

SBYT42M

SINTERED GLASS JUNCTION SURFACE MOUNTED RECTIFIER

VOLTAGE: 1000V

CURRENT: 1.25A



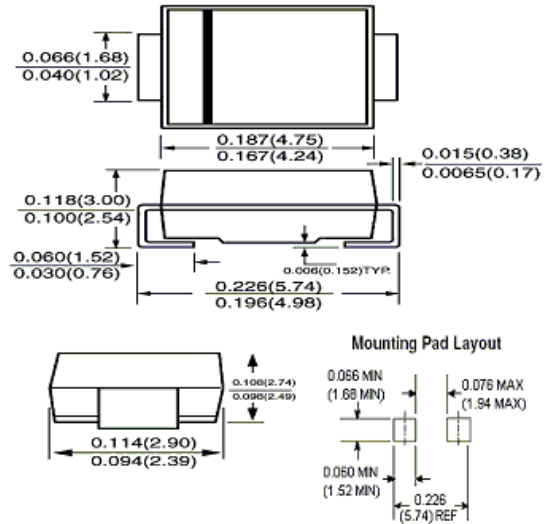
FEATURE

High temperature metallurgically bonded construction
Sintered glass cavity free junction
Capability of meeting environmental standard of MIL-S-19500
High temperature soldering guaranteed
450°C/5sec at terminal
Complete device submersible temperature of 265°C for 10 seconds in solder bath
Operate at $T_a = 55^\circ\text{C}$ with no thermal run away
Typical $I_r < 0.1\mu\text{A}$
Fast Soft Recovery Rectifier

MECHANICAL DATA

Terminal: Plated axial leads solderable per MIL-STD 202E, method 208C
Case: Molded with UL-94 Class V-0 recognized Flame Retardant Epoxy
Polarity: color band denotes cathode
Mounting position: any
Mark: **T42M**

GF1/ DO-214BA



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(single-phase, half-wave, 60HZ, resistive or inductive load rating at 25°C, unless otherwise stated)

	SYMBOL	SBYT42M	units
Maximum Recurrent Peak Reverse Voltage	V_{rrm}	1000	V
Maximum RMS Voltage	V_{rms}	700	V
Maximum DC blocking Voltage	V_{dc}	1000	V
Maximum Average Forward Rectified Current 3/8" lead length at $T_a = 55^\circ\text{C}$	$I_{f(av)}$	1.25	A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I_{fsm}	30.0	A
Maximum Forward Voltage at Forward Current 1.0A and 25°C	V_f	1.4	V
Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at rated DC blocking voltage $T_a = 150^\circ\text{C}$	I_r	5.0 150.0	μA
Maximum Reverse Recovery Time (Note 1)	T_{rr}	200	nS
Non repetitive reverse avalanche energy $I_{(BR)R} = 0.4\text{A}$	E_r	10.0	mJ
Typical Thermal Resistance (Note 2)	$R_{th(ja)}$	55.0	$^\circ\text{C/W}$
Storage and Operating Junction Temperature	T_{stg}, T_j	-65 to +175	$^\circ\text{C}$

Note:

- Reverse Recovery Condition $I_f = 0.5\text{A}$, $I_r = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$
- Thermal Resistance from Junction to Ambient, P.C.B. Mounted on 0.2×0.2 " ($5.0 \times 5.0\text{mm}$) copper pad areas

RATINGS AND CHARACTERISTIC CURVES SBYT42M

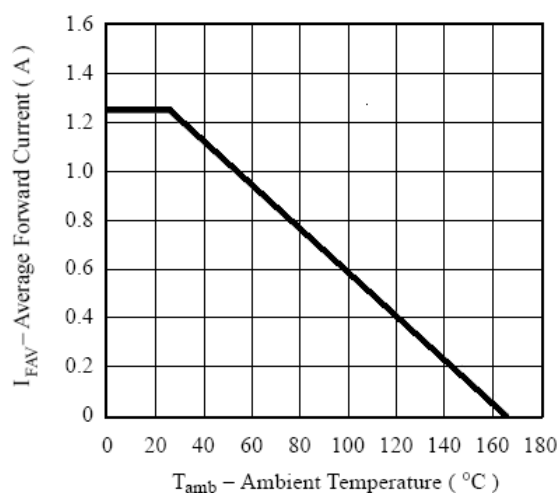


Figure 1. Max. Average Forward Current vs. Ambient Temperature

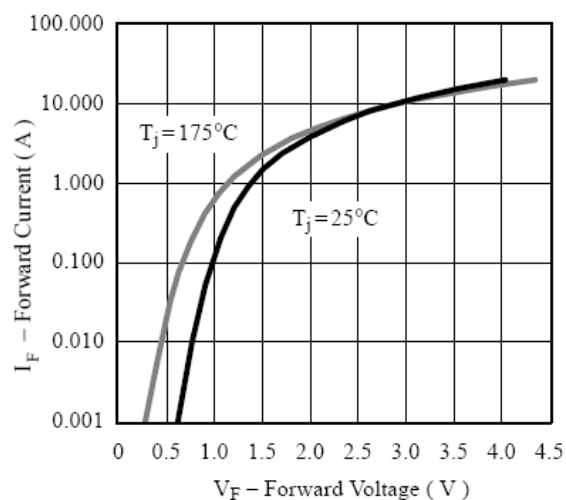


Figure 2. Max. Forward Current vs. Forward Voltage

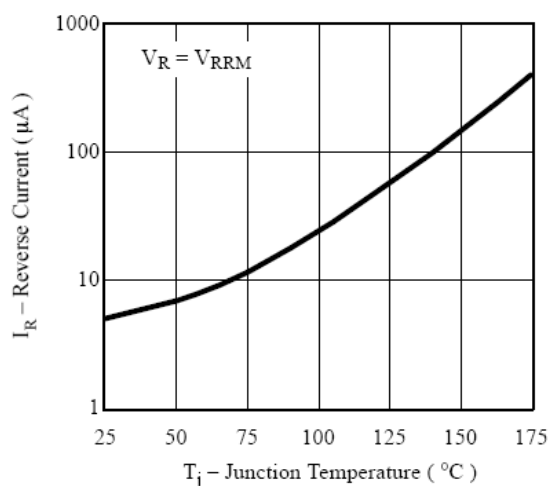


Figure 3. Max. Reverse Current vs. Junction Temperature

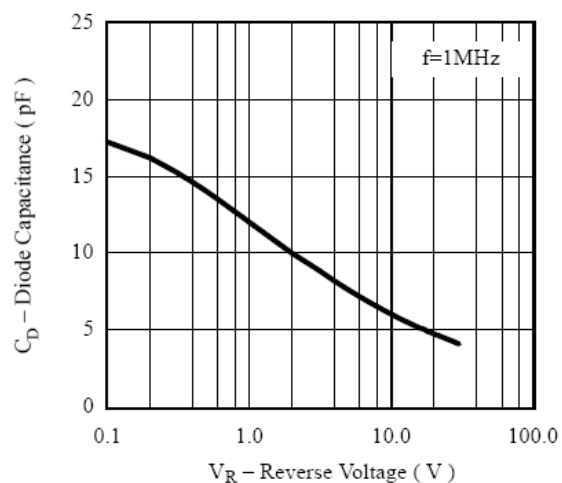


Figure 4. Diode Capacitance vs. Reverse Voltage