

SMAF Plastic-Encapsulate Diodes

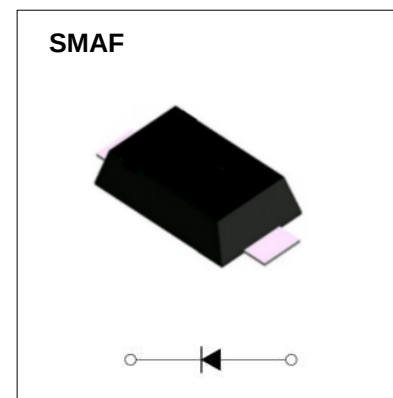
General Purpose Rectifier

Features

- I_O 1A
- V_{RRM} 50V-1000V
- Low forward voltage drop
- High surge current capability
- Glass passivated chip junction

Mechical Data

- Case: SMAF molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Solder plated, solderable per MIL- STD-202, Method 208
- Polarity: Color band denotes cathode end



Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	M						
				1F	2F	3F	4F	5F	6F	7F
Repetitive Peak Reverse Voltage	V_{RRM}	V		50	100	200	400	600	800	1000
Maximum RMS Voltage	V_{RMS}	V		35	70	140	280	420	560	700
Maximum DC Blocking Voltage	V_{DC}	V		50	100	200	400	600	800	1000
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave, Resistance load, $T_L=115^{\circ}C$	1						
Surge(Non-repetitive)Forward Current	I_{FSM}	A	60Hz Half-sine wave, 1 cycle, $T_a=25^{\circ}C$	30						
Junction Temperature	T_J	$^{\circ}C$		-55~+ 150						
Storage Temperature	T_{STG}	$^{\circ}C$		-55 ~ +150						

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

Item	Symbol	Unit	Test Condition		Max
Peak Forward Voltage	V_{FM}	V	$I_{FM}=1.0A$		1.0
Peak Reverse Current	I_{RRM1}	μA	$V_{RM}=V_{RRM}$	$T_a=25^{\circ}C$	5
	I_{RRM2}			$T_a=125^{\circ}C$	50
Reverse Recovery Time (Typical)	T_{rr}	ns	$I_F=0.5A$ $I_R=1A$ $I_{RR}=0.25A$		1500
Juction Capacitance (Typical)	C_j	pF	Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C.		6
Thermal Resistance (Typical)	$R_{\theta JA}$	$^{\circ}C/W$	Between junction and ambient		78
	$R_{\theta JL}$		Between junction and lead		20
	$R_{\theta JC}$		Between junction and case		18

