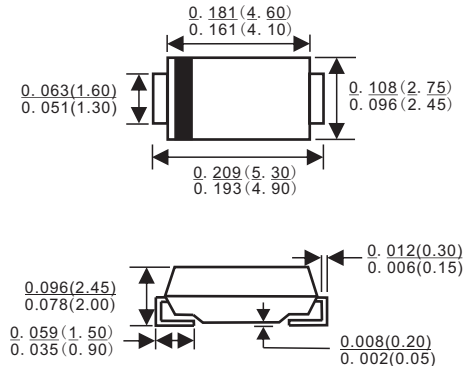




SMA/DO-214AC

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: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $IRR=0.25\text{A}$

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)

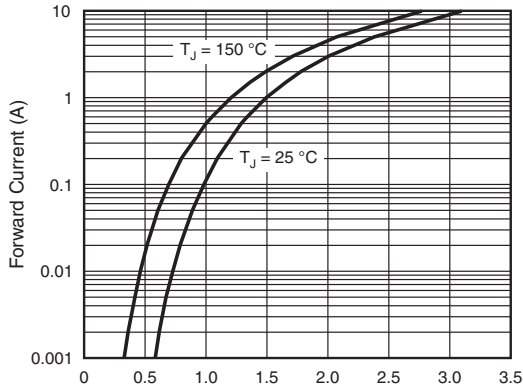


Fig. 1 - Forward Current vs. Forward Voltage

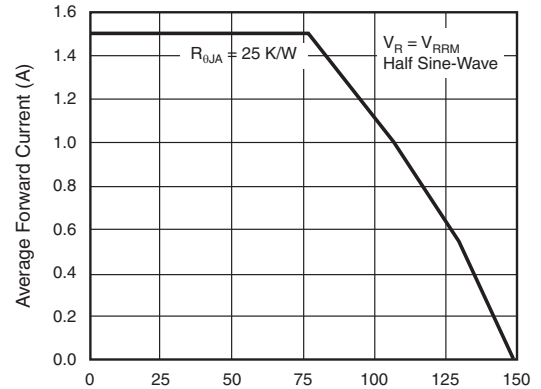


Fig. 2 - Max. Average Forward Current vs. Ambient Temperature

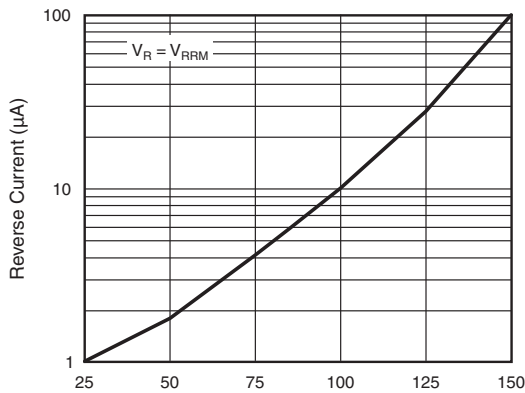


Fig. 3 - Reverse Current vs. Junction Temperature

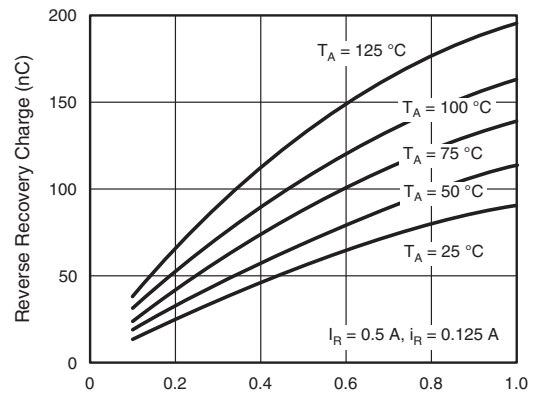


Fig. 6 - Max. Reverse Recovery Charge vs. Forward Current

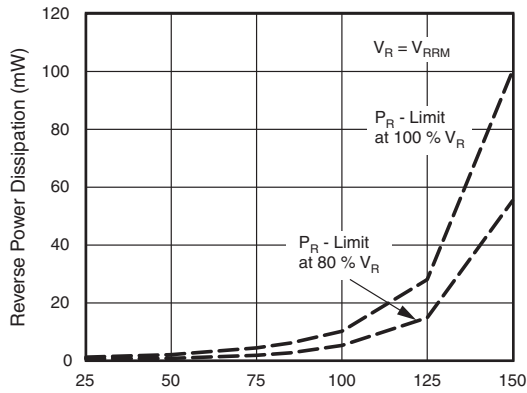


Fig. 4 - Max. Reverse Power Dissipation vs. Junction Temperature

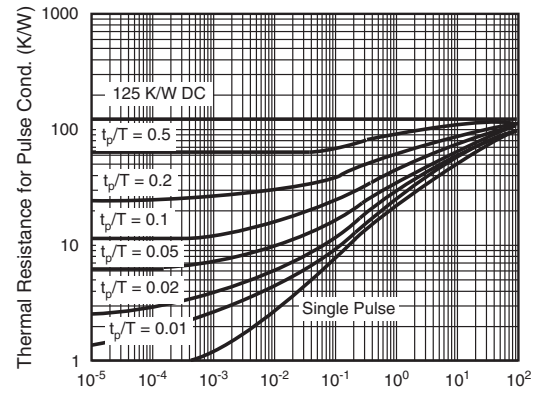


Fig. 7 - Thermal Response

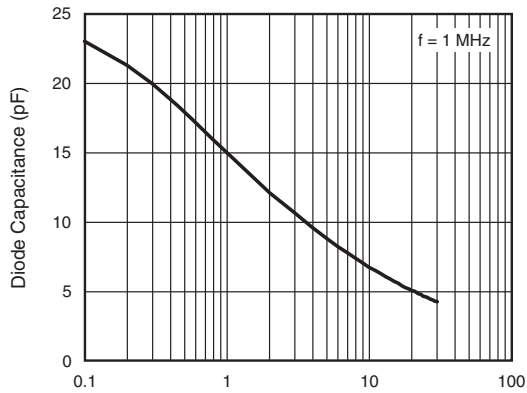


Fig. 5 - Diode Capacitance vs. Reverse Voltage

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