

**Features**

- $I_{F(AV)}$  1A
- $V_{RRM}$  50V-1000V
- High surge current capability
- Polarity: Color band denotes cathode



SMAF top view



Schematic diagram

**Applications**

- Rectifier

**Marking**

- RS1X  
X : From A To M


**Halogen-Free**
**Limiting Values (Absolute Maximum Rating)**

Symbol	Item	Conditions	RS1							Unit
			AF	BF	DF	GF	JF	KF	MF	
$V_{RRM}$	Repetitive Peak Reverse Voltage		50	100	200	400	600	800	1000	V
$V_{RMS}$	Maximum RMS Voltage		35	70	140	280	420	560	700	V
$I_{F(AV)}$	Average Rectified Output Current	60Hz Half-sine wave, Resistance load	1.0							A
$I_{FSM}$	Surge(Non-repetitive)Forward Current	60Hz Half-sine wave, 1 cycle, $T_a=25^\circ\text{C}$	30							A
$T_J, T_{STG}$	Operating and Storage Temperature Range		-55~ +150							$^\circ\text{C}$

**Electrical Characteristics ( $T_a=25^\circ\text{C}$  Unless otherwise specified)**

Symbol	Item	Condition	RS1							Unit
			AF	BF	DF	GF	JF	KF	MF	
$V_F$	Peak Forward Voltage	$I_F = 1.0\text{A}$	1.3							V
$t_{rr}$	Maximum reverse recovery time	$I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$	150			250	500			
$I_{RRM1}$	Peak Reverse Current	$V_{RM}=V_{RRM}$ $T_a = 25^\circ\text{C}$	5							$\mu\text{A}$
$I_{RRM2}$		$V_{RM}=V_{RRM}$ $T_a = 125^\circ\text{C}$	50							
$R_{\theta J-A}$	Thermal Resistance	Between junction and ambient	72							$^\circ\text{C/W}$
$R_{\theta J-L}$		Between junction and terminal	10							
$C_J$	Typical junction capacitance per diode	Measured at 1.0MHz and applied reverse voltage of 4.0 volts	6							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

