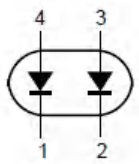
迈拓电子
MAITUO ELECTRONIC

BAS56 High-speed Double Diode



FEATURES

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

APPLICATIONS

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

SOT-143

Marking : L51

MAXIMUM RATING @ Ta=25℃ 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
Continous Rcverse Voltage	V_R	60	V
Continous Rcverse 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-repatitive peak forward current Square wave,T_j=25℃ 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	℃

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

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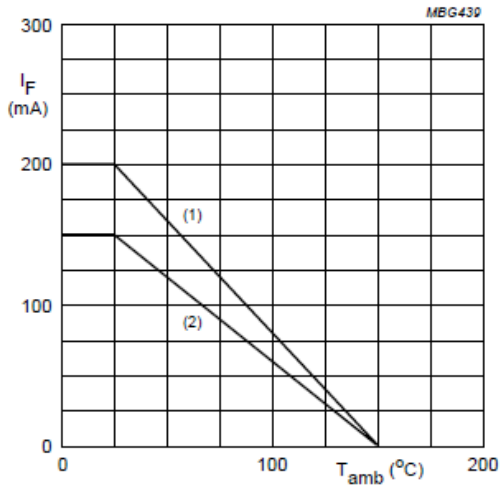
ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

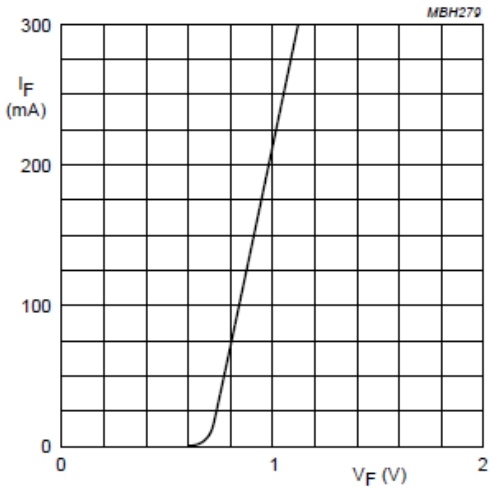
Characteristic	Symbol	Min	MAX	UNIT	Test Condition
Reverse Leakage Current	I_R	-	100 100 100 100	nA μA nA μA	V_R=60V V_R=60V,T_j=150℃ V_R=120V V_R=120V,T_j=150℃
Forward voltage	V_F	-	1	V	I_F=200mA
Diode Capacitance	C_D	-	2.5	pF	V_R=0V,f=1.0MHz
Reverse Recovery Time	t_{rr}	-	6	ns	I_F=I_R=400mA, R_L=100Ω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

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified



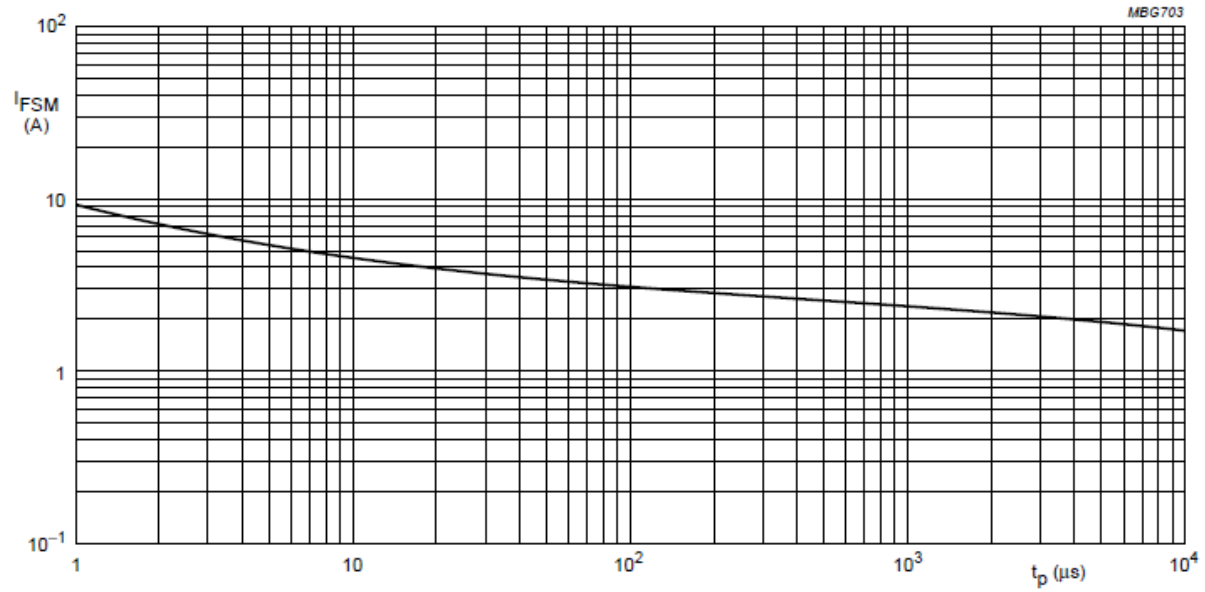
Device mounted on a FR4 printed-circuit board.
(1) Single diode loaded.
(2) Double diode loaded.

