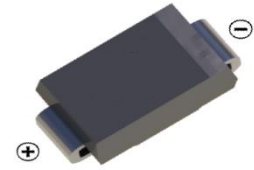
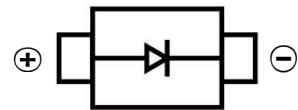


### Features

- Controlled avalanche characteristics
- Glass passivated junction
- Low reverse current
- High surge current capability
- Wave and reflow solderable



SMA(DO-214AC)



### Mechanical Data

- Case: SMA/DO-214AC, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.064 grams (approx.)

MAXIMUM RATINGS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)								
PARAMETER	SYMBOL	BYG10D	BYG10G	BYG10J	BYG10K	BYG10M	BYG10Y	UNIT
Device marking code		BYG10D	BYG10G	BYG10J	BYG10K	BYG10M	BYG10Y	
Maximum repetitive peak reverse voltage	$V_{RRM}$	200	400	600	800	1000	1600	V
Average forward current	$I_{F(AV)}$	1.5						A
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	$I_{FSM}$	30						A
Pulse energy in avalanche mode, non repetitive (inductive load switch off) $I_{(BR)R} = 1\text{ A}$ , $T_J = 25\text{ }^\circ\text{C}$ (for BYG10D-BYG10M)	$E_R$	20						mJ
Operating junction and storage temperature range	$T_J, T_{STG}$	- 55 to + 150						$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)										
PARAMETER	TEST CONDITIONS		SYMBOL	BYG10D	BYG10G	BYG10J	BYG10K	BYG10M	BYG10Y	UNIT
Maximum instantaneous forward voltage (1)	$I_F = 1\text{ A}$ $I_F = 1.5\text{ A}$	$T_J = 25\text{ }^\circ\text{C}$	$V_F$			1.1 1.15				V
Maximum DC reverse current	$V_R = V_{RRM}$	$T_J = 25\text{ }^\circ\text{C}$ $T_J = 100\text{ }^\circ\text{C}$	$I_R$			1 10				$\mu\text{A}$
Maximum reverse recovery time	$I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{rr} = 0.25\text{ A}$		$t_{rr}$			4				$\mu\text{s}$

#### Note:

(1) Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS ( $T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)									
PARAMETER	SYMBOL	BYG10D	BYG10G	BYG10J	BYG10K	BYG10M	BYG10Y	UNIT	
Typical thermal resistance, junction to lead	$R_{\theta JL}$	25						$^\circ\text{C/W}$	
Typical thermal resistance, junction to ambient	$R_{\theta JA}$	150 (1) 125 (2) 100 (3)						$^\circ\text{C/W}$	

#### Notes:

- (1) Mounted on epoxy-glass hard tissue
- (2) Mounted on epoxy-glass hard tissue, 50 mm<sup>2</sup> 35  $\mu\text{m}$  Cu
- (3) Mounted on Al-oxide-ceramic (Al<sub>2</sub>O<sub>3</sub>), 50 mm<sup>2</sup> 35  $\mu\text{m}$  Cu

