

High-speed Double Diode

BAS56

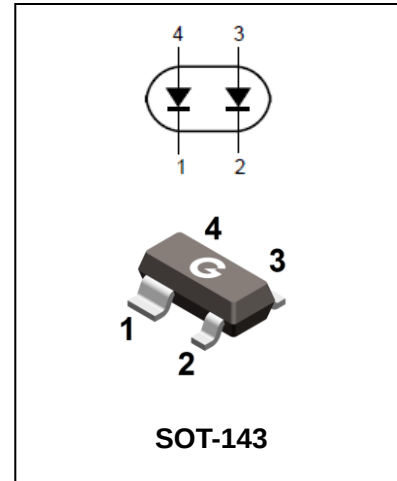
FEATURES

- High switching speed
- Continuous reverse voltage
- Repetitive peak reverse voltage
- Repetitive peak forward current

HF

APPLICATIONS

- High speed switching in e.g. surface mounted circuits



ORDERING INFORMATION

Type No.	Marking	Package Code
BAS56	L51	SOT-143

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	60	V
Repetitive Peak Reverse Voltage series connection	V_{RRM}	120	V
Continuous Reverse Voltage	V_R	60	V
Continuous Reverse Voltage series connection	V_R	120	V
Continuous Forward Current Single diode loaded(Note1) Double diode loaded(Note1)	I_F	200 150	mA
Repetitive peak forward current Single diode loaded Double diode loaded	I_{FSM}	600 430	mA
Non-repative peak forward current Square wave, $T_j=25^\circ\text{C}$ prior to surge t=1us t=100us t=10ms	I_{FSM}	9 3 1.7	A
Total Power Dissipation	P_d	250	mW
Storage and Junction Temperature Range	$T_{STG} T_j$	-65 to +150	°C

Note:1.Device mounted on an FR4 printed-circuit board.

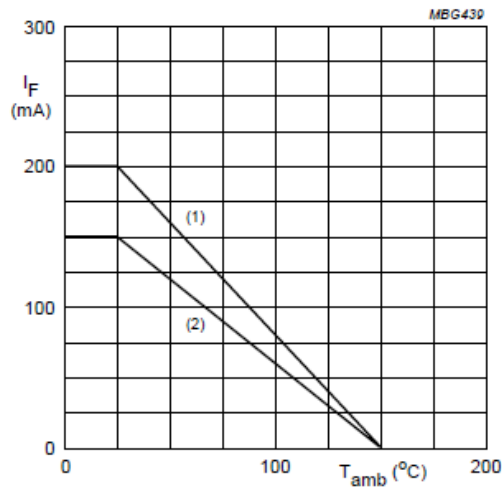
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ELECTRICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	MAX	UNIT	Test Condition
Reverse Leakage Current	I_R	-	100	nA	$V_R=60\text{V}$
			100	μA	$V_R=60\text{V}, T_j=150^\circ\text{C}$
			100	nA	$V_R=120\text{V}$
			100	μA	$V_R=120\text{V}, T_j=150^\circ\text{C}$
Forward voltage	V_F	-	1	V	$I_F=200\text{mA}$
Diode Capacitance	C_D	-	2.5	pF	$V_R=0\text{V}, f=1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	-	6	ns	$I_F=I_R=400\text{mA}$, $R_L=100\Omega$ $I_{rr}=0.1 \cdot I_R$
Forward recovery voltage	V_{fr}	-	2.0		$I_F=400\text{mA}, t_r=30\text{ns}$
			1.5		$I_F=400\text{mA}, t_r=100\text{ns}$

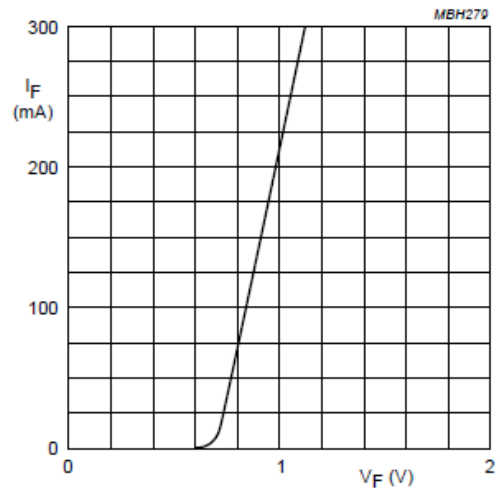
TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified



Device mounted on a FR4 printed-circuit board.

