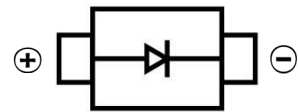


FEATURES

- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability
- Low forward voltage drop
- Designed and qualified for industrial level
- 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°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	100	V
DC Blocking Reverse Voltage	V _R	100	V
Maximum Average Forward Rectified Current	I _{F(AV)}	2.1	A
Maximum average forward current(T _J =125°C)	I _{F(AV)}	1.5	A
Non-Repetitive Peak Forward Surge Current @t@=8.3ms	I _{FSM}	120	A
Thermal Resistance From Junction To Ambient	R _{θJA}	80	°C/W
Non-repetitive avalanche energy(T _J =25°C, I _{AS} =0.5A, L=8mH)	E _{AS}	1.0	mJ
Repetitive avalanche current	I _{AR}	0.5	A
Junction Temperature(Note2)	T _J	-55 ~+150	°C
Storage Temperature	T _{STG}	-55 ~+150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Forward voltage(Note1)	V _F			0.78	V	I _F =1A, T _J = 25 °C
				0.85	V	I _F =1.5A, T _J = 25 °C
				0.63	V	I _F =1A, T _J = 125 °C
				0.68	V	I _F =1.5A, T _J = 125 °C
Reverse current(T _J = 25°C)(Note1)	I _R			0.1	mA	V _R =100V
Reverse current(T _J =125°C)(Note1)	I _R			1	mA	V _R =100V
Threshold voltage	V _{F(TO)}			0.52	V	T _J = T _J maximum
Forward slope resistance	R _t			78.4	mΩ	T _J = T _J maximum
Typical junction capacitance	C _T		38		pF	V _R =10V _{DC} , f=1MHz
Typical series inductance	L _S		2.0		nH	Measured lead to lead 5 mm from package body
Maximum voltage rate of change	dV/dt			10000	V/μs	Rated V _R

Note (1) Pulse width < 300 μs, duty cycle < 2 %

(2) $\frac{dP_{tot}}{dT_J} < \frac{1}{R_{thJA}}$ thermal runaway condition for a diode on its own heatsink

