

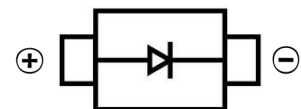
SUPER FAST RECOVERY RECTIFIER DIODE

FEATURES

- Glass Passivated Die Construction
- Low reverse leakage current
- Low forward voltage drop
- High current capability
- Super fast recovery time
- Surface Mount device



SMA



MECHANICAL DATA

- Case: SMA(DO-214AC)
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.065 grams (approximate)

MAXIMUM RATINGS AND CHARACTERISTICS($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	ES2A	ES2B	ES2D	ES2G	ES2J	ES2K	ES2M	Unit
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
DC Blocking Reverse Voltage	V_R	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	V
Maximum Average Forward Rectified Current	I_F	2							A
Non-Repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$	I_{FSM}	50							A
Reverse Recovery Time (@ $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$)	t_{rr}	50			60		100		nS
Thermal Resistance From Junction To Lead	$R_{\theta JL}$	20							$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	-55 ~+150							$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 ~+150							$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	ES2A	ES2B	ES2D	ES2G	ES2J	ES2K	ES2M	Unit	Conditions
Maximum Forward voltage	V_F	0.975			1.35		1.60		V	$I_F=2\text{A}$
Maximum Reverse current	I_R	5							μA	$V=V_R@T_A=25^{\circ}\text{C}$
Maximum Reverse current	I_R	150							μA	$V=V_R@T_A=100^{\circ}\text{C}$
Type Diode capacitance	C_D	25							pF	$V_R=4V_{DC}, f=1\text{MHz}$

