



## SMAG Plastic-Encapsulate Diodes

### SS52 THRU SS520 Schottky Rectifier Diodes

#### Features

- $I_{F(AV)}$  5A
- $V_{RRM}$  20V-200V
- High surge current capability
- Polarity: Color band denotes cathode

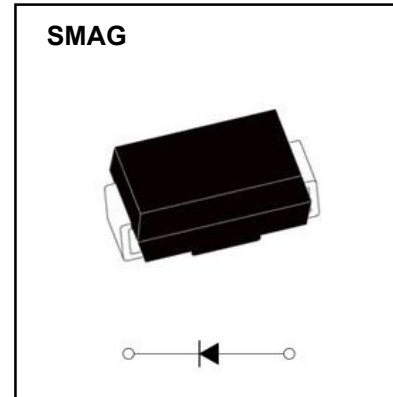
#### Applications

- Rectifier

#### Marking

- SS5X

X : From 2 To 20



#### Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	SS5														
				2	3	4	5	6	8	10	15	20						
Repetitive Peak Reverse Voltage	$V_{RRM}$	V		20	30	40	50	60	80	100	150	200						
Maximum RMS Voltage	$V_{RMS}$	V		14	21	28	35	42	56	70	105	140						
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave, Resistance load	5.0														
Surge(Non-repetitive)Forward Current	$I_{FSM}$	A	60Hz Half-sine wave, 1 cycle, $T_a=25^\circ\text{C}$	150														
Junction Temperature	$T_J$	$^\circ\text{C}$		-55 ~ +150														
Storage Temperature	$T_{STG}$	$^\circ\text{C}$		-55 ~ +150														

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

Item	Symbol	Unit	Test Condition	SS5														
				2	3	4	5	6	8	10	15	20						
Peak Forward Voltage	$V_F$	V	$I_F=5.0\text{A}$	0.55		0.70		0.85		0.95								
Peak Reverse Current	$I_{RRM1}$	mA	$V_{RM}=V_{RRM}$	$T_a=25^\circ\text{C}$				0.5				0.1						
	$I_{RRM2}$			$T_a=100^\circ\text{C}$				10				5						
Thermal Resistance(Typical)	$R_{\theta J-C}$	$^\circ\text{C/W}$	Between junction and case	7.0														
	$R_{\theta J-A}$		Between junction and ambient	52.5														
	$R_{\theta J-L}$		Between junction and terminal	16														
Junction Capacitance (Typical)	$C_j$	pF	Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C	260		220		130		100		80						
Reverse recovery time(Typical)	$t_{rr}$	ns	$I_F=0.5\text{A}, I_R=1\text{A}, I_{rr}=0.25\text{A}$	20		16		5		5		10						

#### Notes:

Thermal resistance from junction to case, 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

