

Features

- $I_{F(AV)}$ 5A
- V_{RRM} 100V
- High surge current capability
- Polarity: Color band denotes cathode
- Low peak forward voltage



SMAF top view



Schematic diagram

Applications

- Rectifier

Marking

- SS510LF:SS510L



Halogen-Free

Limiting Values (Absolute Maximum Rating)

Symbol	Item	Conditions	SS510LF	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		100	V
V_{RMS}	Maximum RMS Voltage		70	V
$I_{F(AV)}$	Average Rectified Output Current	60Hz Half-sine wave, Resistance load	5.0	A
I_{FSM}	Surge(Non-repetitive)Forward Current	60Hz Half-sine wave, 1 cycle, $T_a=25^{\circ}\text{C}$	120	A
T_J	Junction Temperature		-55 ~+150	$^{\circ}\text{C}$
T_{STG}	Operating and Storage Temperature Range		-55~ +150	$^{\circ}\text{C}$

Electrical Characteristics (T=25°C Unless otherwise specified)

Symbol	Item	Condition	SS510LF	Unit
V_F	Peak Forward Voltage	$I_F=5.0\text{A}$ $T_a=25^{\circ}\text{C}$	0.65 (TYP) 0.7(MAX)	V
I_{RRM1}	Peak Reverse Current	$V_{RM}=V_{RRM}$ $T_a=25^{\circ}\text{C}$	0.01 (TYP) 0.02 (MAX)	mA
I_{RRM2}		$V_{RM}=V_{RRM}$ $T_a=100^{\circ}\text{C}$	20	
$R_{\theta JA}$	Thermal Resistance	Between junction and ambient	110	$^{\circ}\text{C/W}$
$R_{\theta JL}$		Between junction and terminal	12	
C_J	Typical junction capacitance per diode	Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C	280	pF

Notes:

Thermal resistance from junction to ambient and from junction to lead mounted on FR4 PCB double sided copper mini pad