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

Fig.2 Maximum permissible continuous forward current as a function of ambient temperature.



$T_J = 25^\circ\text{C}$.

Fig.3 Forward current as a function of forward voltage; typical values.

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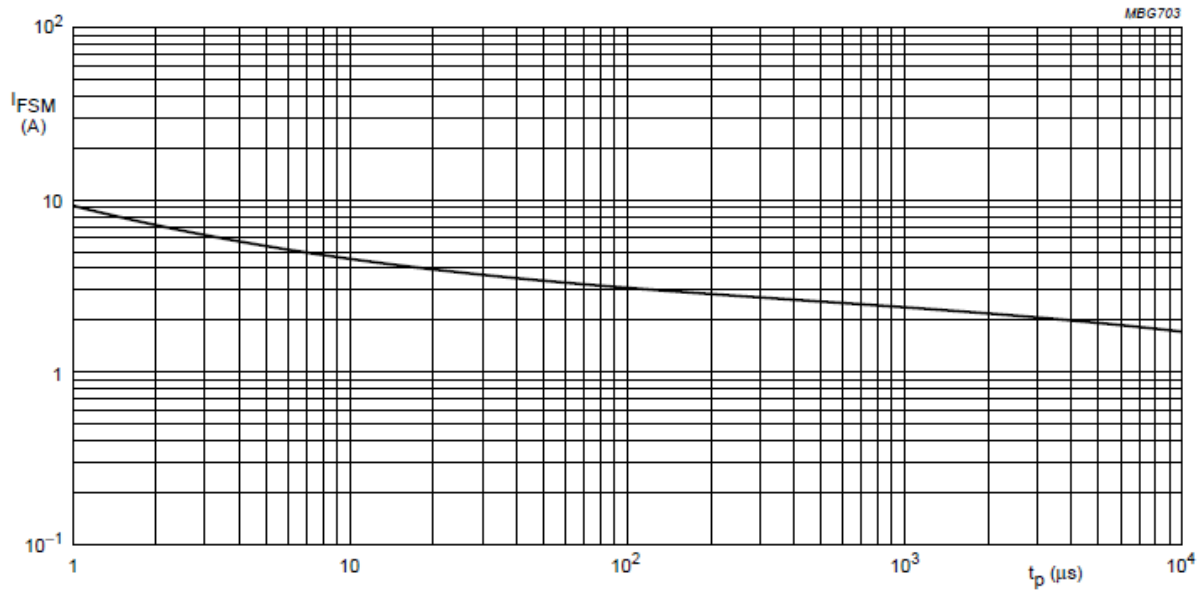
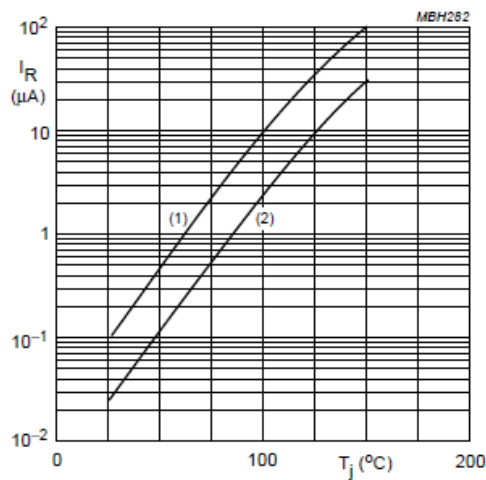
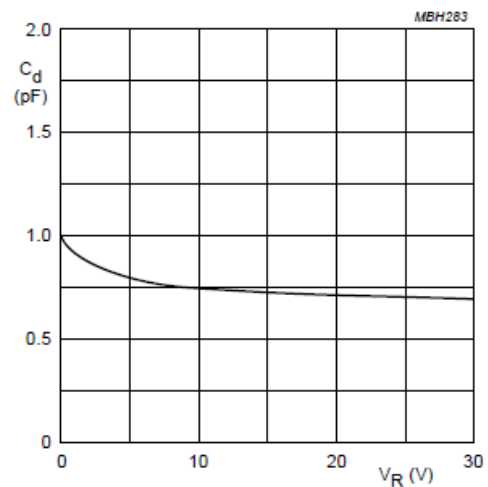


Fig.4 Maximum permissible non-repetitive peak forward current as a function of pulse duration.



