

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

SMAF



Suggested PAD Layout



Dimensions in inches and (millimeters)

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}	100	V
Maximum average forward rectified current	$I_{F(AV)}$	5.0	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	100	A
Operating junction temperature range	T_J	-55 to+150	°C
Storage temperature range	T_{stg}	-55 to+150	°C

RATINGS AND CHARACTERISTIC OF SS510LS

ELECTRICAL CHARACTERISTICS (T_A=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage	I _F =5.0A	T _A =25°C	V _F ¹⁾	0.62	0.70	V
		T _A =125°C		0.56	-	
	I _F =2.0A	T _A =25°C		0.50	-	
		T _A =125°C		0.43	-	
Reverse current	V _R =100V	T _A =25°C	I _R ²⁾	6	15	μA
		T _A =125°C		-	6	mA
Typical junction capacitance	4V,1MHz		C _j	310		pF

Notes: 1.Pulse test: 300 μs pulse width,1% duty cycle

2.Pulse test: pulse width≤40ms

Thermal Characteristics

Parameter	Symbol	SMAF	Unit
Typical thermal resistance	R _{θJA} ^{3) 4)}	150	°C/W
	R _{θJM} ⁵⁾	15	

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

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)

AVAILABLE 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 (Kpcs)
SS510LS-SMAF	T/R	Φ178	3000	185×185×66	2	370×370×240	120

FIG.1-FORWARD CURRENT DERATING CURVE

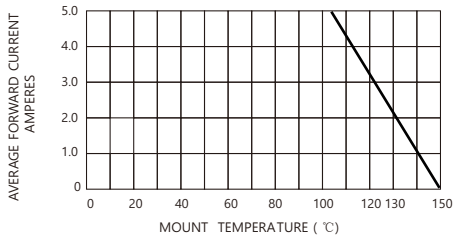


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

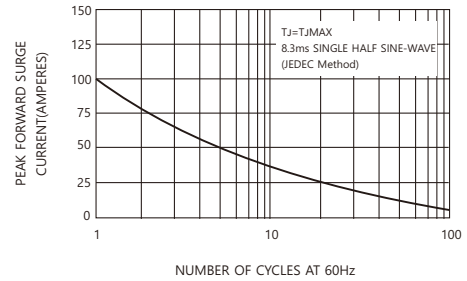


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

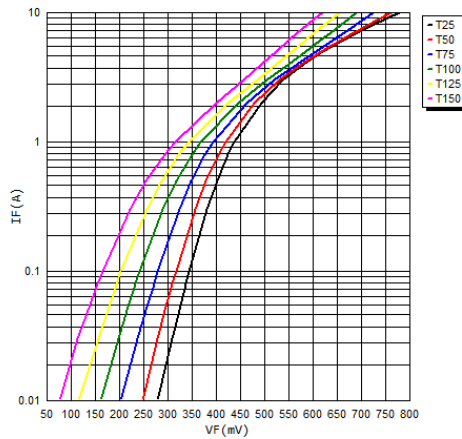


FIG.4-TYPICAL REVERSE CHARACTERISTICS

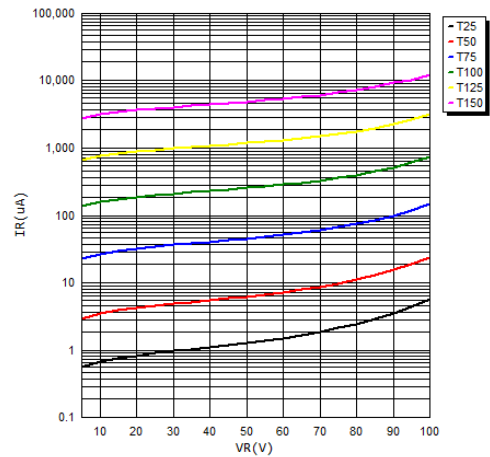
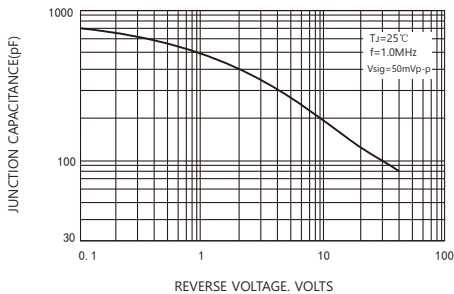


FIG.5-TYPICAL JUNCTION CAPACITANCE



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