*Pulse test: Pulse width 200 μs , Duty cycle 2%

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Typical Characteristics

Figure 1 Typical Forward Characteristics

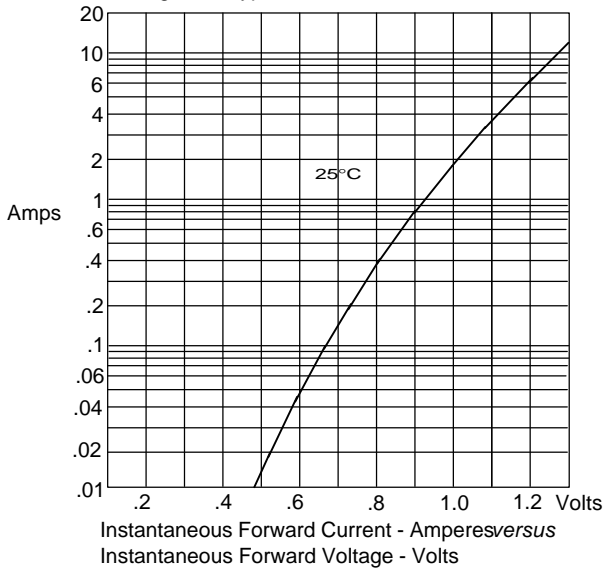


Figure 2 Forward Derating Curve

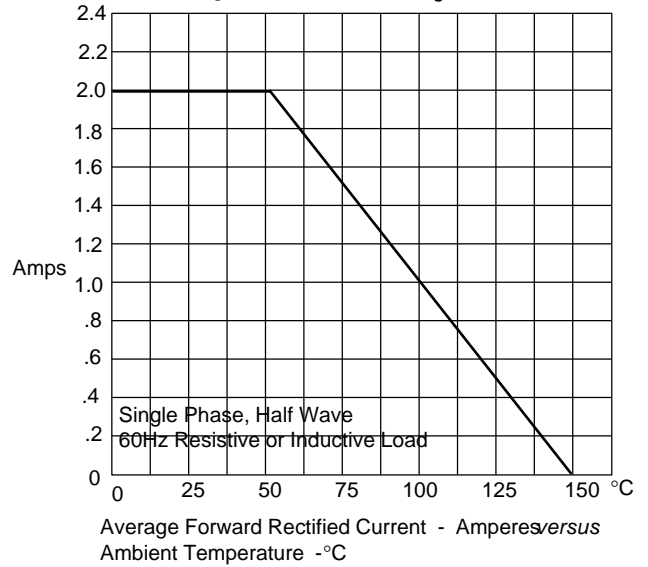


Figure 3 Junction Capacitance

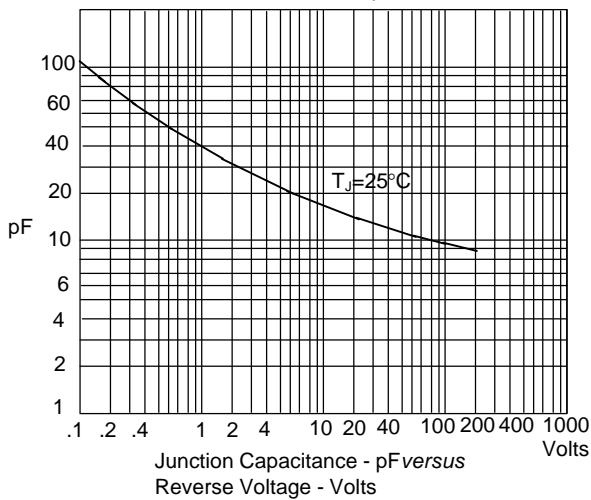


Figure 4 Peak Forward Surge Current

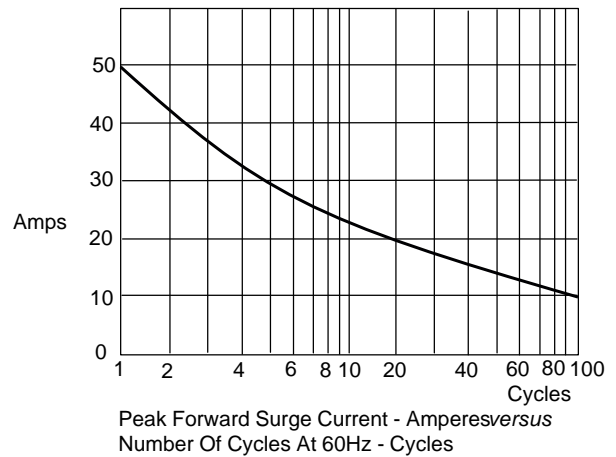
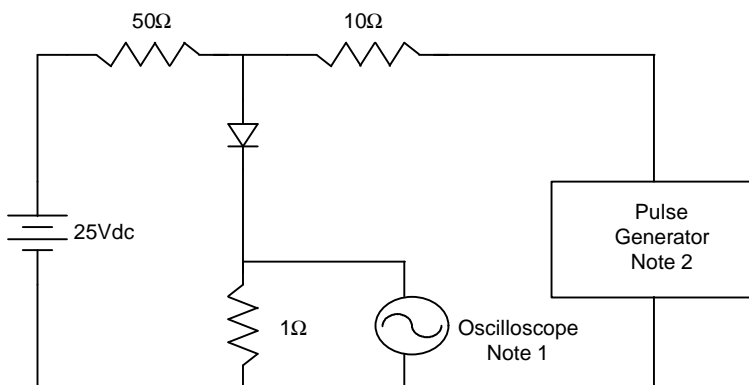


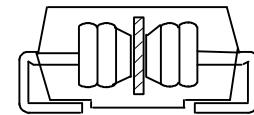
Figure 6 Reverse Recovery Time Characteristic And Test Circuit Diagram



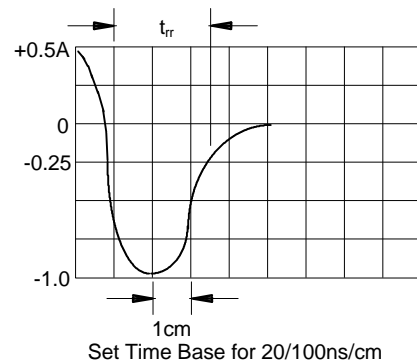
Notes:

1. Rise Time = 7ns max.
Input impedance = 1 megohm, 22pF
2. Rise Time = 10ns max.
Source impedance = 50 ohms
3. Resistors are non-inductive

