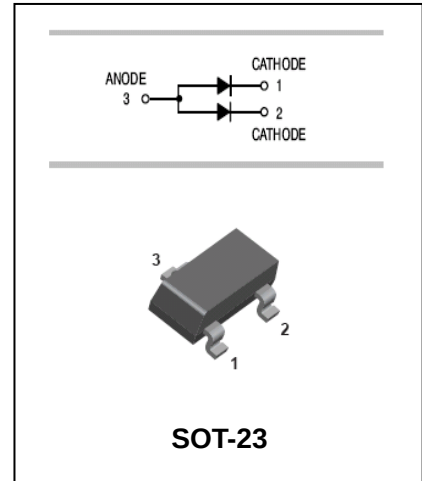


Surface mount switching diode

BAW56

FEATURES

- For General Purpose switching Applications.
- Fast Switching Speed.
- High Conductance.
- Surface Mount Package Ideally Suited for Automatic Insertion.



APPLICATIONS

- High speed switching application.

ORDERING INFORMATION

Type No.	Marking	Package Code
BAW56	A1	SOT-23

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Characteristic	Symbol	Limits	Unit
Non-repetitive peak reverse voltage	V_{RM}	100	V
Peak Repetitive Reverse Voltage Working peak reverse voltage DC Reverse Voltage	V_{RRM} V_{RWM} V_R	75	V
Continuous Forward Current Single diode loaded Double diode loaded	I_F	215 125	mA
Non-repetitive forward Surge Current @t=1.0ms @t=1.0s	I_{FSM}	1 0.5	A
Power Dissipation	P_D	250	mW
Thermal resistance junction to ambient air	$R_{\theta JA}$	357	°C/W
Operating Junction Temperature Range	T_j	150	°C
Storage Temperature Range	T_{STG}	-65 to +150	°C

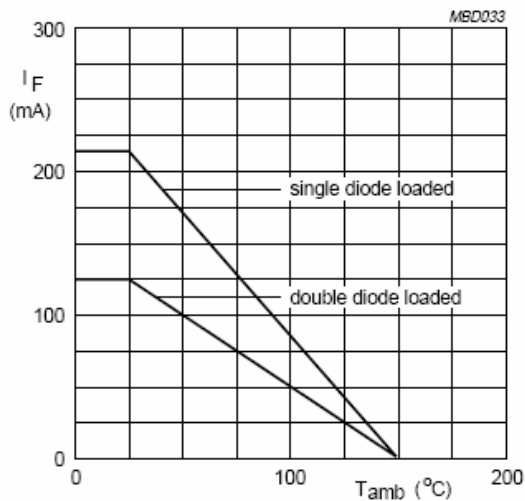
Surface mount switching diode

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ELECTRICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

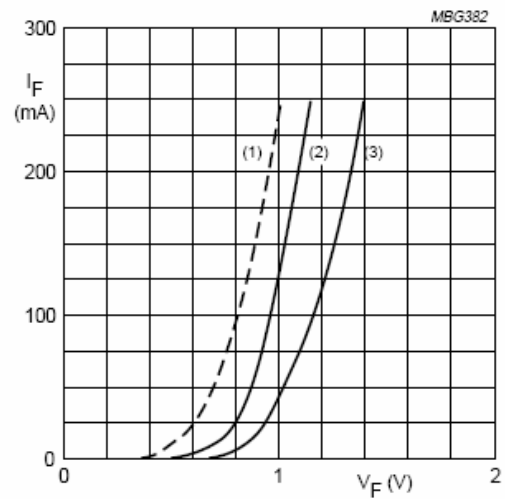
Characteristic	Symbol	Min	MAX	UNIT	Test Condition
Reverse Breakdown Voltage	$V_{(BR)R}$	75	-	V	$I_R=2.5\mu\text{A}$
Forward Voltage	V_F	-	0.715 0.855 1.0 1.25	V	$I_F=1\text{mA}$ $I_F=10\text{mA}$ $I_F=50\text{mA}$ $I_F=150\text{mA}$
Reverse Leakage Current	I_R	-	2.5 25	μA nA	$V_R=75\text{V}$ $V_R=20\text{V}$
Diode Capacitance	C_D	-	2	pF	$V_R=0\text{V}, f=1\text{MHz}$
Reverse Recovery Time	t_{rr}	-	4	ns	$I_F=I_R=10\text{mA}$, $I_{rr}=0.1 \cdot I_R, R_L=100\Omega$

TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified



Device mounted on an FR4 printed-circuit board.