**RATINGS AND CHARACTERISTICS CURVES**

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

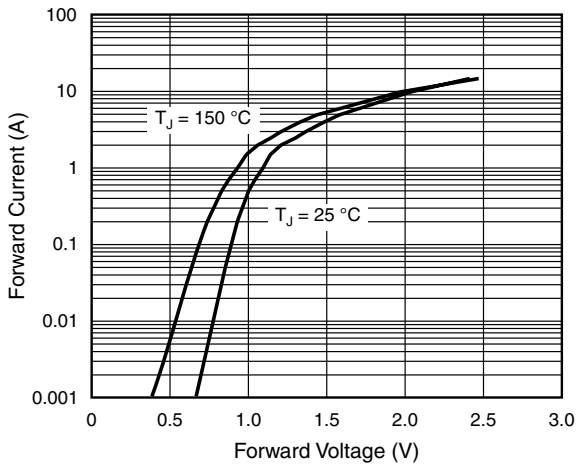


Figure 1. Forward Current vs. Forward Voltage

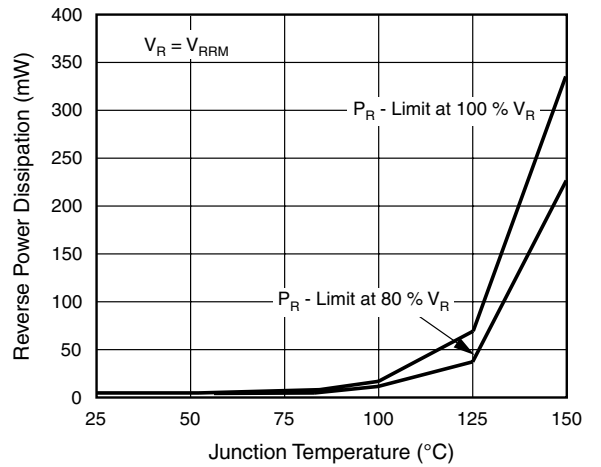


Figure 4. Max. Reverse Power Dissipation vs. Junction Temperature

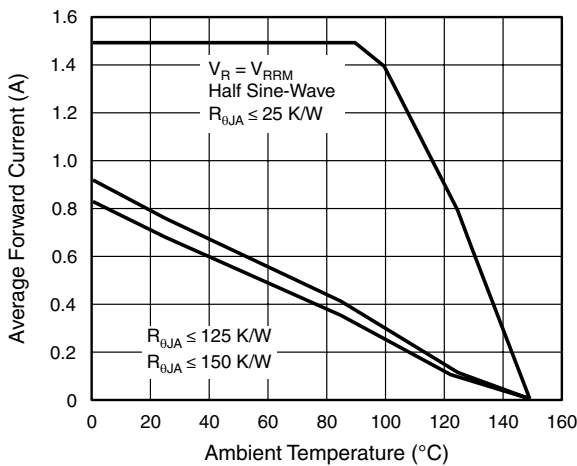


Figure 2. Max. Average Forward Current vs. Ambient Temperature

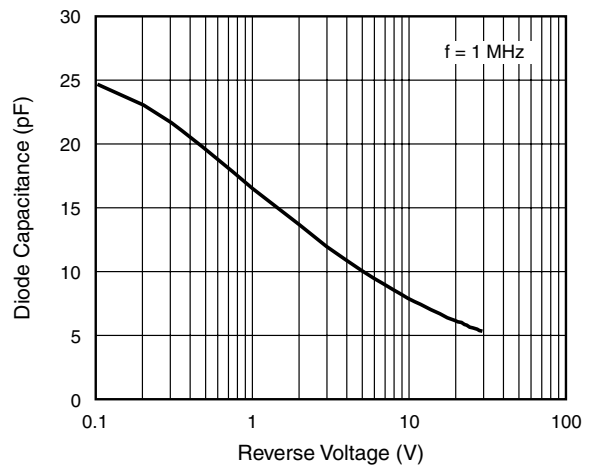


Figure 5. Diode Capacitance vs. Reverse Voltage

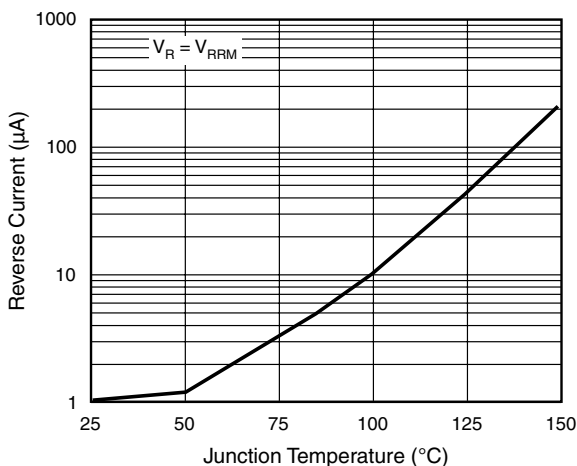


Figure 3. Reverse Current vs. Junction Temperature

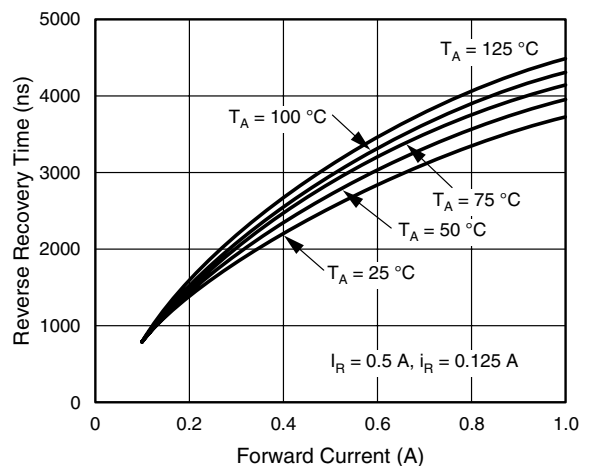
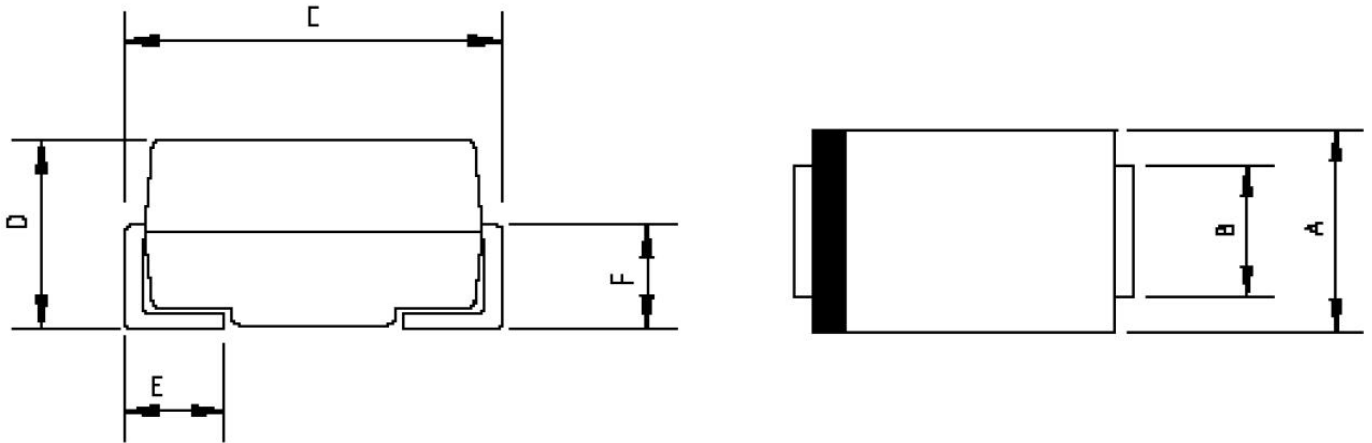