Figure 5 New SMB Assembly

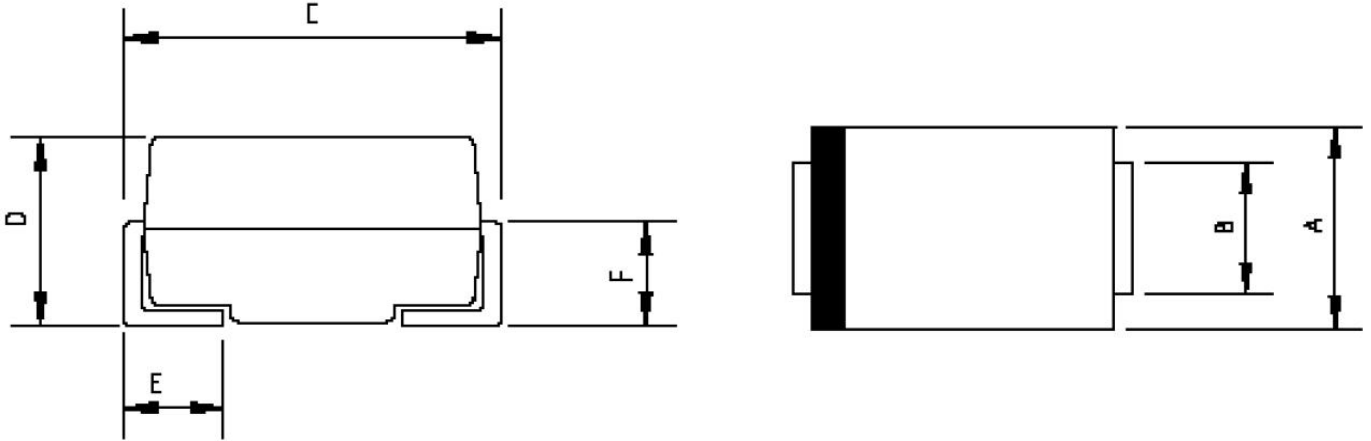


Round Lead Process



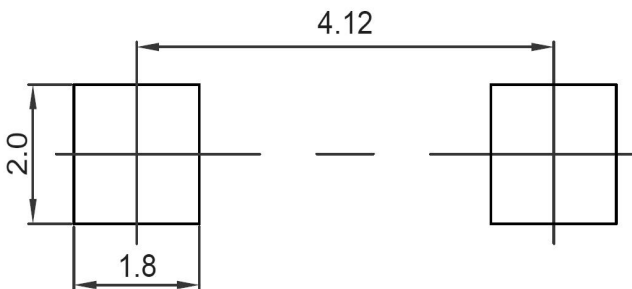
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SMA Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.80	0.086	0.110
B	1.30	1.70	0.051	0.067
C	4.70	5.30	0.185	0.209
D	1.70	2.55	0.067	0.100
E	0.90	1.50	0.035	0.059
F	0.90	1.50	0.035	0.059

SMA Suggested Pad Layout



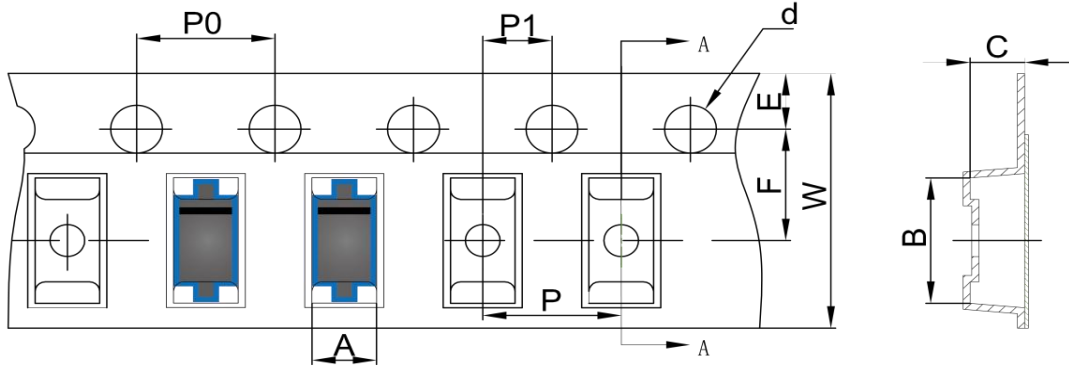
Note:

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

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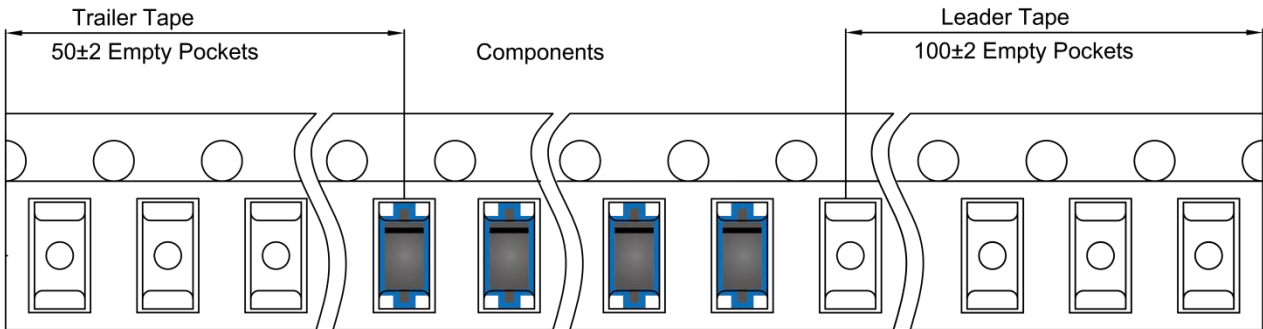
SMA Tape and Reel

SMA Embossed Carrier Tape

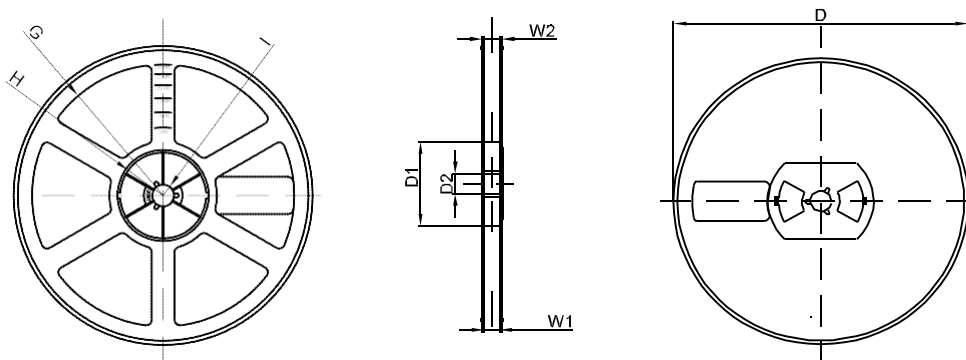


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMA	2.89	5.35	2.68	Ø1.50	1.75	5.50	4.00	4.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SMA Tape Leader and Trailer



SMA Reel



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	12.40	17.60
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1