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

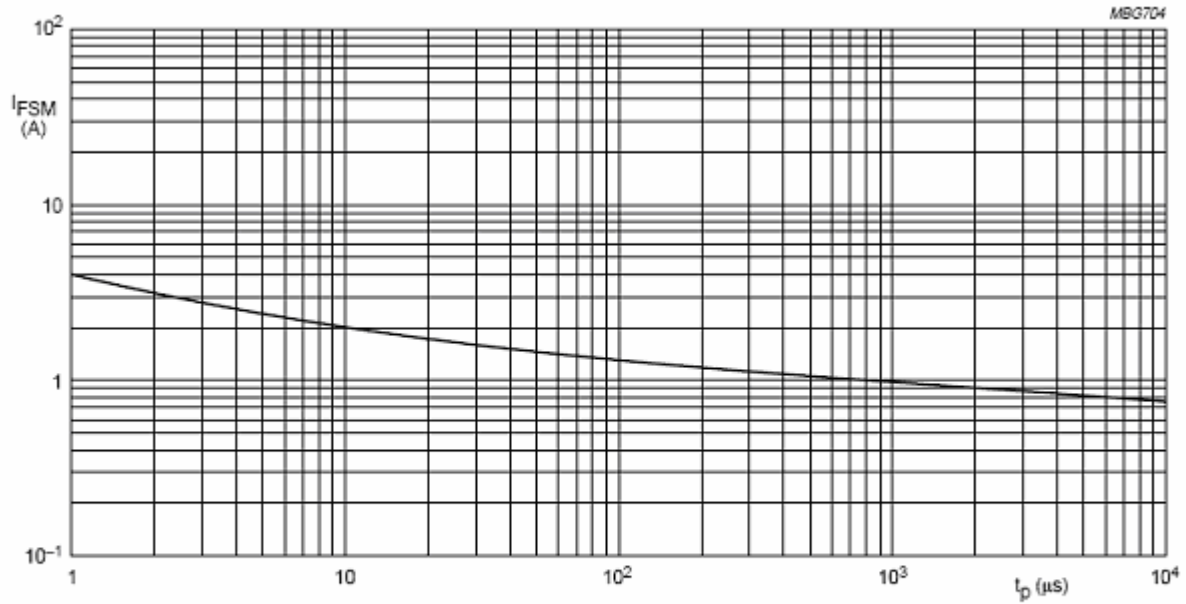


- (1) $T_j = 150^\circ\text{C}$; typical values.
- (2) $T_j = 25^\circ\text{C}$; typical values.
- (3) $T_j = 25^\circ\text{C}$; maximum values.

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

Surface mount switching diode

BAW56



Based on square wave currents.
 $T_j = 25$ °C prior to surge.

Fig.3 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

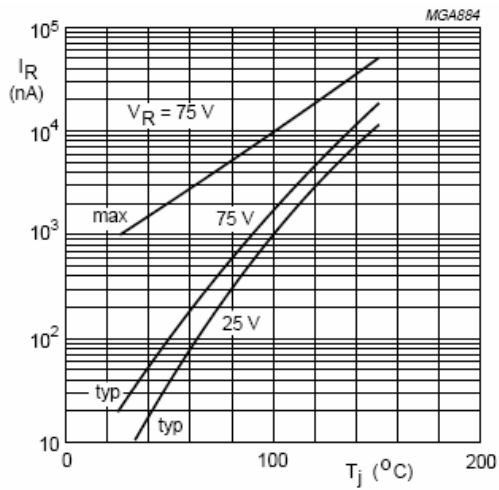
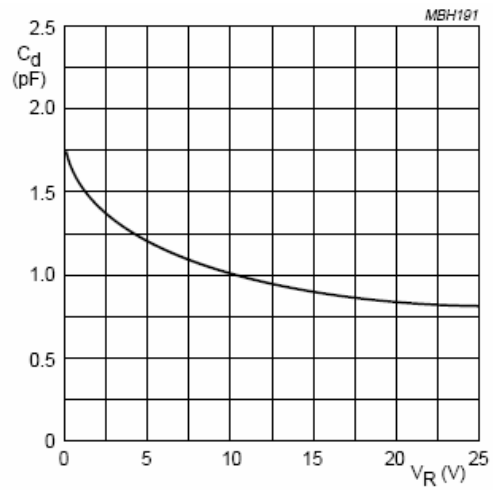


Fig.4 Reverse current as a function of junction temperature.



