SMAG Plastic-Encapsulate Diodes

High Efficient Rectifier

Features

- I_O 1A
- VRRM 1600V
- Low forward voltage drop
- High surge current capability
- Glass passivated chip junction

SMAG

Mechical Data

- 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	US1YA
Repetitive Peak Reverse Voltage	V_{RRM}	V		1600
Maximum RMS Voltage	V_{RMS}	V		1120
Maximum DC blocking Voltage	V_{DC}	V		1600
Minimum Reverse Breakdown Voltage IR = 100μA	V(BR)R	V		1650
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, Ta=25℃	48
Junction Temperature	T_J	℃		-55 ~ +150
Storage Temperature	T_{STG}	℃		-55 ~ +150

Electrical Characteristics (Ta=25℃ Unless otherwise specified)

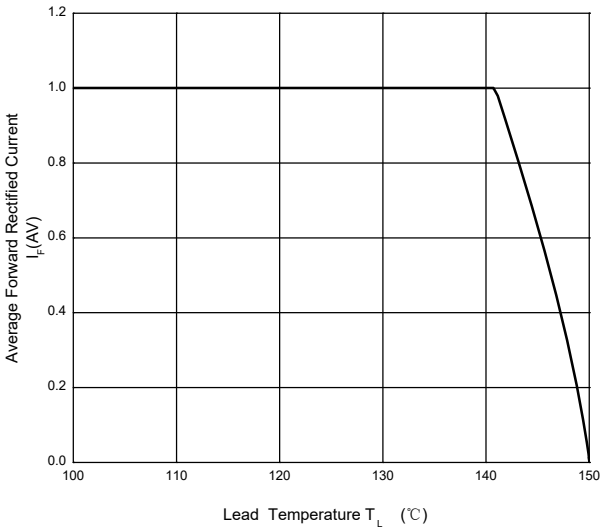
Item	Symbol	Unit	Test Condition		US1YA
Peak Forward Voltage	V_{FM}	V	I_{FM}=1.0A		3.5
Peak Reverse Current	I_{RRM1}	μA	V_{RM}=V_{RRM}	T_j=25℃	5
	I_{RRM2}			T_j=125℃	500
Reverse Recovery time	t_{rr}	ns	I_F=0.5A I_R=1A I_{RR}=0.25A		75
Thermal Resistance(Typical)	$R_{\theta J-A}$	℃/W	Between junction and ambient		125
	$R_{\theta J-L}$		Between junction and terminal		7.7
Juction Capacitance (Typical)	CJ	pF	Measured at 1.0MHz and applied reverse voltage of 4.0 volts.		20

Notes:

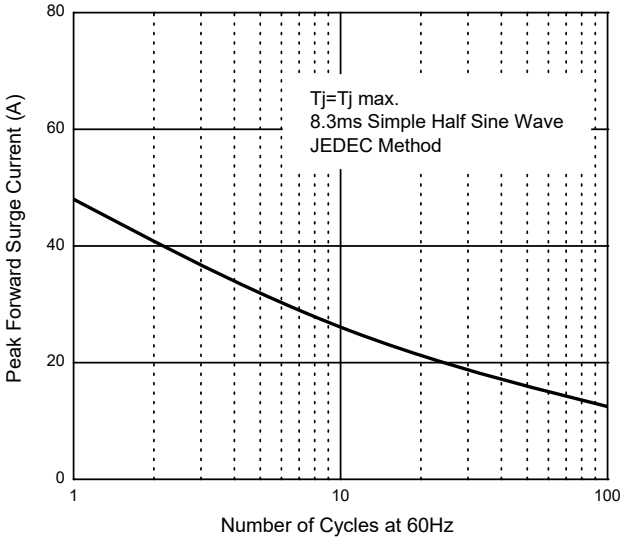
Thermal resistance from junction to ambient and from junction to lead mounted on 1" x 1"(25.4mm x 25.4mm) FR4 PCB, double sided copper, with minimum pad layout