Typical Operating Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

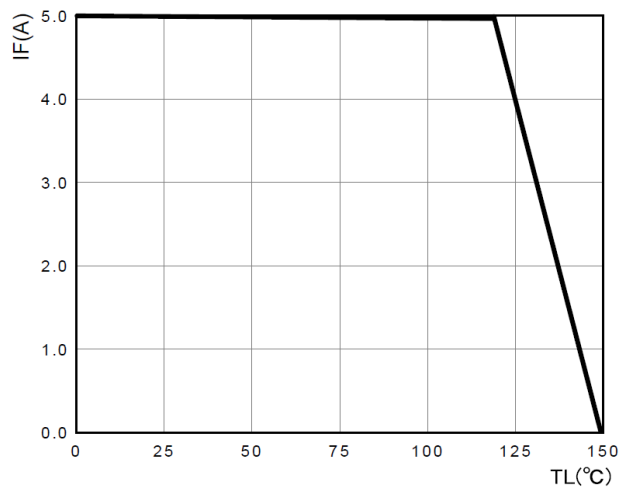


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

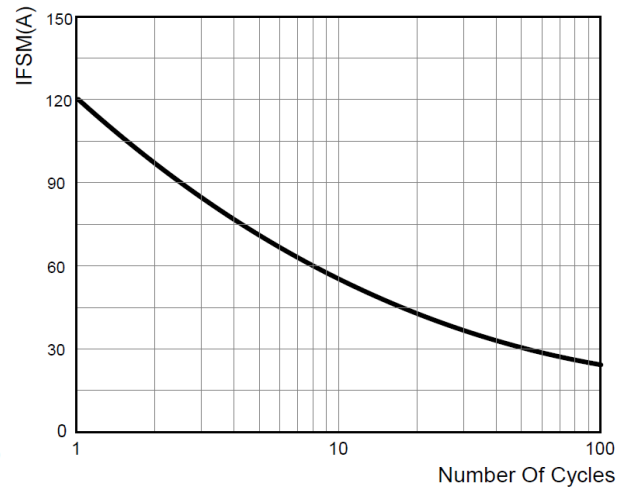


FIG.3: TYPICAL FORWARD CHARACTERISTICS

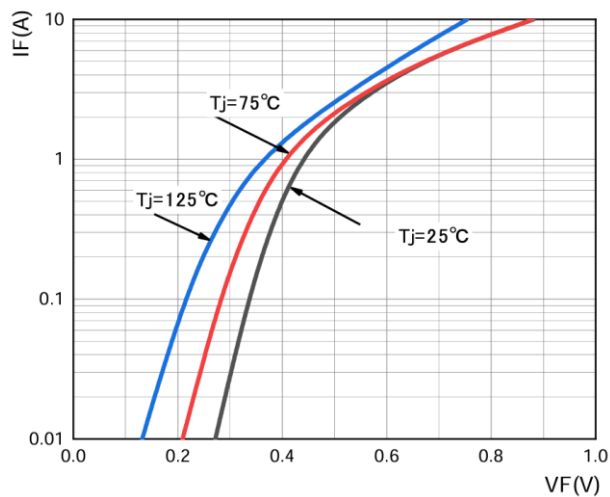
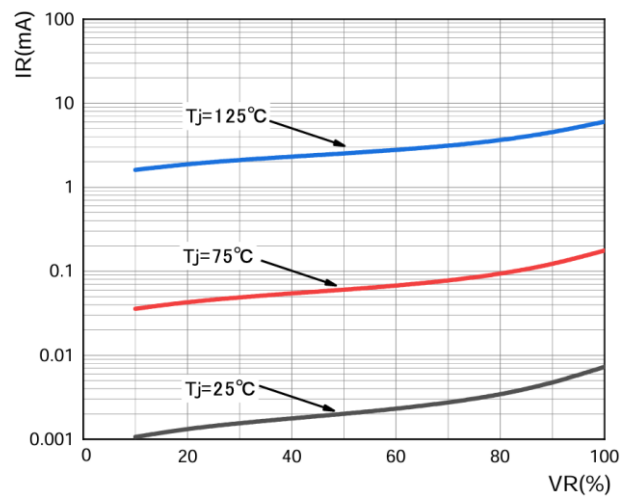
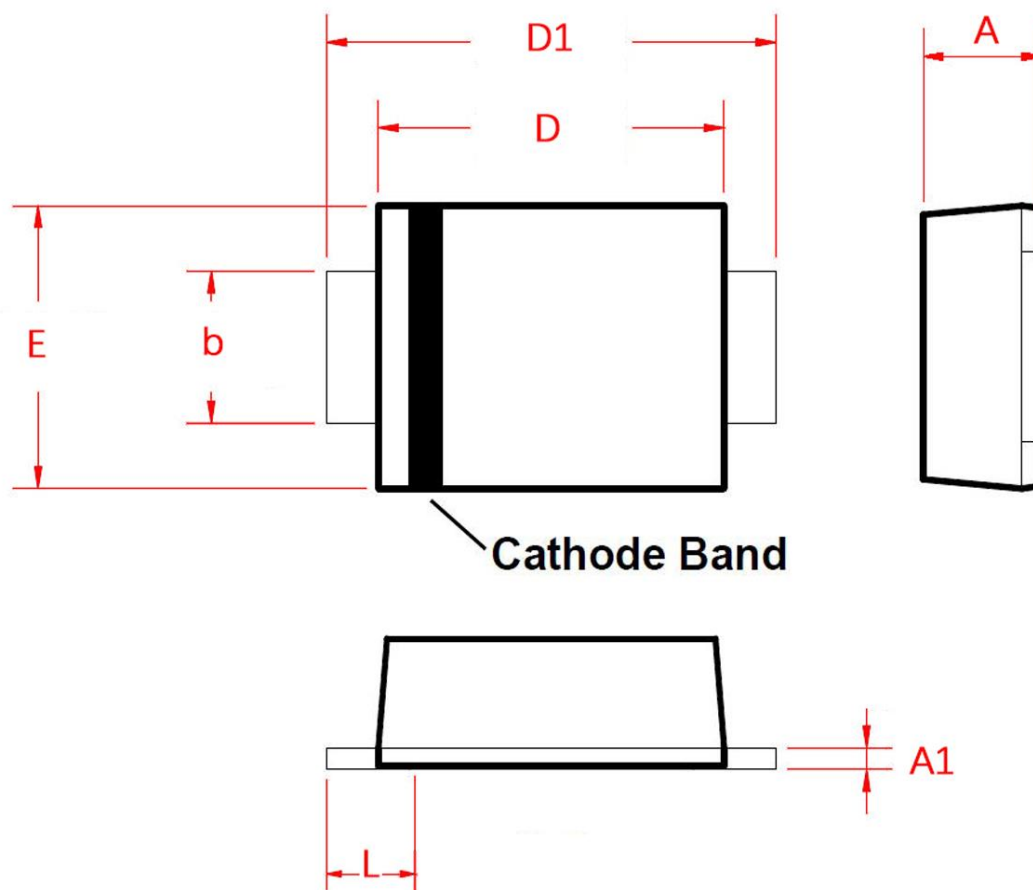


FIG.4: TYPICAL REVERSE CHARACTERISTICS



SMAF Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.200	0.035	0.047
A1	0.120	0.180	0.005	0.007
b	1.300	1.600	0.051	0.063
D	3.300	3.700	0.130	0.146
D1	4.400	4.900	0.173	0.193
E	2.400	2.700	0.094	0.106
L	0.800	1.300	0.031	0.051