$f = 1$ MHz; $T_j = 25$ °C.

Fig.5 Diode capacitance as a function of reverse voltage; typical values.



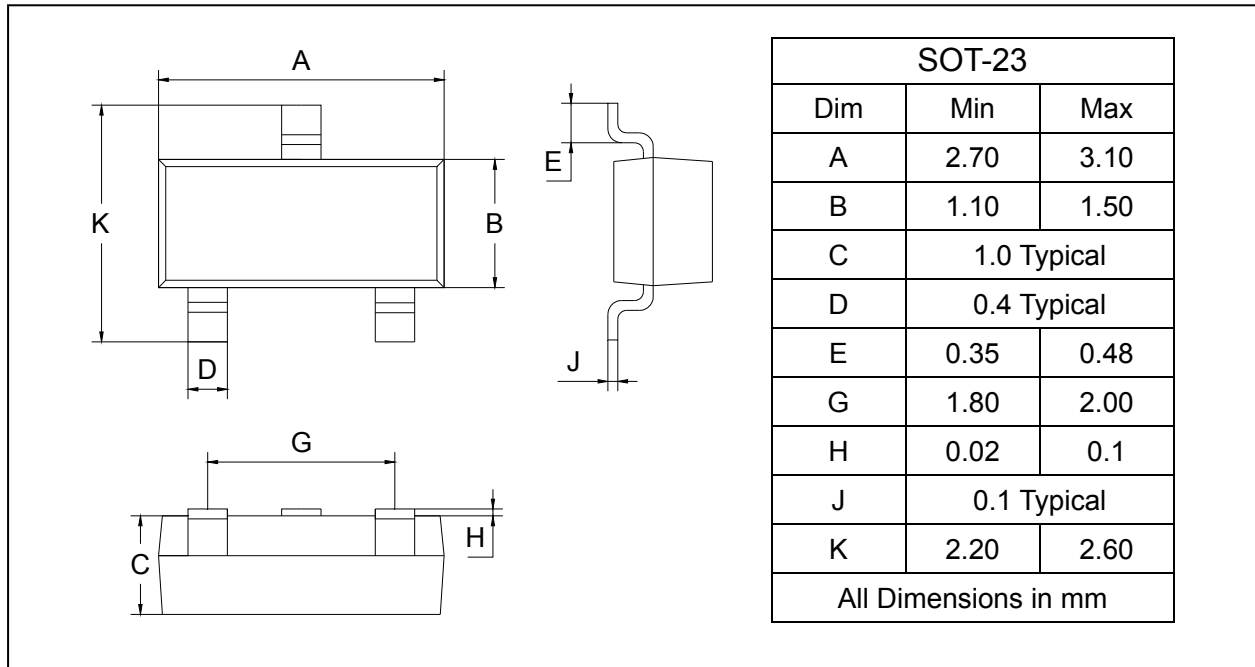
Surface mount switching diode

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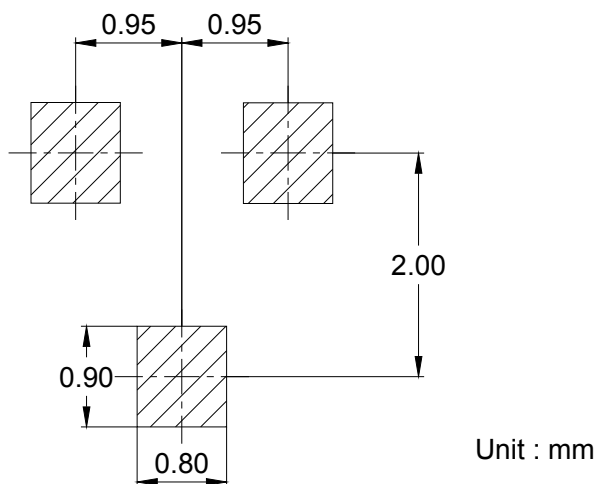
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
BAW56	SOT-23	3000/Tape&Reel