



## SMAG Plastic-Encapsulate Diodes

### US1MS High Efficient Rectifier Diodes

#### Features

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

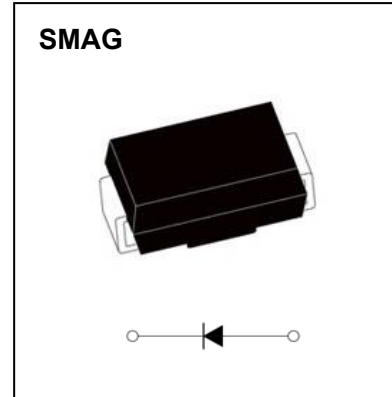
#### Applications

- Rectifier

#### Marking



XXXX : Date Code



#### Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	US1MS
Repetitive Peak Reverse Voltage	$V_{RRM}$	V		1000
Maximum RMS Voltage	$V_{RMS}$	V		700
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave, Resistance load	1.0
Surge(Non-repetitive)Forward Current	$I_{FSM}$	A	60Hz Half-sine wave, 1 cycle, $T_a=25^\circ\text{C}$	30
Operation Junction and Storage Temperature Range	$T_J, T_{STG}$	$^\circ\text{C}$		-55 ~ +150

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

Item	Symbol	Unit	Test Condition	US1MS	
Peak Forward Voltage	$V_F$	V	$I_F=1.0\text{A}$	1.7	
Maximum reverse recovery time	$t_{rr}$	ns	$I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$	75	
Peak Reverse Current	$I_{RRM1}$	$\mu\text{A}$	$V_{RM}=V_{RRM}$	$T_a=25^\circ\text{C}$	5
	$I_{RRM2}$			$T_a=125^\circ\text{C}$	50
Thermal Resistance(Typical)	$R_{\theta J-A}$	$^\circ\text{C}/\text{W}$	Between junction and ambient	75	
	$R_{\theta J-L}$		Between junction and terminal	27	
Junction Capacitance (Typical)	$C_j$	pF	Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C	5.5	

#### Notes:

Thermal resistance from junction to ambient and from junction to lead mounted on 1" x 1"(25.4mm x 25.4mm) FR4 PCB, double sided copper, with minimum pad layout

# Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

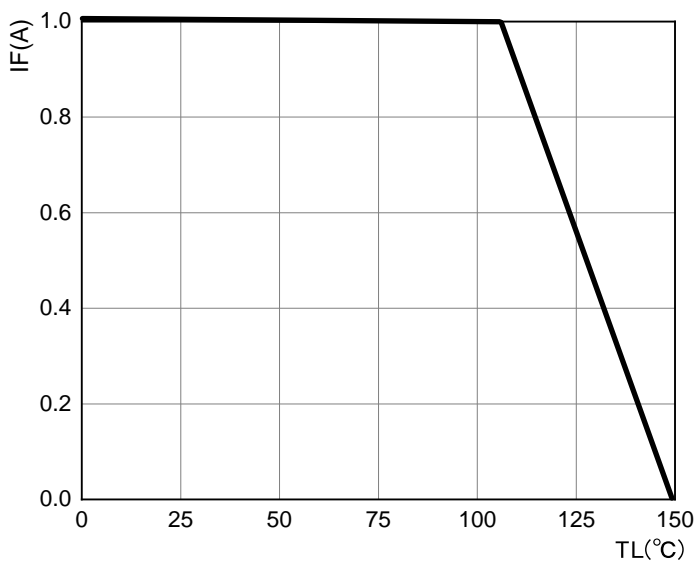


FIG 2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

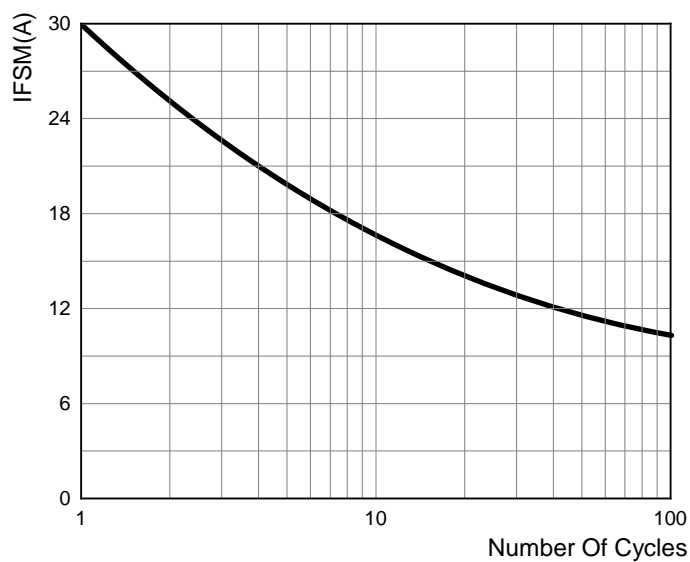


FIG.3 : TYPICAL FORWARD CHARACTERISTICS

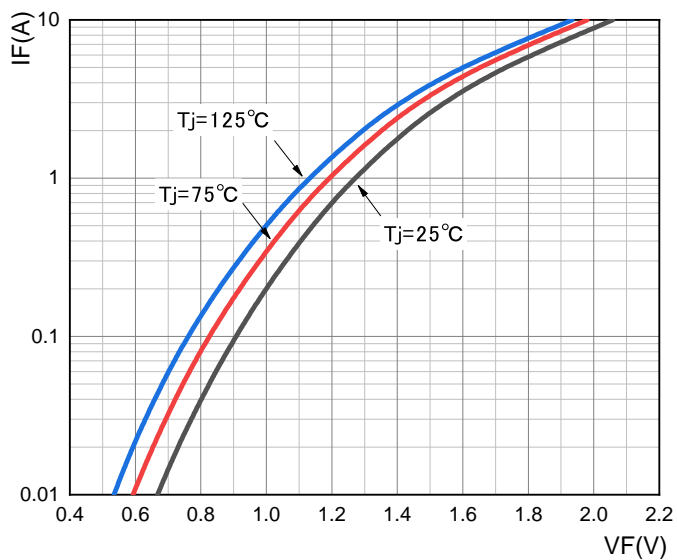
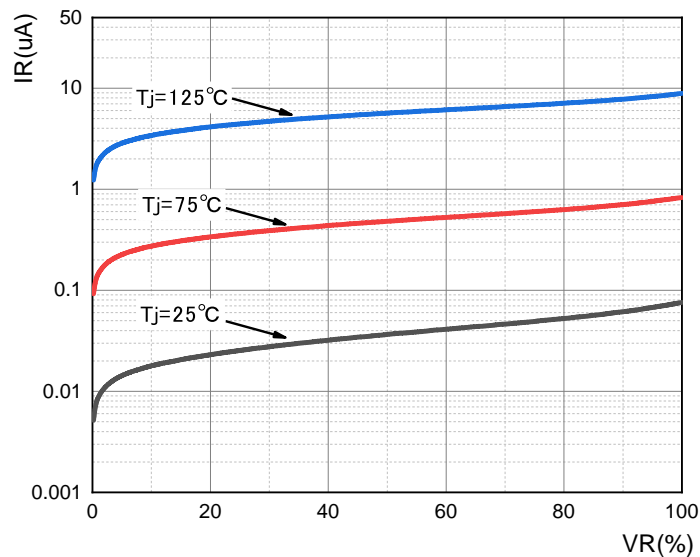
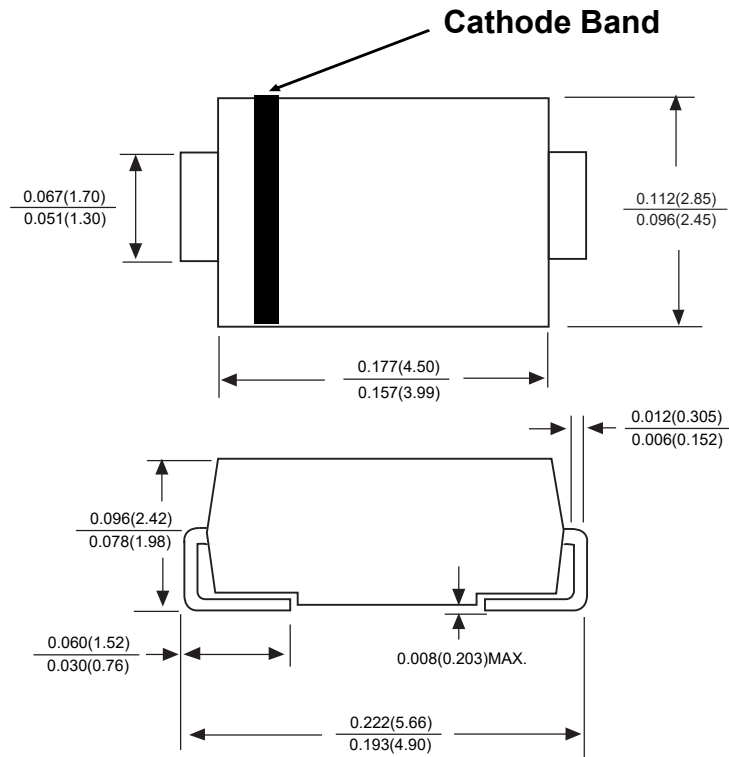


