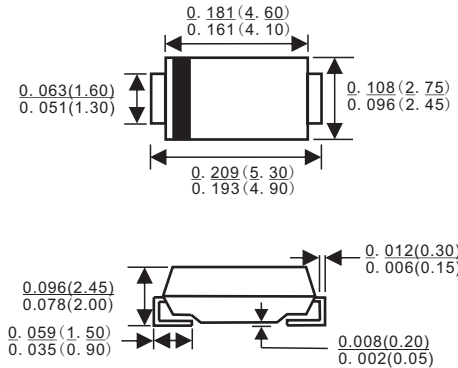




### SMA/DO-214AC

### Features

- ✦ Glass passivated junction chip
- ✦ For surface mounted application
- ✦ Low profile package
- ✦ Built-in strain relief
- ✦ Ideal for automated placement
- ✦ Easy pick and place
- ✦ Ultrafast recovery time for high efficiency
- ✦ Low forward voltage, low power loss
- ✦ High temperature soldering guaranteed: 260°C/10 seconds on terminals
- ✦ Plastic material used carries Underwriters Laboratory Classification 94V0



### Mechanical Data

- ✦ Cases: Molded plastic
- ✦ Polarity: Indicated by cathode band
- ✦ Weight: 0.064 gram

Dimensions in inches and(millimeters)

### Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	BYG21K	BYG21M	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	800	1000	V
Maximum RMS Voltage	$V_{RMS}$	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	800	1000	V
Maximum Average Forward Rectified Current @ $T_J=110^\circ\text{C}$	$I_{(AV)}$	1.5		A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	$I_{FSM}$	30		A
Maximum Instantaneous Forward Voltage @ 1.0A @ 1.5A	$V_F$	1.5 1.6		V
Maximum DC Reverse Current @ $T_J=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_J=125^\circ\text{C}$	$I_R$	1 100		uA uA
Maximum Reverse Recovery Time ( Note 1 )	$T_{rr}$	120		nS
Typical Junction Capacitance ( Note 2 )	$C_j$	10		pF
Maximum Thermal Resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	150 25		$^\circ\text{C/W}$
Operating Temperature Range	$T_J$	-55 to +150		$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to + 150		$^\circ\text{C}$

- Notes:
1. Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$
  2. Measured at 1 MHz and Applied  $V_R=4.0$  Volts
  3. P.C.B. Mounted on 0.2 x 0.2" (5.0 x 5.0mm) Copper Pad Area.