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



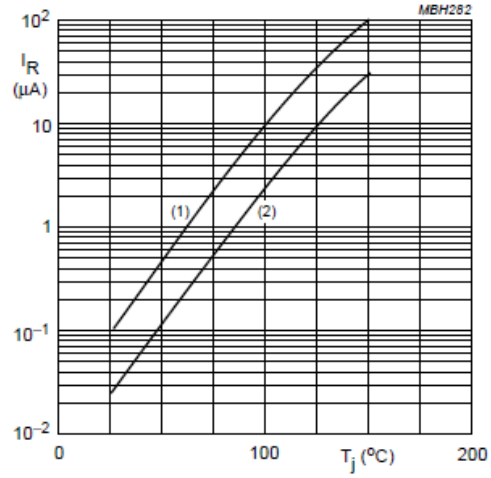
T_j = 25 °C.

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



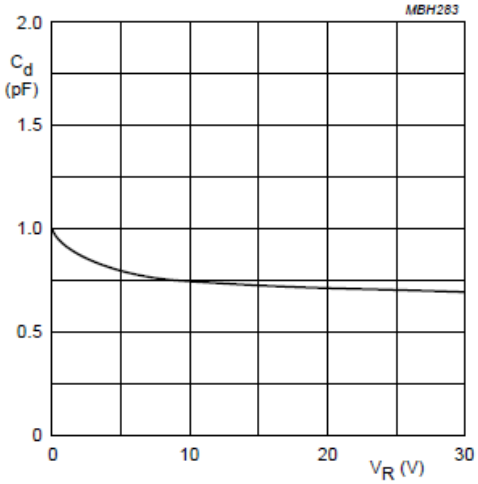
Based on square wave currents.
T_j = 25 °C prior to surge.

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



(1) V_R = 60 V; maximum values.
(2) V_R = 60 V; typical values.

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



f = 1 MHz; T_j = 25 °C.

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

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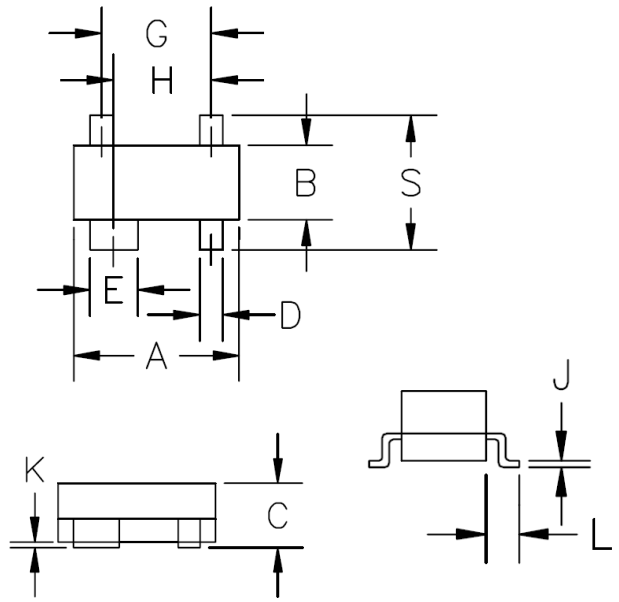
Package Outline

Plastic surface mounted package SOT-143



DIMENSIONS					
DIMᴺ	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	–
B	.047	.055	1.20	1.40	–
C	.031	.047	.80	1.20	–
D	.014	.018	.37	.510	–
E	.030	.035	.76	.940	–
G	.076 BSC		1.92 BSC		–
H	.068 BSC		1.72 BSC		–
J	.003	.005	.085	.180	–
K	.002	.005	.013	0.10	–
L	.010	.022	–	.55	REF
S	.082	.104	2.10	2.64	–