FIG.4 TYPICAL REVERSE CHARACTERISTICS

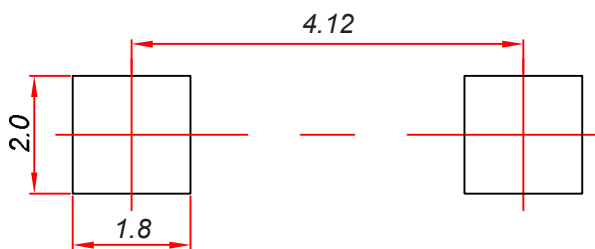


## SMAG Package Outline Dimensions



Dimensions in inches and (millimeters)

## SMAG Suggested Pad Layout



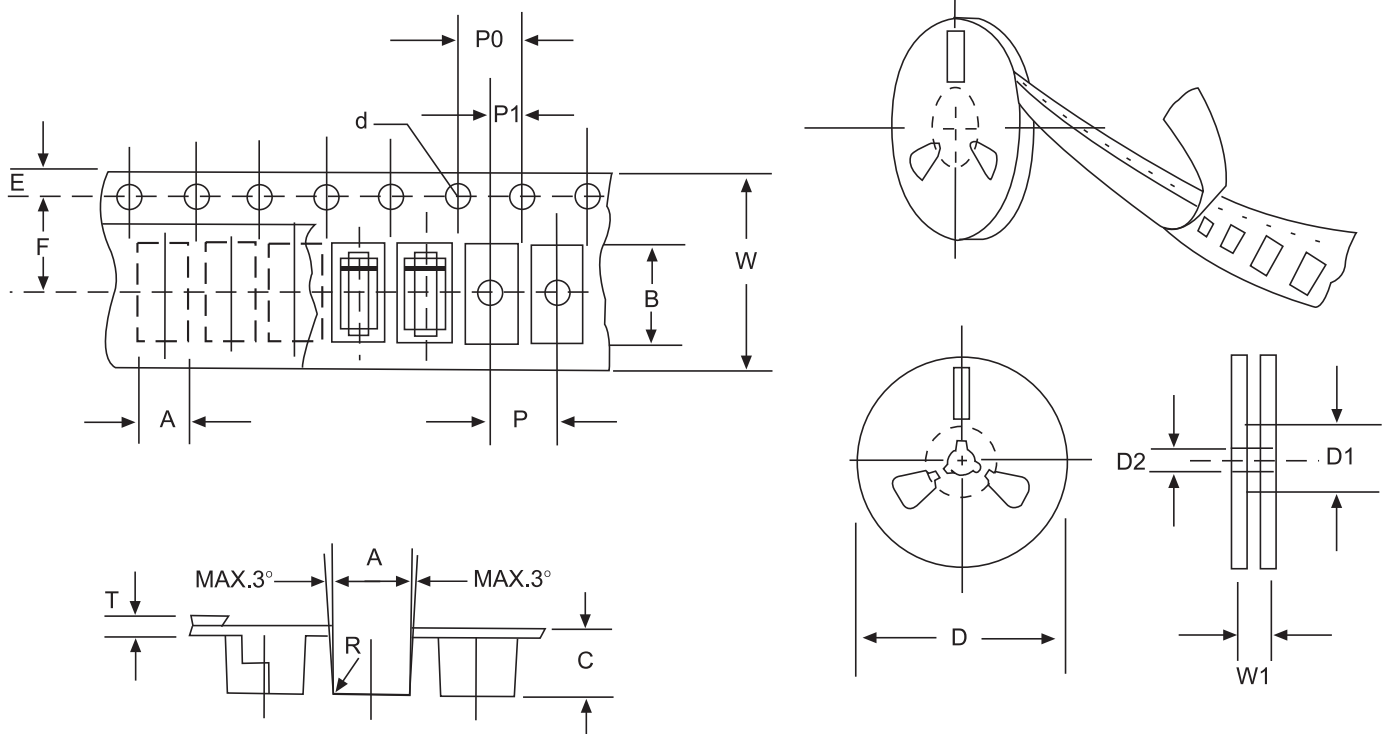
### Note:

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

### NOTICE

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## Reel Taping Specifications For Surface Mount Devices- SMAG



**FIG: CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING**

ITEM	SYMBOL	SMAG mm (inch)
Carrier width	A	2.79±0.1 (0.110±0.004)
Carrier length	B	5.33±0.1 (0.210±0.004)
Carrier depth	C	2.36±0.1 (0.093±0.004)
Sprocket hole	d	1.55±0.05 (0.061±0.002)
Reel outside diameter	D	279±2.0 (11±0.079)
Reel inside diameter	D1	75±1.0 (2.95±0.039)
Feed hole position	D2	13±0.5 (0.512±0.020)
Strocket 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)
Strocket hole pitch	P0	4.0±0.1 (0.157±0.004)
Embossment center	P1	2.0±0.1 (0.079±0.004)
Total tape thickness	T	0.28±0.02 (0.011±0.0008)
Tape width	W	12.0±0.2 (0.472±0.008)
Reel width	W1	16.8±2.0 (0.661±0.069)

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