Typical Characteristics

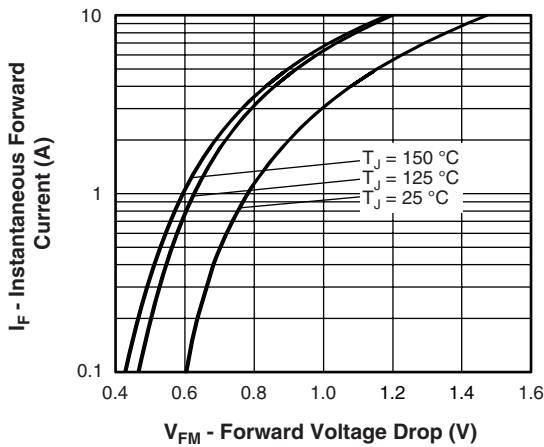


Fig. 1 - Maximum Forward Voltage Drop Characteristics

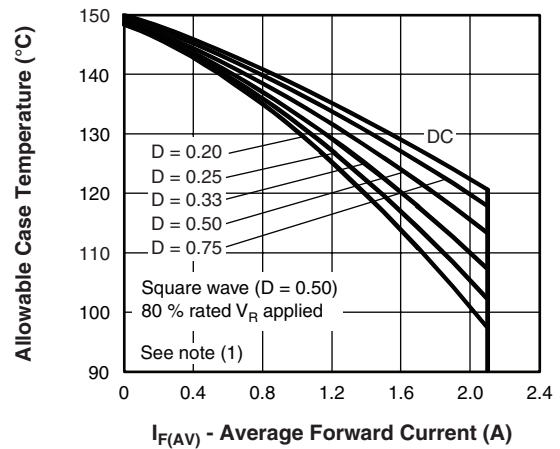


Fig. 4 - Maximum Average Forward Current vs. Allowable Lead Temperature

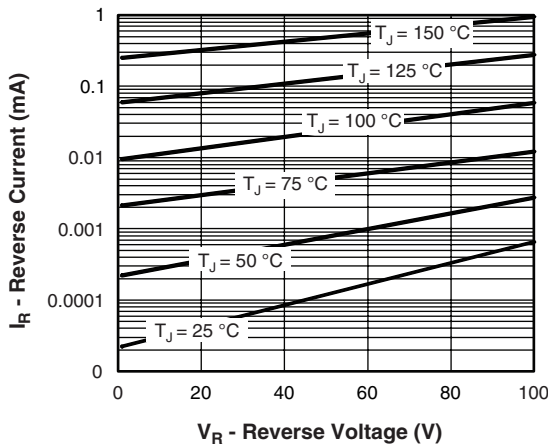


Fig. 2 - Typical Peak Reverse Current vs. Reverse Voltage

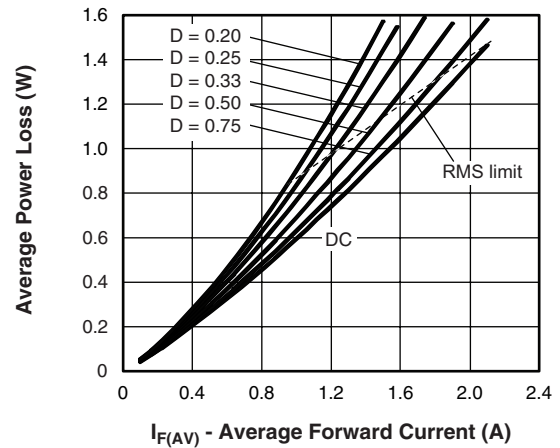


Fig. 5 - Maximum Average Forward Dissipation vs. Average Forward Current

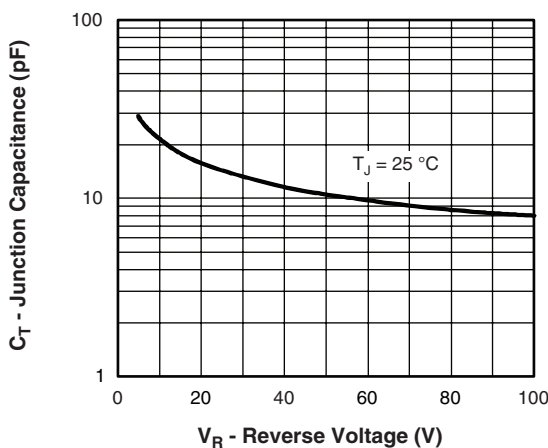


Fig. 3 - Typical Junction Capacitance vs. Reverse Voltage

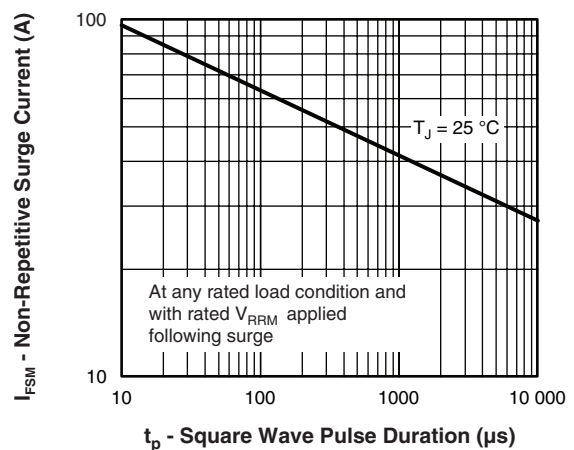
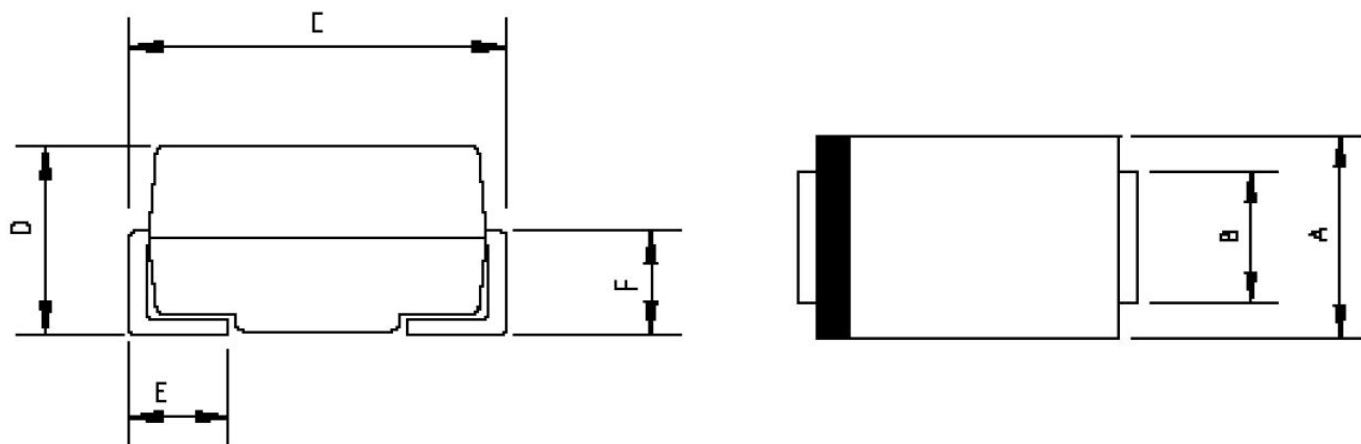


Fig. 6 - Maximum Peak Surge Forward Current vs. Pulse Duration

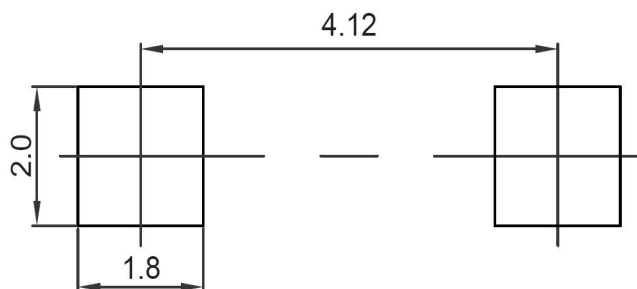
Note

(1) Formula used: $T_C = T_J - (P_d + P_{dREV}) \times R_{thJC}$;