FIG.1: FORWARD CURRENT DERATING CURVE

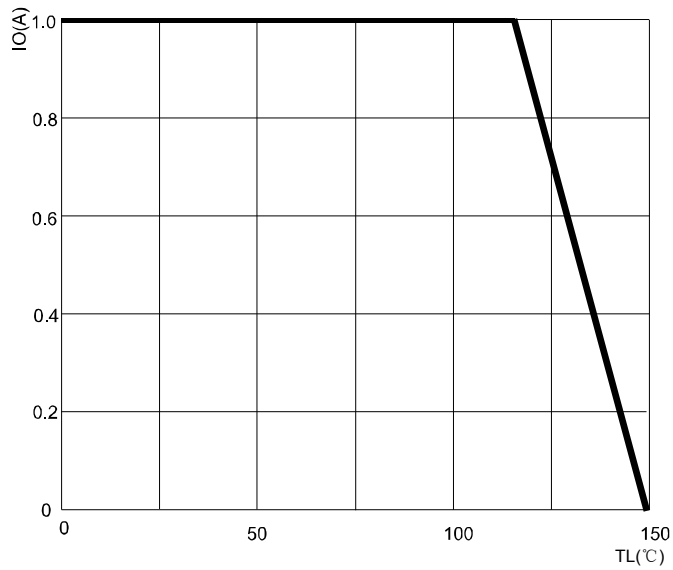


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

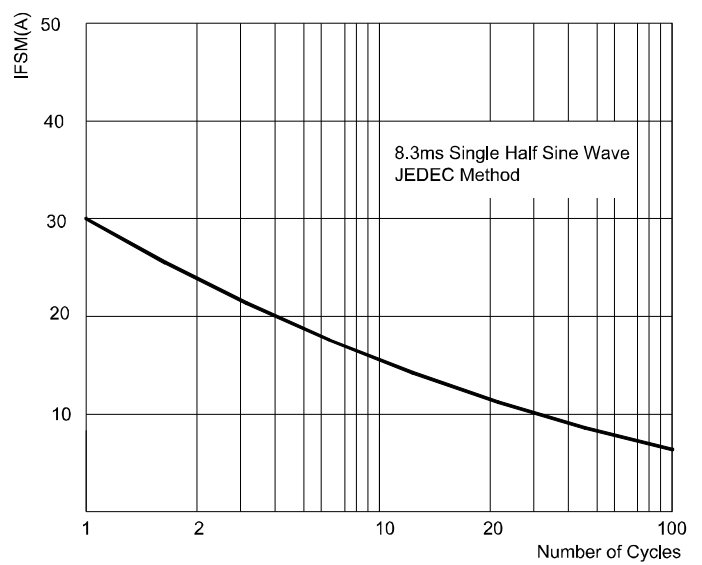


FIG.3: TYPICAL FORWARD CHARACTERISTICS

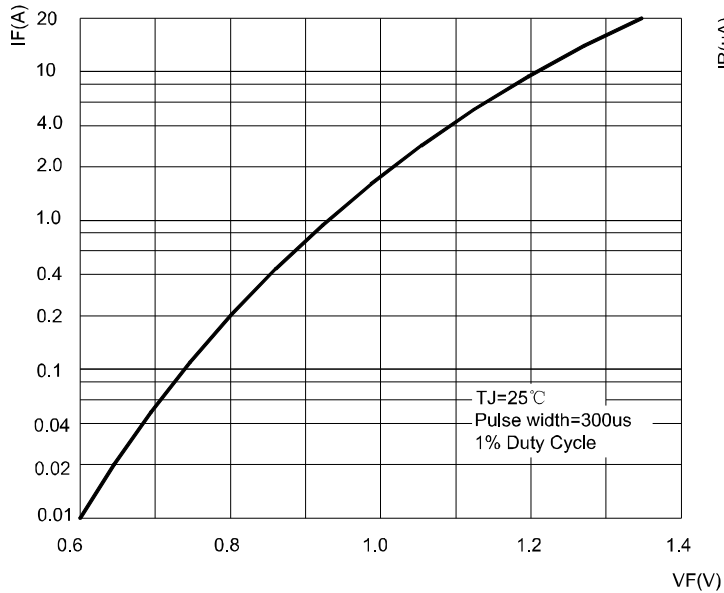
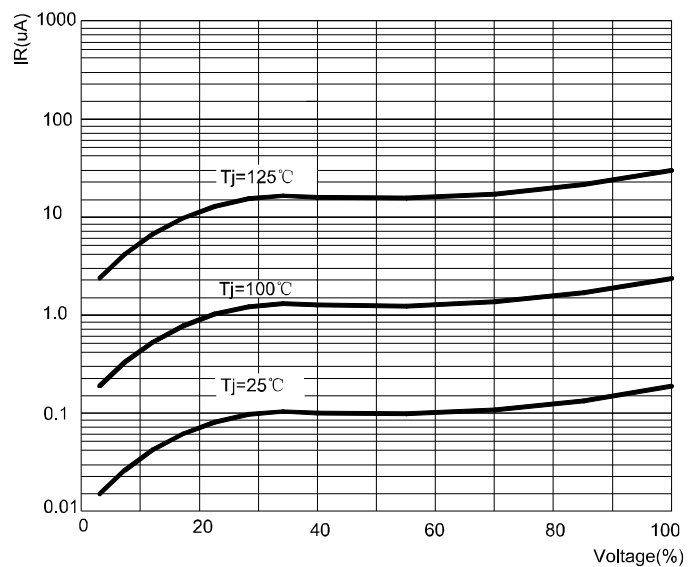
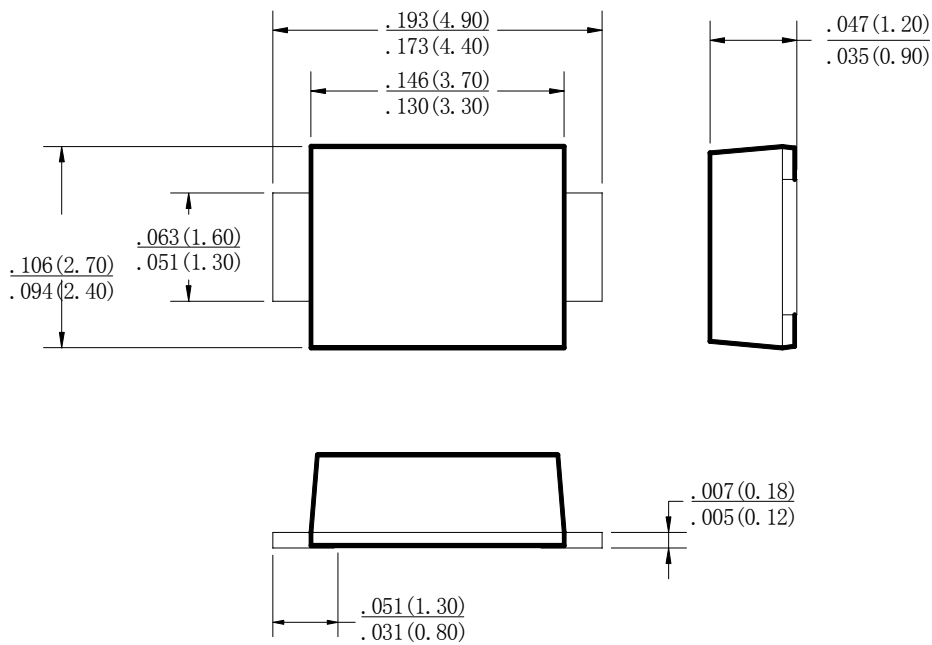