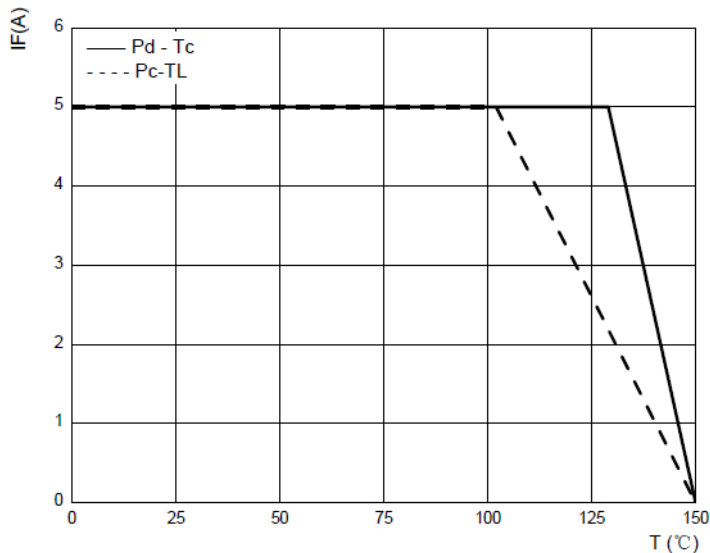
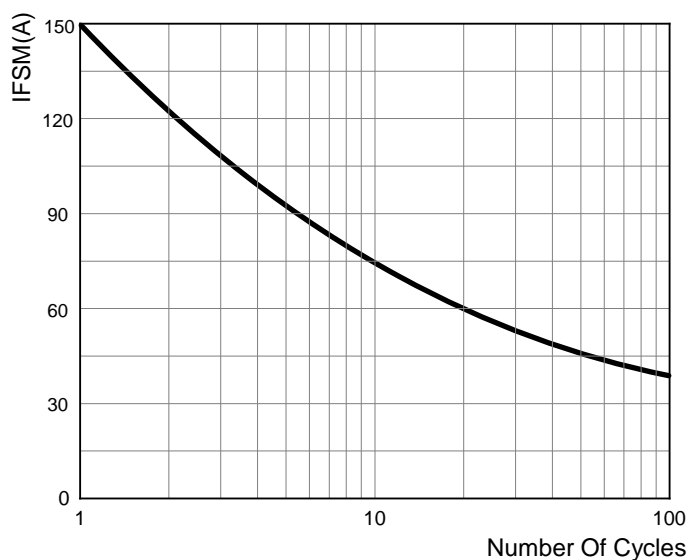
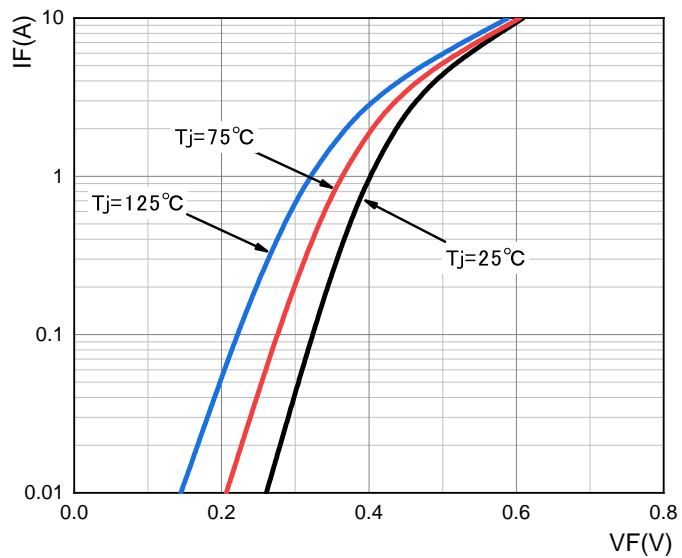