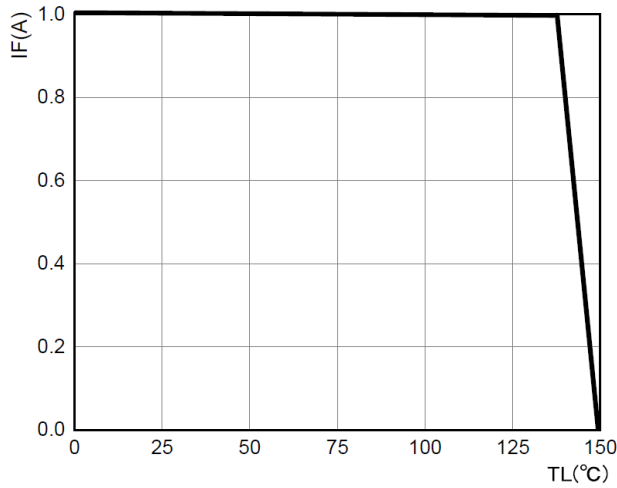


FIG 2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

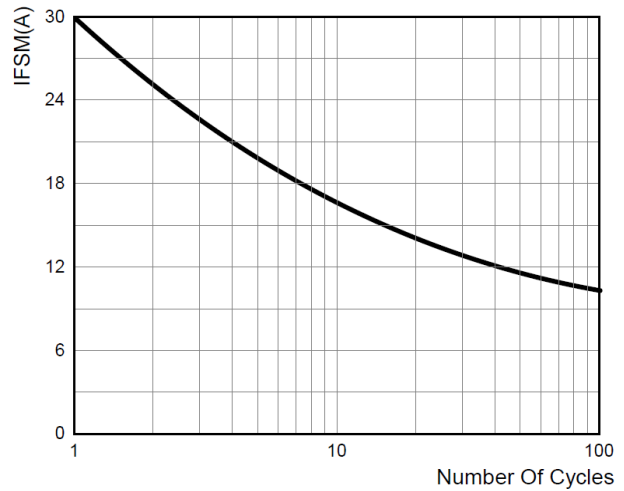


FIG.3 : TYPICAL FORWARD CHARACTERISTICS

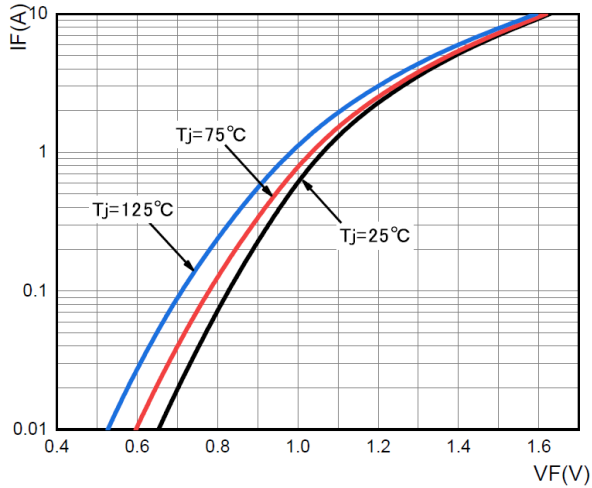
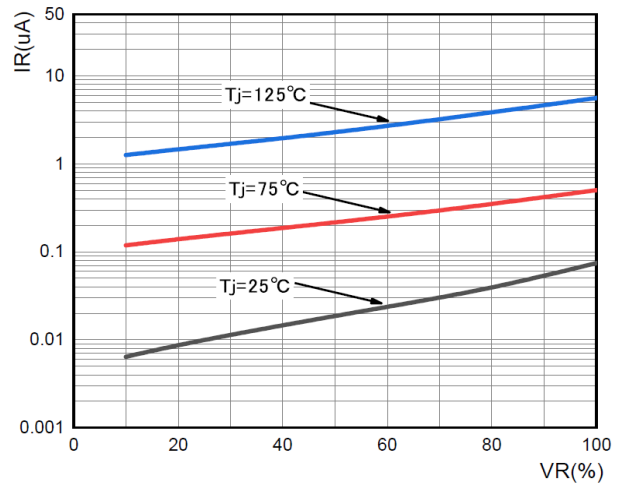
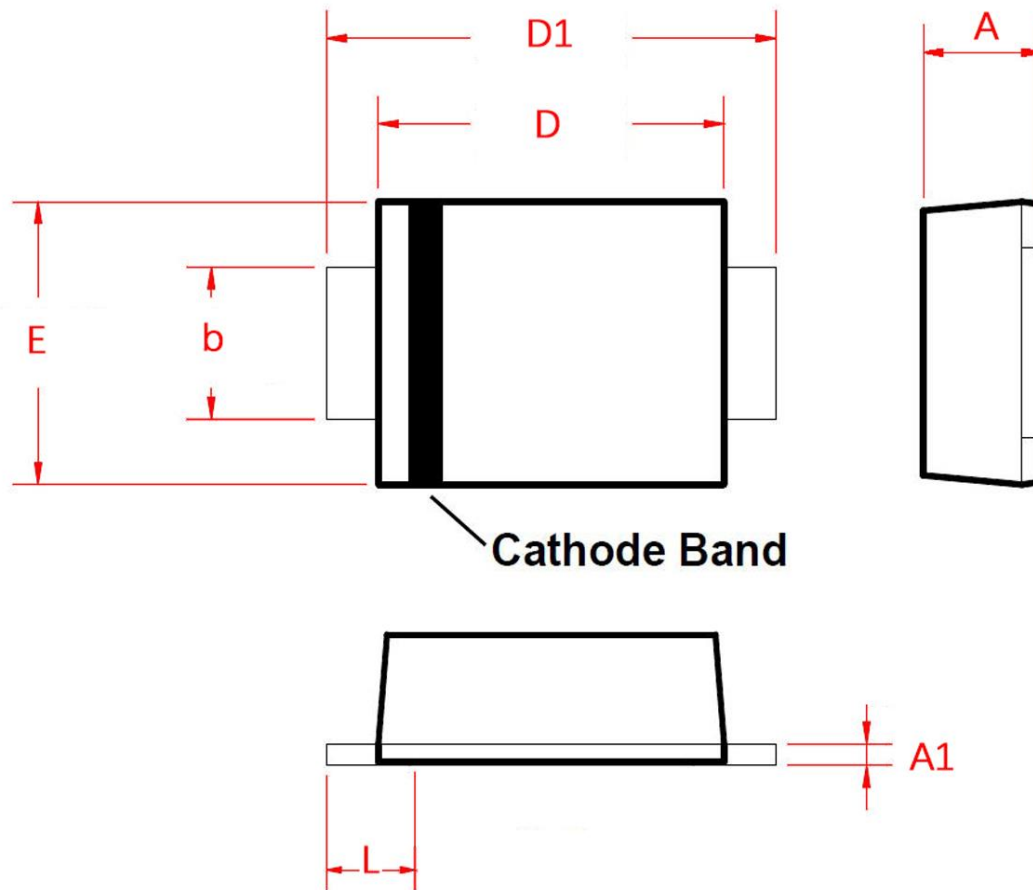


FIG.4 TYPICAL REVERSE CHARACTERISTICS



**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