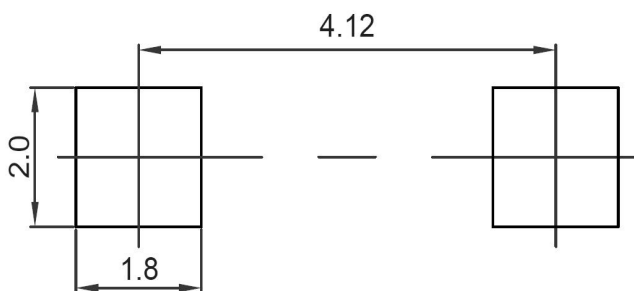
Figure 6. Reverse Recovery Time vs. Forward Current

**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

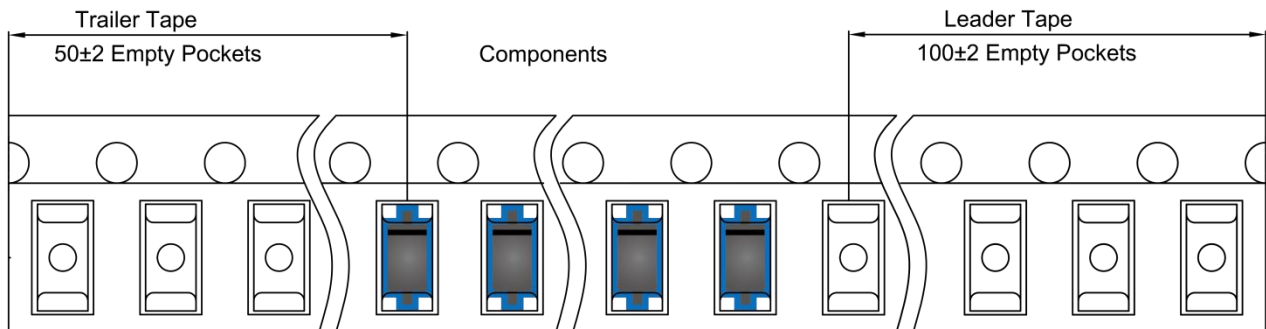
**SMA Tape and Reel**

**SMA Embossed Carrier Tape**

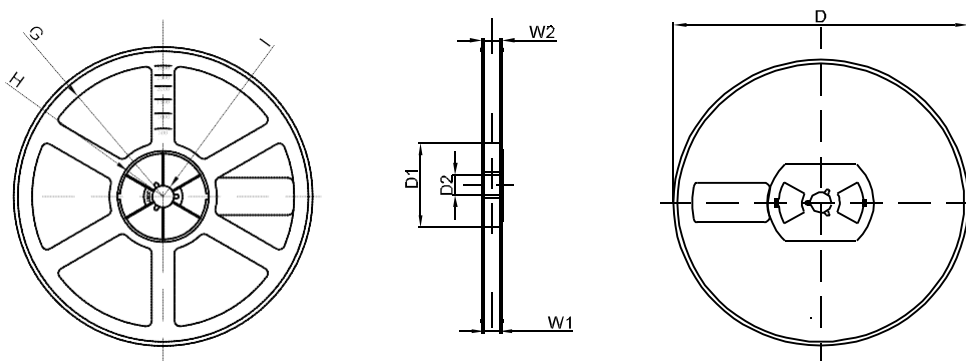


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMA	2.89	5.35	2.68	Ø1.50	1.75	5.50	4.00	4.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

**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