FIG.2: MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



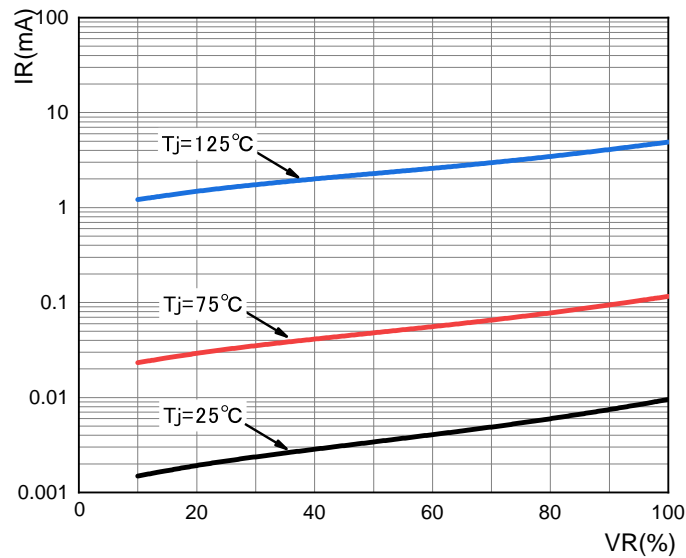
SS52-SS54

FIG.3: TYPICAL FORWARD CHARACTERISTICS



SS52-SS54

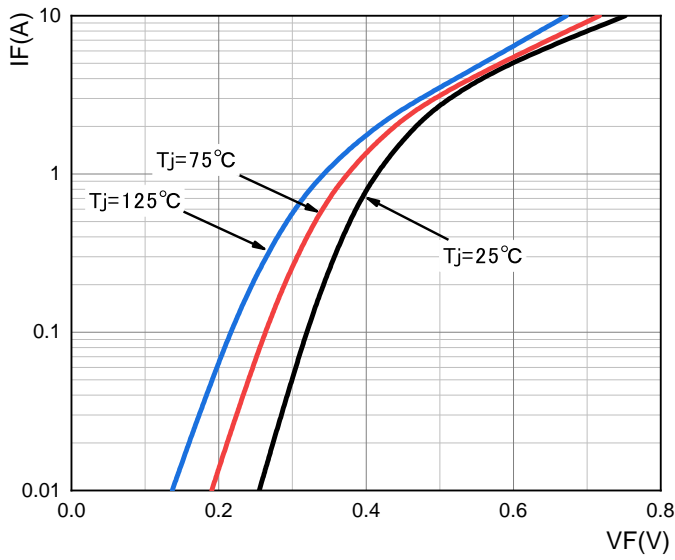
FIG.4: TYPICAL REVERSE CHARACTERISTICS



# Typical Characteristics

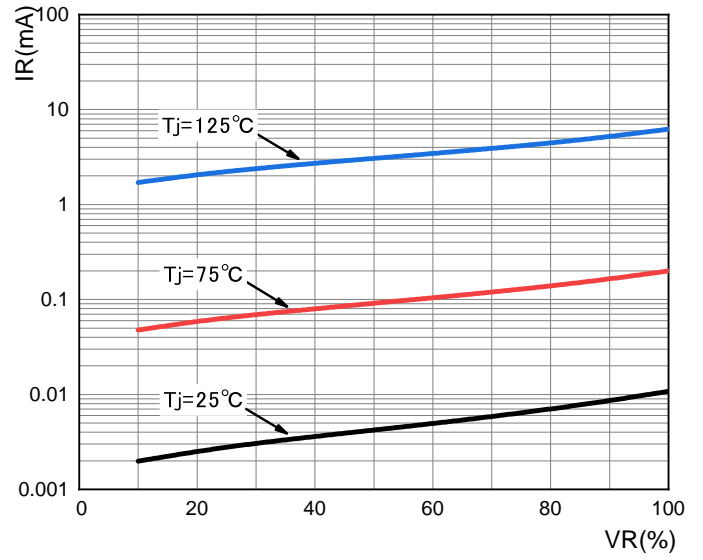
SS55-SS56

FIG.5: TYPICAL FORWARD CHARACTERISTICS