## RATINGS AND CHARACTERISTIC CURVES (BYG21K- BYG21M)

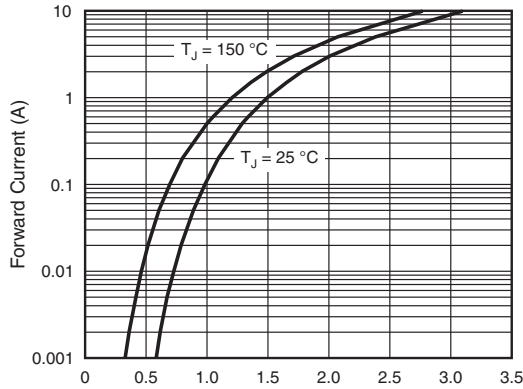


Fig. 1 - Forward Current vs. Forward Voltage

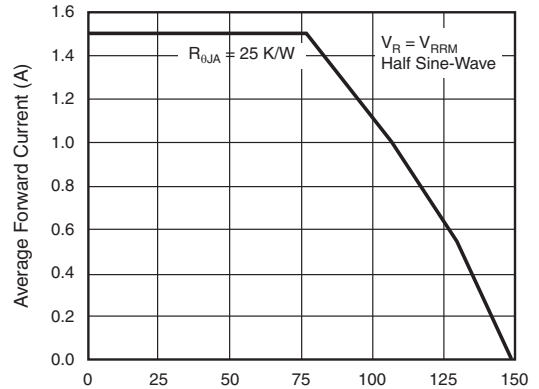


Fig. 2 - Max. Average Forward Current vs. Ambient Temperature

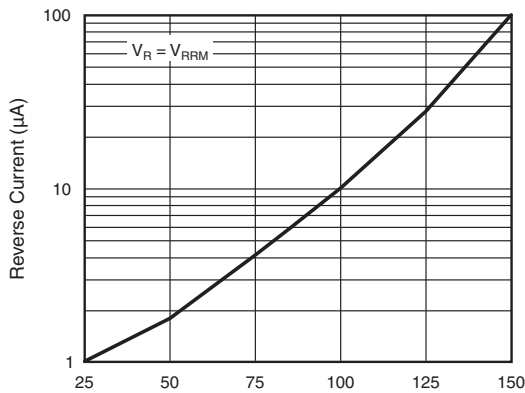


Fig. 3 - Reverse Current vs. Junction Temperature

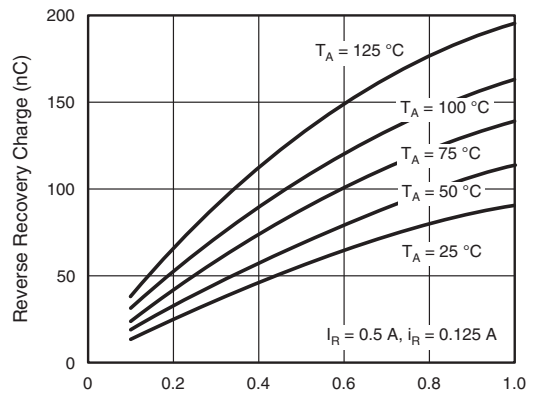


Fig. 6 - Max. Reverse Recovery Charge vs. Forward Current

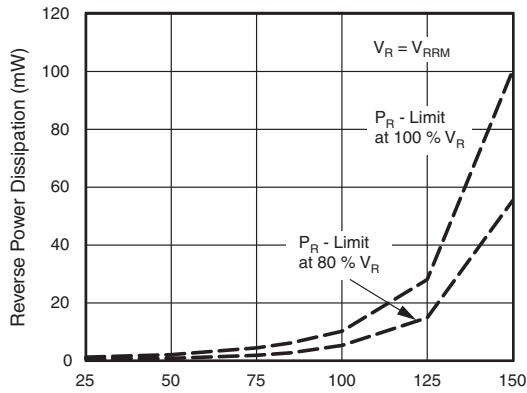


Fig. 4 - Max. Reverse Power Dissipation vs. Junction Temperature

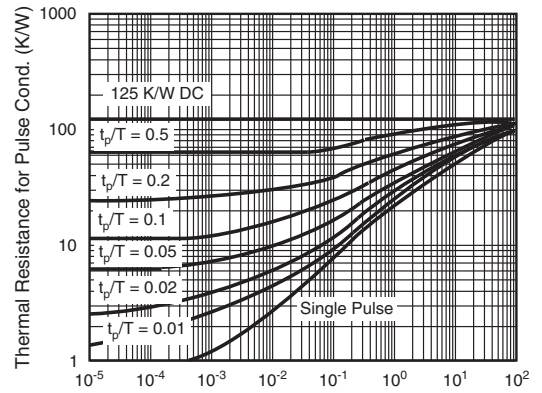


Fig. 7 - Thermal Response

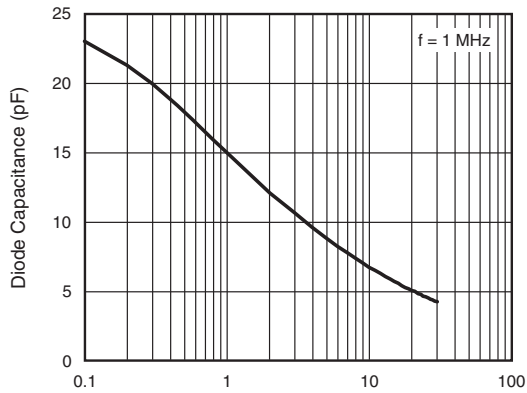


Fig. 5 - Diode Capacitance vs. Reverse Voltage

PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SMA	5000/REEL	80000	36X30.6X31	12.00	11.00