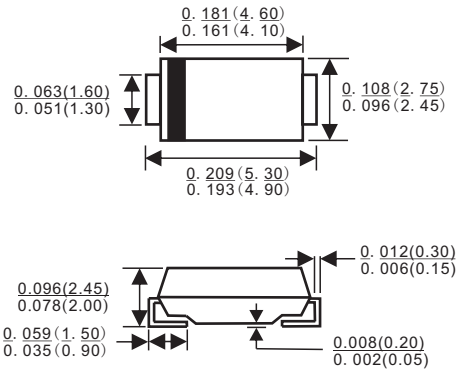
BYG21K-BYG21M

Surface Mount Fast Recovery Rectifiers

RoHS COMPLIANT

SMA/DO-214AC



Dimensions in inches and(millimeters)

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

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_L=110°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°C at Rated DC Blocking Voltage @ T_J=125°C	I_R	1 100		uA uA
Maximum Reverse Recovery Time (Note 1)	Trr	120		nS
Typical Junction Capacitance (Note 2)	Cj	10		pF
Maximum Thermal Resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	150 25		°C/W
Operating Temperature Range	T_J	-55 to +150		°C
Storage Temperature Range	TSTG	-55 to + 150		°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.

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RATINGS AND CHARACTERISTIC CURVES (BYG21K- BYG21M)

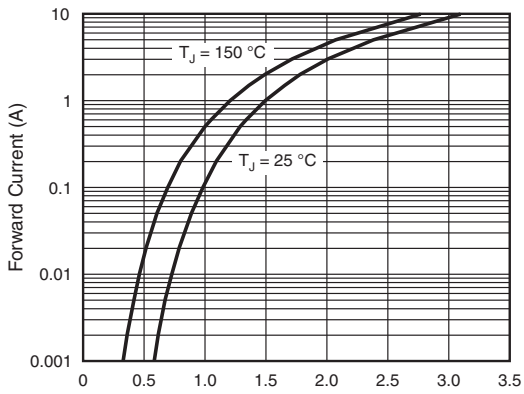

Fig. 1 - Forward Current vs. Forward Voltage

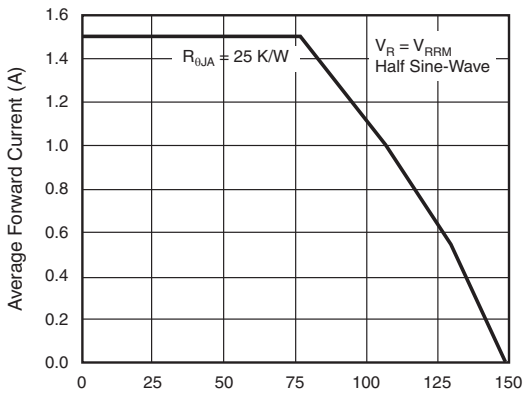

Fig. 2 - Max. Average Forward Current vs. Ambient Temperature

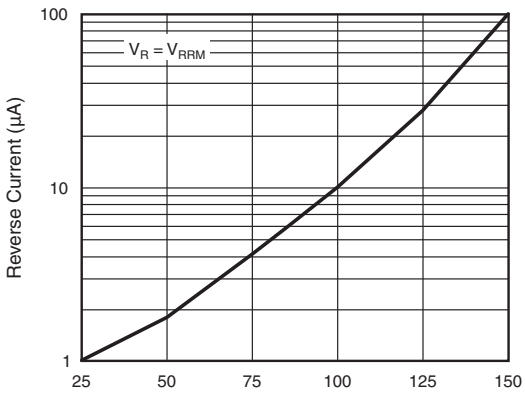

Fig. 3 - Reverse Current vs. Junction Temperature

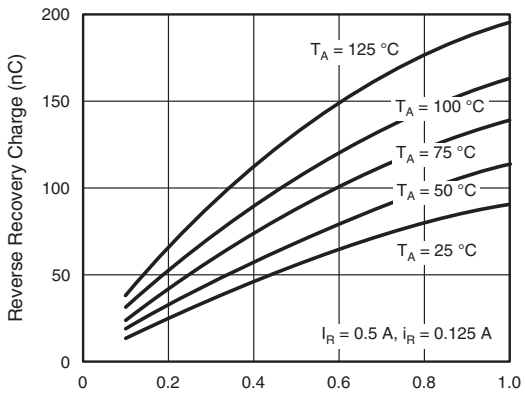

Fig. 6 - Max. Reverse Recovery Charge vs. Forward Current

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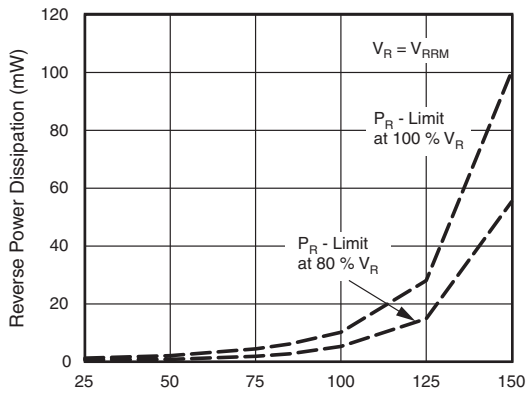

Fig. 4 - Max. Reverse Power Dissipation vs. Junction Temperature

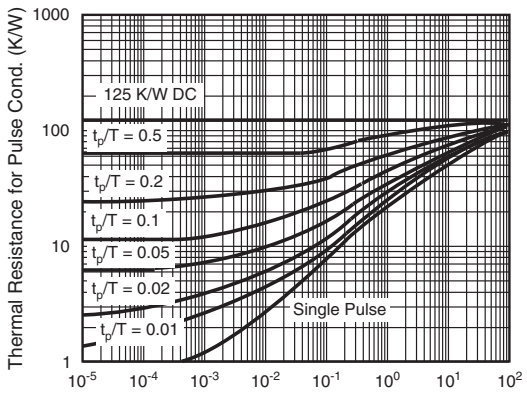

Fig. 7 - Thermal Response

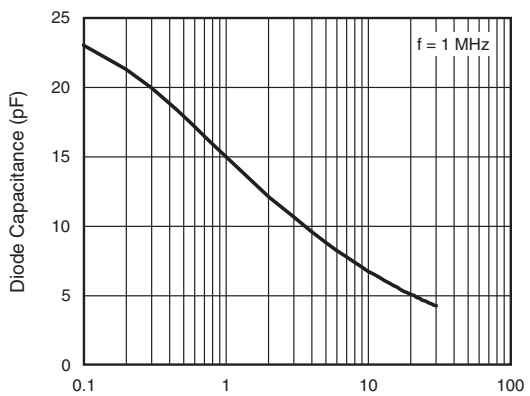

Fig. 5 - Diode Capacitance vs. Reverse Voltage

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

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