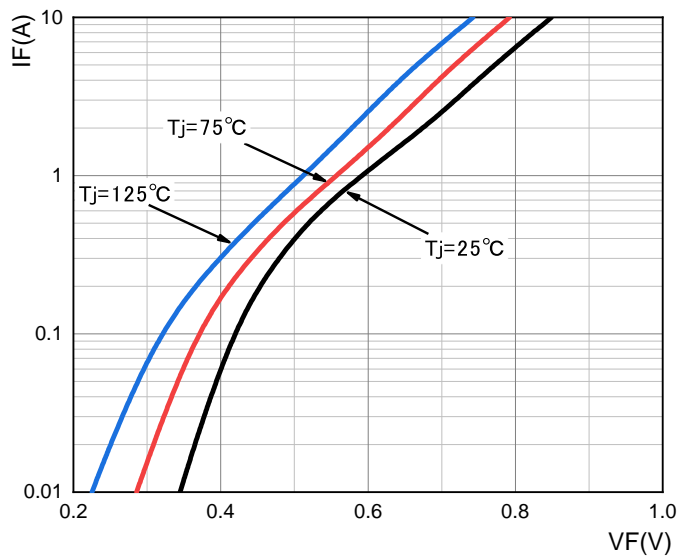
SS55-SS56

FIG.6: TYPICAL REVERSE CHARACTERISTICS



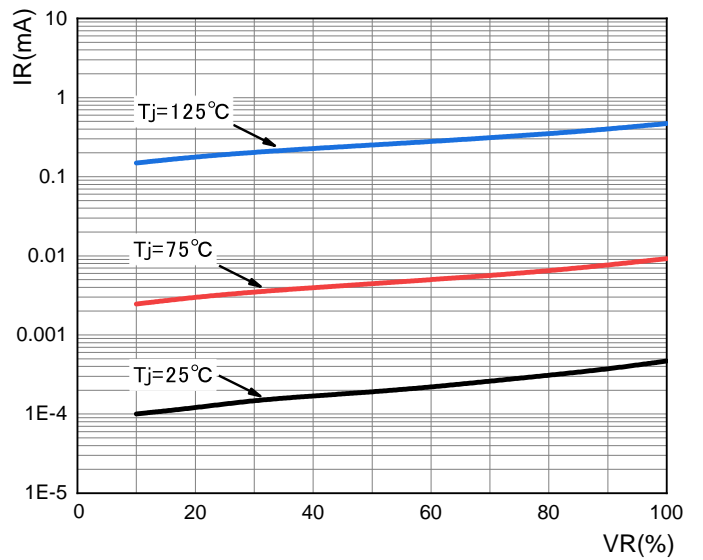
SS58-SS510

FIG.7: TYPICAL FORWARD CHARACTERISTICS



SS58-SS510

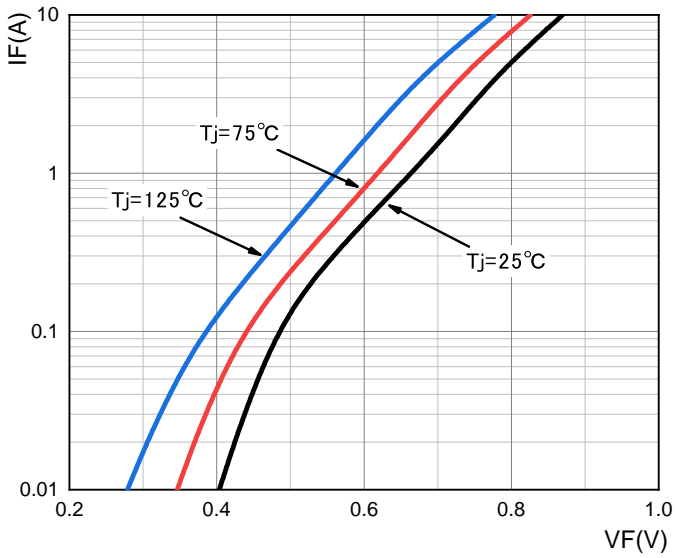
FIG.8: TYPICAL REVERSE CHARACTERISTICS



# Typical Characteristics

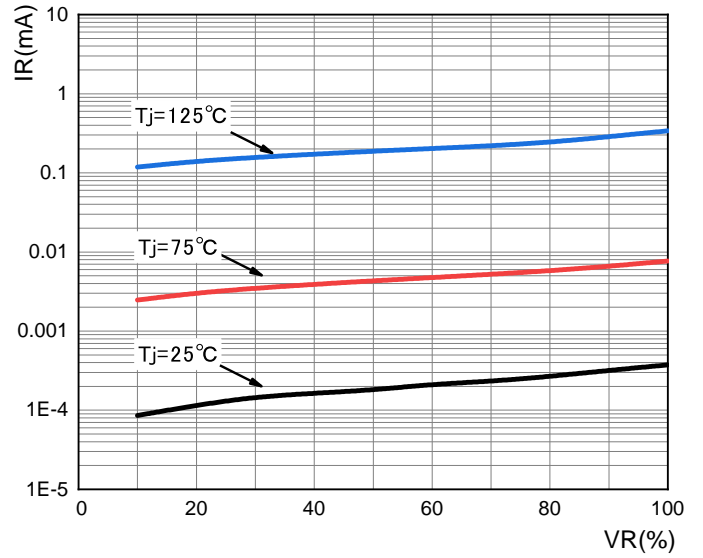
SS515

FIG.9: TYPICAL FORWARD CHARACTERISTICS