Typical Characteristics

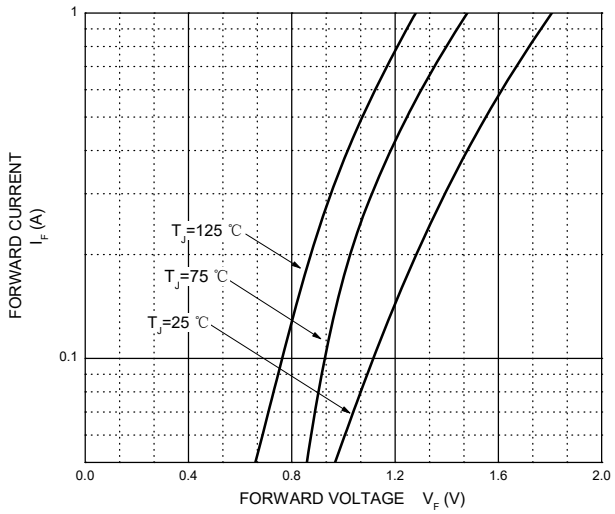
Current Derating



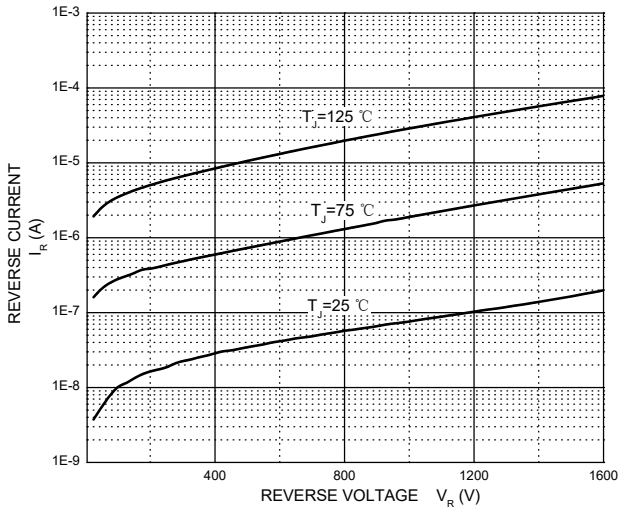
NON-REPETITIVE FORWARD SURGE CURRENT



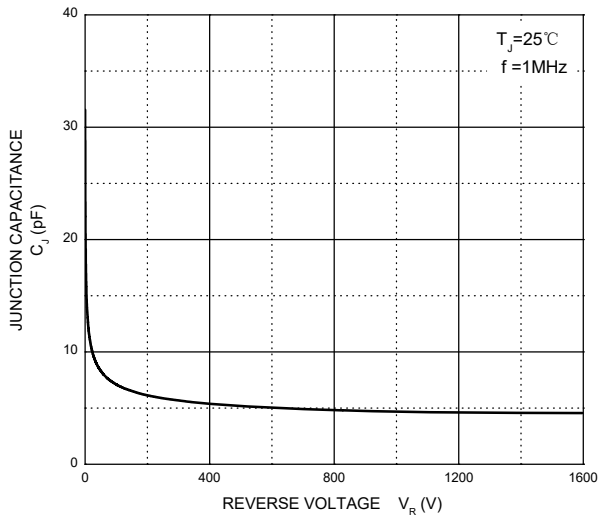
Forward Characteristics



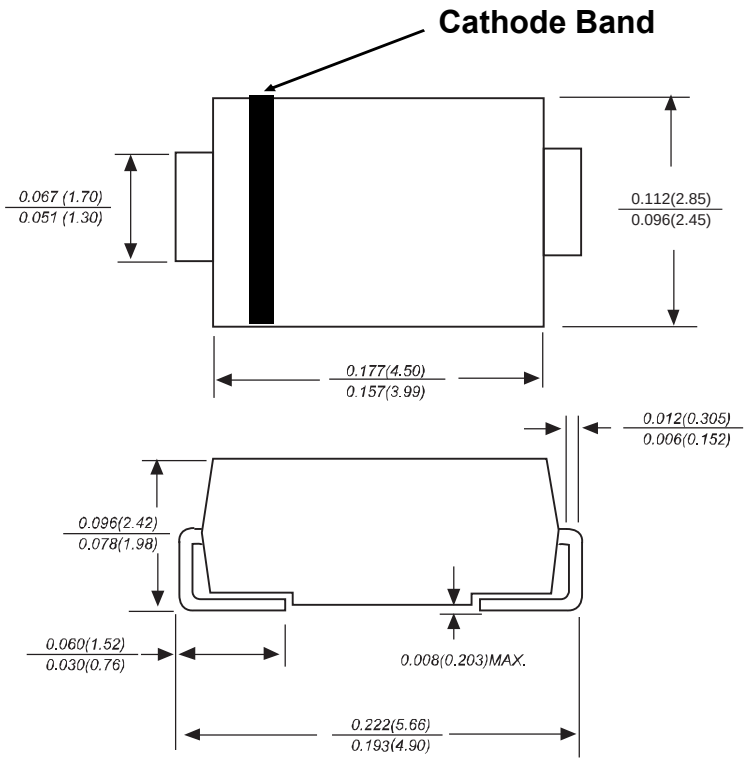
Reverse Characteristics



Capacitance Characteristics

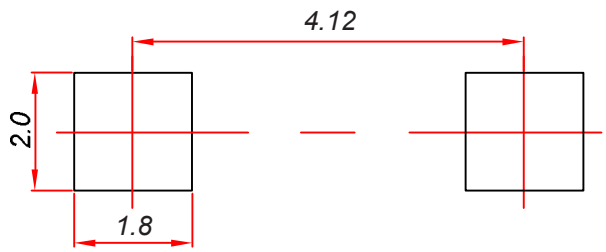


SMAG Package Outline Dimensions



Dimensions in inches and (millimeters)

SMAG Suggested Pad Layout



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