FIG.4: TYPICAL REVERSE CHARACTERISTICS

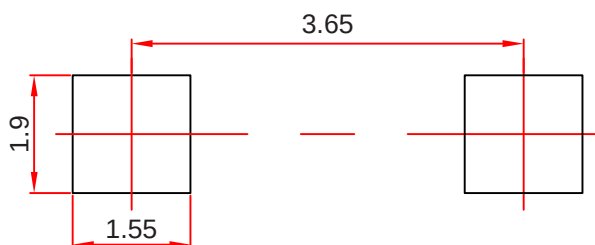


SMAF Package Outline Dimensions



Dimensions in inches and (millimeters)

SMAF Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

Ordering Information

Part Number	Package	Shipping Quantity
M1F-M7F	SMAF	3000/tape&Reel

Marking Diagram



X: From 1 To 7

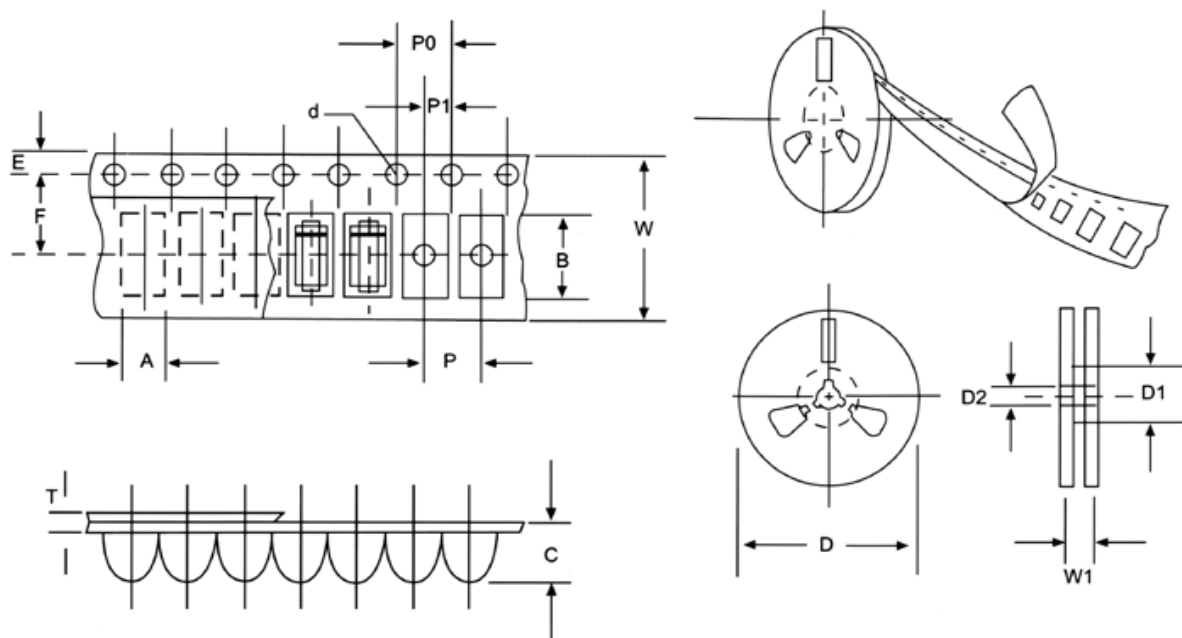


FIG: CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING

ITEM	SYMBOL	SMAF mm(inch)
Carrier width	A	2.83+0.1(0.112+0.004)
Carrier length	B	4.90+0.1(0.193+0.004)
Carrier depth	C	1.45+0.1(0.057+0.004)
Sprocket hole	d	1.55+0.05(0.061+0.002)
Reel outside diameter	D	178+2.0(7.0+0.079)
Reel inner diameter	D1	54±1.0(2.13±0.039)
Feed hole diameter	D2	13+0.5(0.512+0.020)
Sprocket hole position	E	1.75+0.1(0.069+0.004)
Punch hole position	F	5.5+0.05(0.217+0.002)
Punch hole pitch	P	4.0+0.1(0.157+0.004)
Sprocket hole pitch	P0	4.0+0.1(0.157+0.004)
Embossment center	P1	2.0+0.1(0.079+0.004)
Totall tape thickness	T	0.23-0.29(0.009-0.011)
Tape width	W	12.0+0.1(0.472+0.004)
Reel width	W1	16.8+2.0(0.661+0.079)

NOTE: Devices are packde in accordance with EIA standard RS-481-A and specification given above.