



BAS29, BAS31, BAS35

Silicon Epitaxial Planar Switching Diode

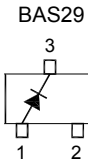
Features

- Small package
- High Conductance

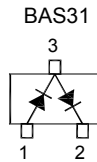
SOT-23

Mechanical Data

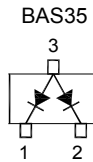
- Case: Molded Plastic, SOT-23
- Epoxy: UL 94V-0 rate flame retardant
- Terminals: Plated Leads Solderable per MIL-STD-750, Method-2026.
- Mounting Position : Any.
- Equivalent Circuit:



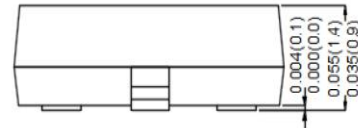
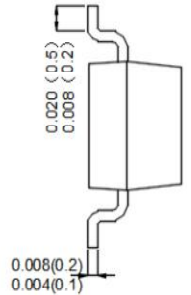
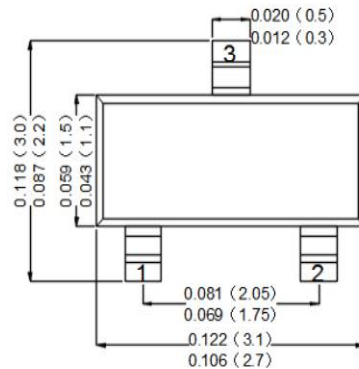
Marking Code: L20



Marking Code: L21



Marking Code: L22



Dimensions in inches and (millimeters)

Maximum Ratings Maximum Ratings (Rating at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	120	V
Maximum Average Forward Current	$I_{F(AV)}$	200	mA
Repetitive Peak Forward Current	I_{FRM}	600	mA
Non-Repetitive Peak Forward Surge Current	I_{FSM}	2 1	A
Power Dissipation	P_{tot}	350	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

Electrical Characteristics (Rating at 25°C ambient temperature unless otherwise specified.)

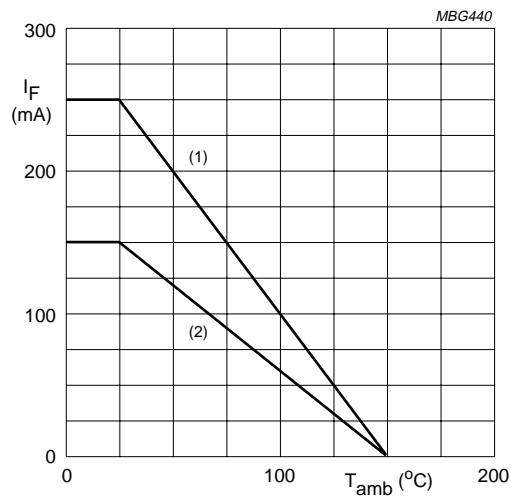
Parameter	Symbol	Min.	Max.	Unit
Forward Voltage				
at $I_F = 10$ mA	V_F	-	750	mV
at $I_F = 50$ mA	V_F	-	840	mV
at $I_F = 100$ mA	V_F	-	900	mV
at $I_F = 200$ mA	V_F	-	1	V
at $I_F = 400$ mA	V_F	-	1.25	V
Reverse Current				
at $V_R = 90$ V	I_R	-	100	nA
at $V_R = 90$ V, $T_J = 150$ °C	I_R	-	100	μA
Reverse Breakdown Voltage	$V_{(BR)R}$	120	-	V
Total Capacitance	C_T	-	35	pF
Reverse Recovery Time	t_{rr}	-	50	ns
at $I_F = I_R = 10$ mA, $I_{rr} = 1$ mA, $R_L = 100$ Ω				



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Rating And Characteristic Curves



Device mounted on an FR4 printed-circuit board.

- (1) Single diode loaded.
- (2) Double diode loaded.

Fig.1 Maximum permissible continuous forward current as a function of ambient temperature.

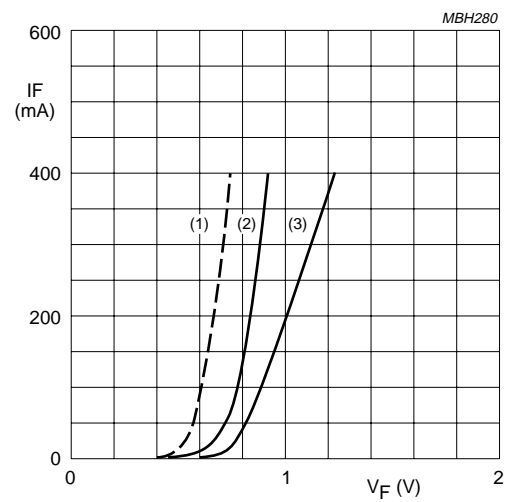


Fig.2 Forward current as a function of forward voltage.

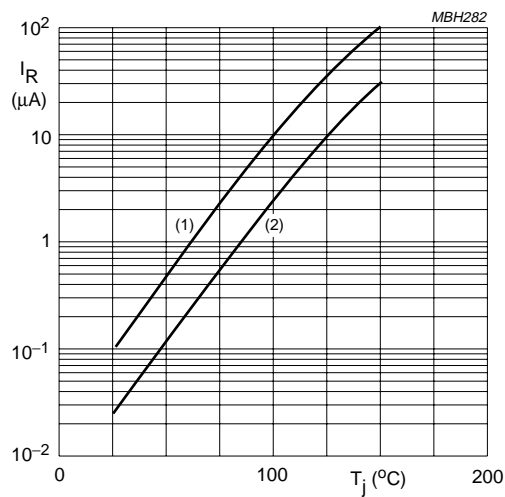
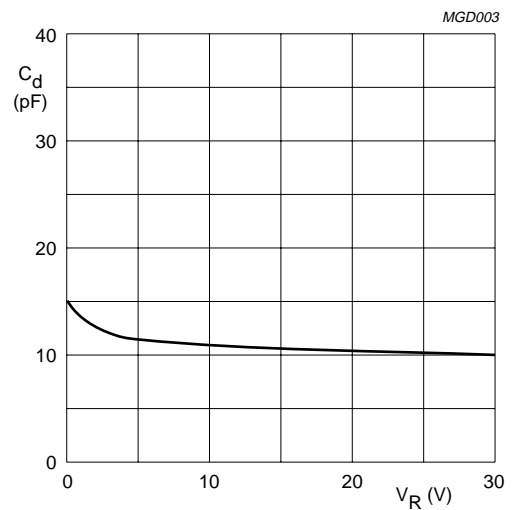


Fig.3 Reverse current as a function of junction temperature.



$f = 1 \text{ MHz}$; $T_i = 25^\circ \text{C}$.

Fig.4 Diode capacitance as a function of reverse voltage; typical values.



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