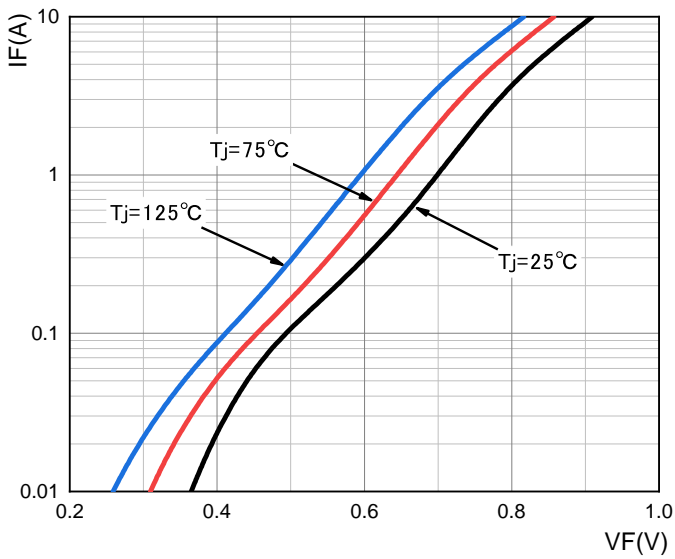
SS515

FIG.10: TYPICAL REVERSE CHARACTERISTICS



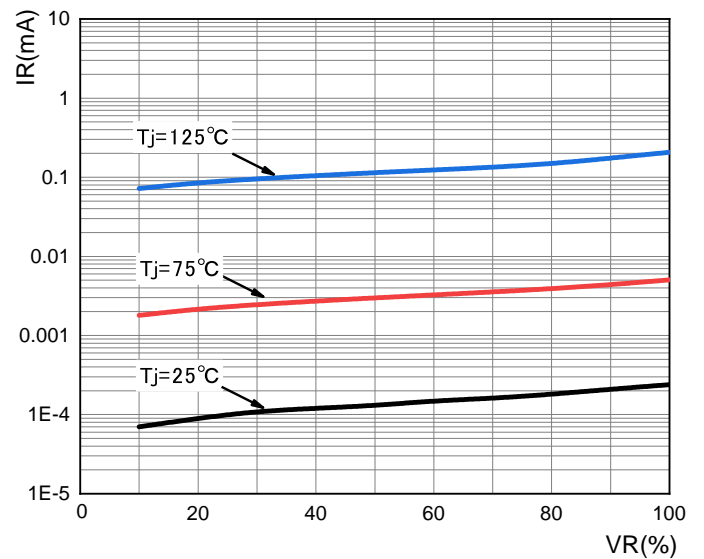
SS520

FIG.11: TYPICAL FORWARD CHARACTERISTICS

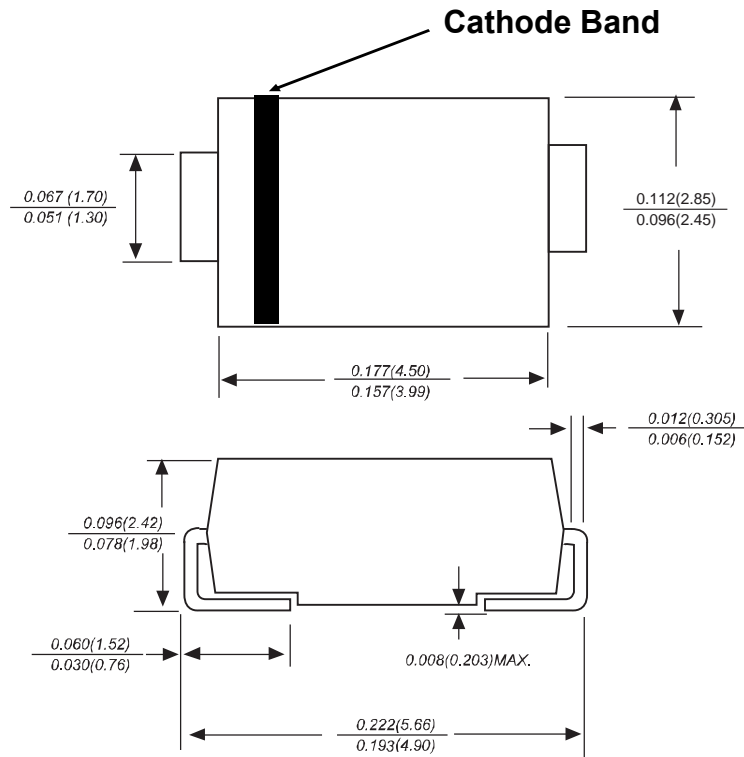


SS520

FIG.12: TYPICAL REVERSE CHARACTERISTICS

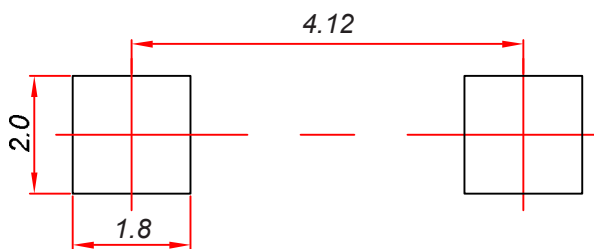


## SMAG Package Outline Dimensions



Dimensions in inches and (millimeters)

