

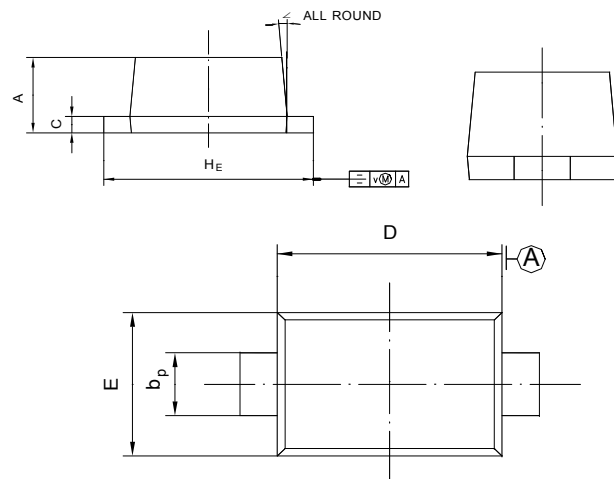
FEATURES

Ultra small plastic SMD package
High continuous reverse voltage: 300V
Repetitive peak forward current: 250 mA
High switching speed: max. 50ns

APPLICATION

High speed switching.
High voltage switching.

SOD-523



UNIT	A	b _p	C	D	E	H _E	V	∠
mm	0.70 0.50	0.40 0.20	0.14 0.05	1.30 1.10	0.90 0.75	1.70 1.50	0.1	5°

Dimensions in inches and (millimeters)

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Parameter	Symbol	Limits	Unit
Repetitive peak reverse voltage	V _{RRM}	300	V
Continuous reverse voltage	V _R	300	V
Continuous forward current T _s ≤90°C; Note 1	I _F	250	mA
Repetitive forward current t _p =1ms	I _{FRM}	1	A
Non-repetitive peak forward surge current t _p =1ms; square wave; T _j =25°C prior to surge	I _{FSM}	4.5	A
Total power dissipation T _s ≤90°C; Note 1	P _{tot}	500	mW
Junction temperature	T _j	150	°C
Storage And operating ambient temperature	T _{stg} , T _{amb}	-65 to +150	°C

Note

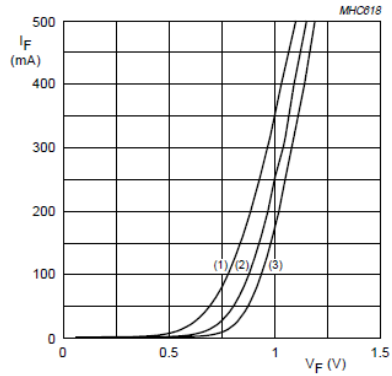
1. T_s is the temperature at the soldering point of the cathode tab.

BAS521

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

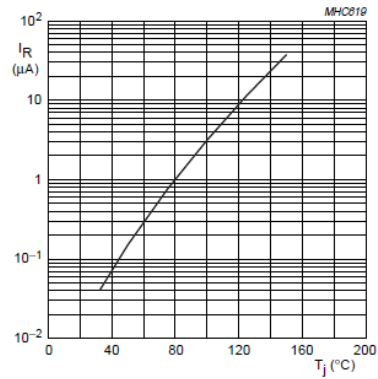
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
breakdown voltage	V_{BR}	$I_R=100\mu\text{A}$	300	340		V
Forward voltage	V_F	$I_F=100\text{mA}$		0.95	1.1	V
Reverse current	I_R	$V_R=250\text{V}$		30	150	nA
		$V_R=250\text{V}, T_J=150^{\circ}\text{C}$		40	100	μA
Diode capacitance	C_d	$V_R=0, f=1\text{MHz}$		0.4	5	pF
Reverse recovery time	t_{rr}	when switched from $I_F=30\text{mA}$ to $I_R=30\text{mA}$; $R_L=100\Omega$; measured at $I_R=3\text{mA}$		16	50	ns

RATING AND CHARACTERISTIC CURVES (BAS521)



- (1) $T_{amb} = 150\text{ }^{\circ}\text{C}$.
 (2) $T_{amb} = 75\text{ }^{\circ}\text{C}$.
 (3) $T_{amb} = 25\text{ }^{\circ}\text{C}$.

Fig 1 Forward current as a function of forward voltage; typical values.



$V_R = V_{Rmax}$; typical values.

Fig 2 Reverse current as a function of junction temperature.

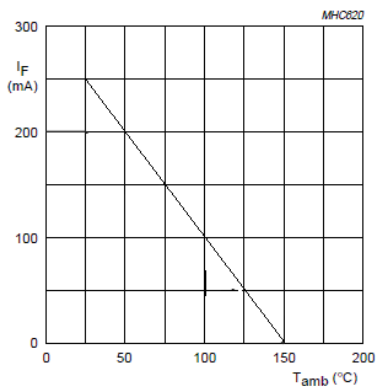


Fig 3 Maximum permissible continuous forward current as a function of ambient temperature.

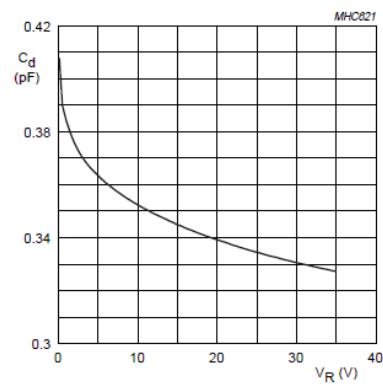
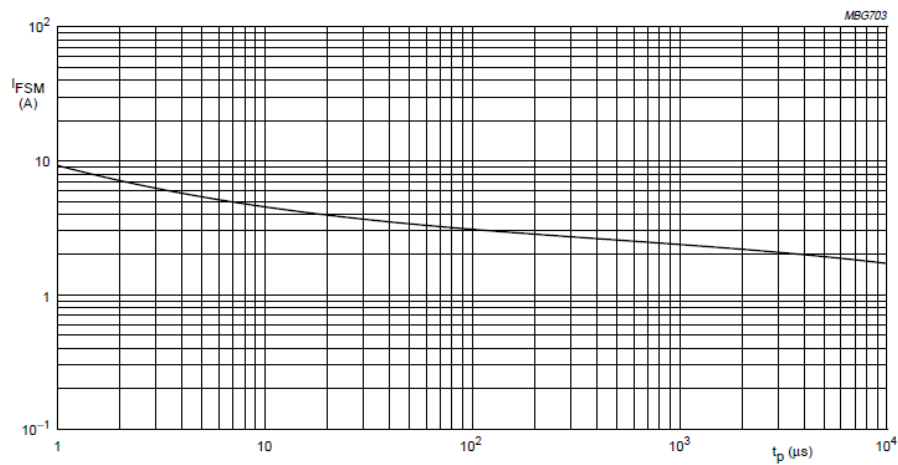


Fig 4 Diode capacitance as a function of reverse voltage; typical values.



Based on square wave currents.
 $T_J = 25\text{ }^{\circ}\text{C}$ prior to surge.

Fig 5 Maximum permissible non-repetitive peak forward current as a function of pulse duration.