Ordering Information

Part Number	Package	Shipping Quantity
US1YA	SMAG	5000/tape&Reel

Marking Diagram

XX : Date Code

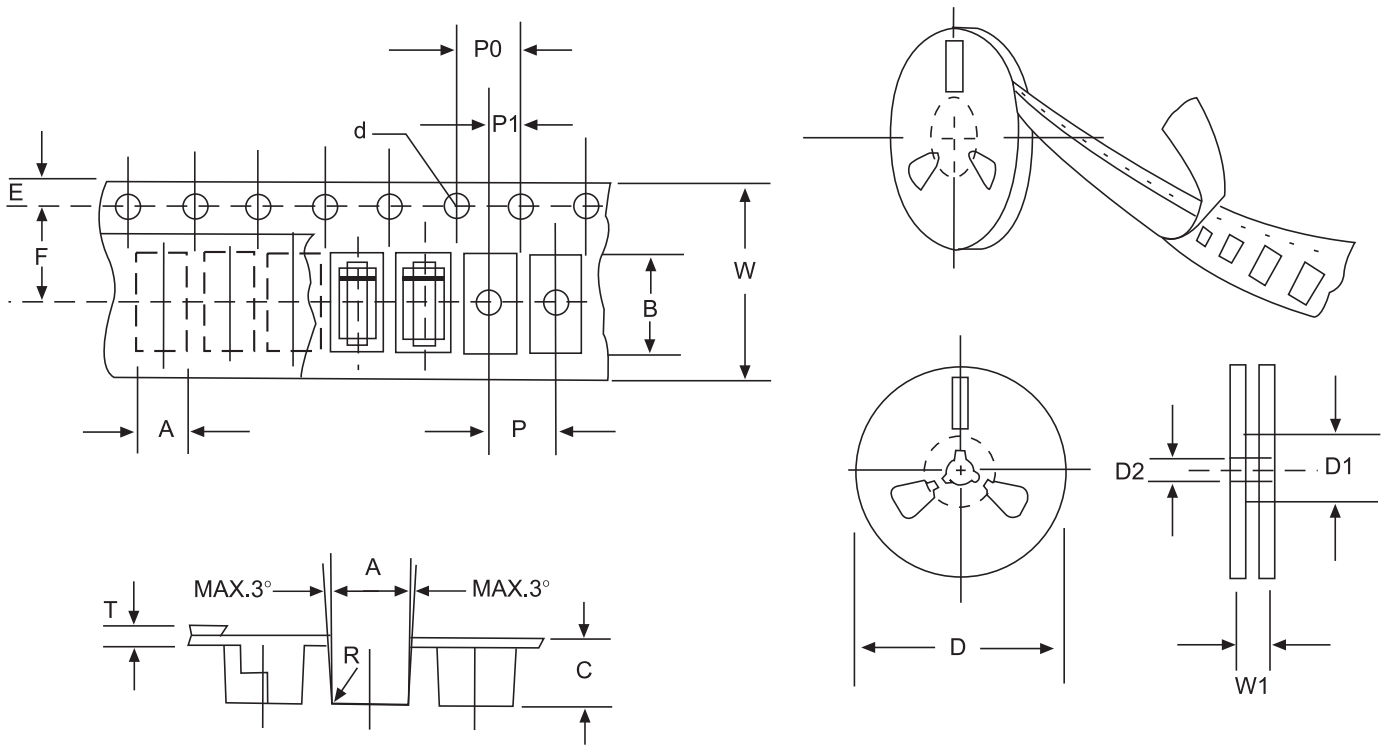


Fig:CONFIGURATION OF FLAT MELF TAPING

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 inner diameter	D1	75±1.0 (2.95 ±0.039)
Feed hole diameter	D2	13±0.5(0.512±0.020)
Stroket 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	0.28±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±0.079)

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