P_d = Forward power loss = $I_{F(AV)} \times V_{FM}$ at $(I_{F(AV)}/D)$ (see fig. 6); P_{dREV} = Inverse power loss = $V_{R1} \times I_R (1 - D)$; I_R at $V_{R1} = 80\%$ rated V_R

SMA Package Outline Dimensions


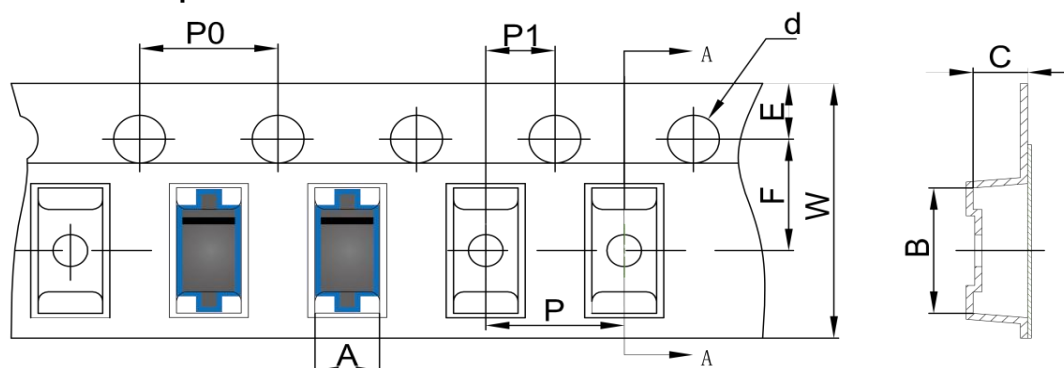
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.80	0.086	0.110
B	1.30	1.70	0.051	0.067
C	4.70	5.30	0.185	0.209
D	1.70	2.55	0.067	0.100
E	0.90	1.50	0.035	0.059
F	0.90	1.50	0.035	0.059

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

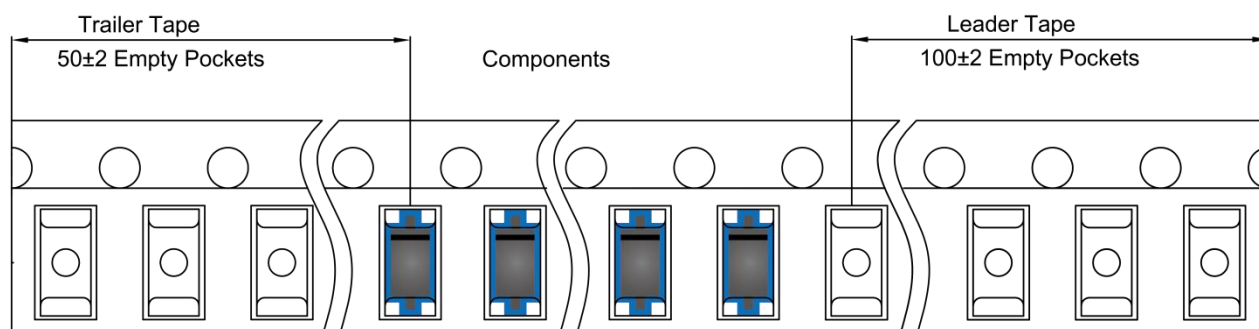
SMA Tape and Reel

SMA Embossed Carrier Tape

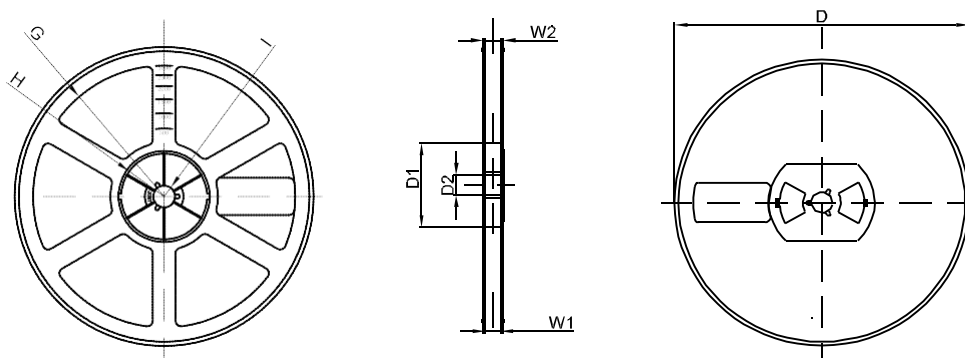


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMA	2.89	5.35	2.68	Ø1.50	1.75	5.50	4.00	4.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

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