- (1) $V_R = 60\text{ V}$; maximum values.
 (2) $V_R = 60\text{ V}$; typical values.

Fig.5 Reverse current as a function of junction temperature.



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

Fig.6 Diode capacitance as a function of reverse voltage; typical values.

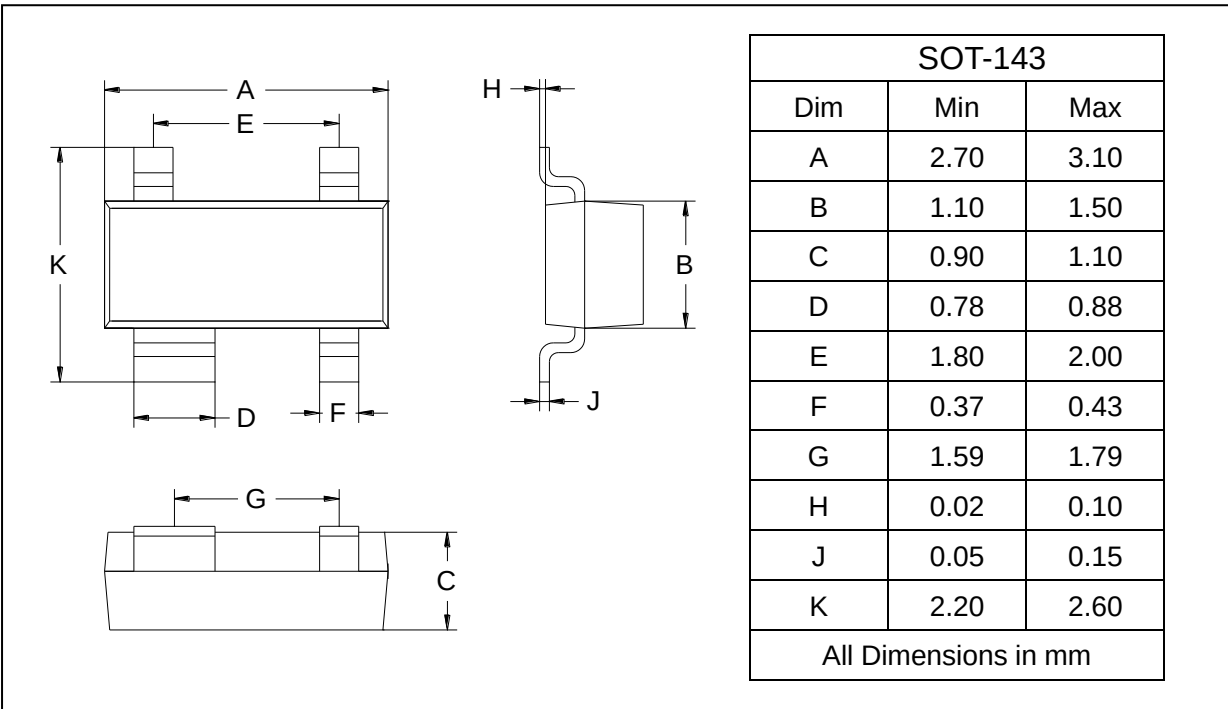
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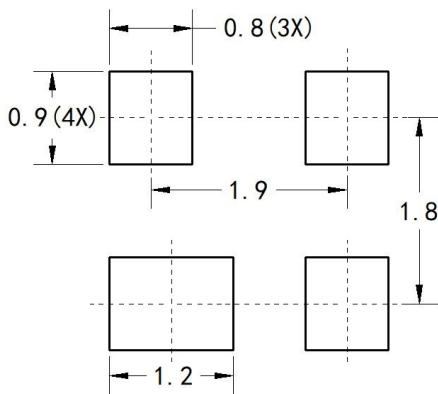
PACKAGE OUTLINE

Plastic surface mounted package

SOT-143



SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
BAS56	SOT-143	3000 pcs / Tape & Reel