## SMAG Suggested Pad Layout



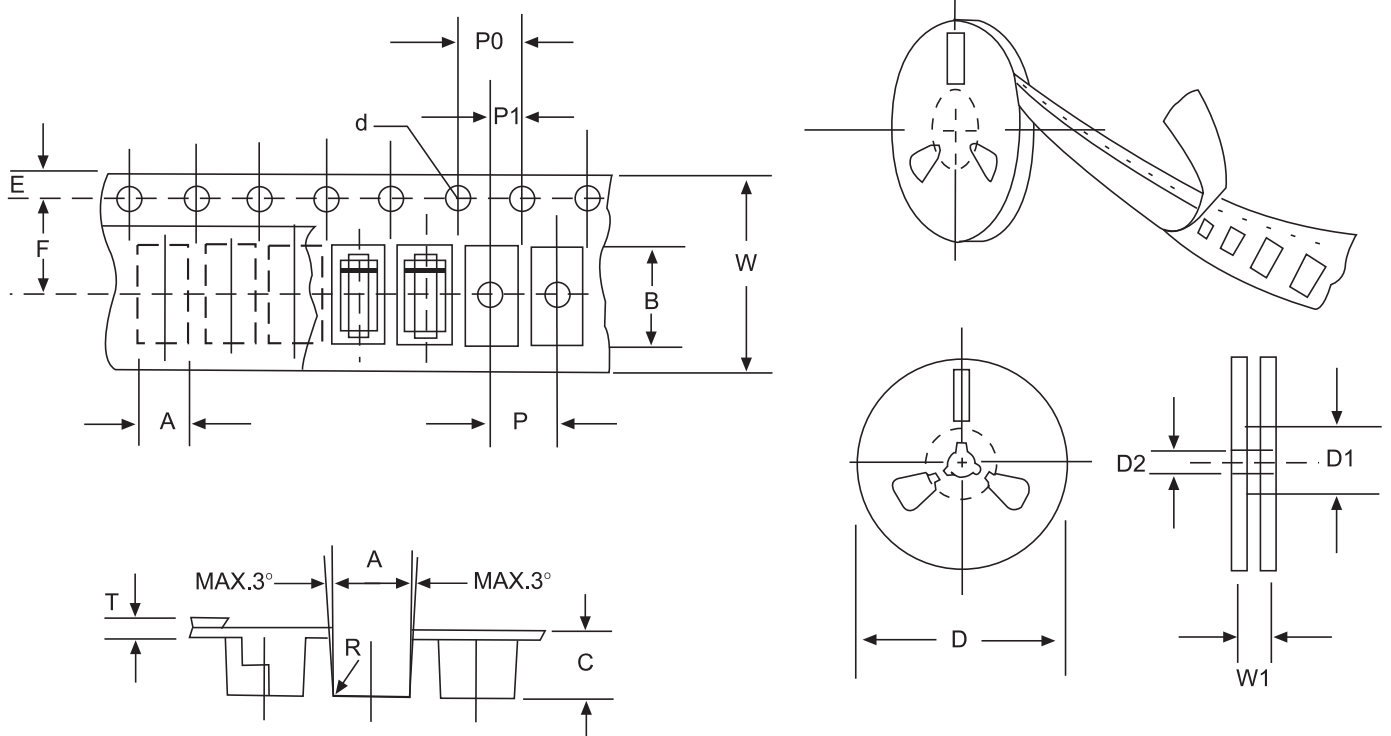
### Note:

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 inner diameter	D1	75 ±1.0 ( 2.95 ±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)
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±0.079)

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