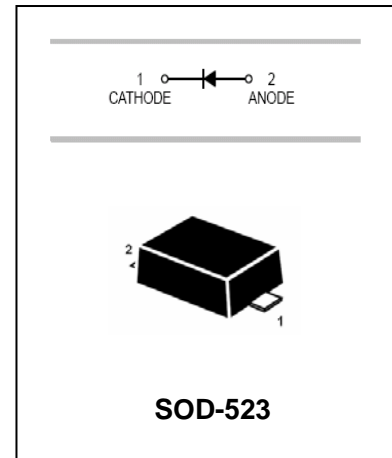


High voltage switching diode

BAS521

FEATURES

- Ultra small plastic SMD package.
- High continuous reverse voltage:300V.
- Repetitive peak forward current: 625 mA.
- High switching speed:max.50ns.



APPLICATIONS

- High speed switching.
- High voltage switching.

ORDERING INFORMATION

Type No.	Marking	Package Code
BAS521	L4	SOD-523

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 $T_s \leq 90^\circ\text{C}$; Note 1	I_F	250	mA
Repetitive forward current $t_p = 1\text{ms}$	I_{FRM}	1	A
Non-repetitive peak forward surge current $t_p = 1\text{ms}$; square wave; $T_j = 25^\circ\text{C}$ prior to surge	I_{FSM}	4.5	A
Total power dissipation $T_s \leq 90^\circ\text{C}$; 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.

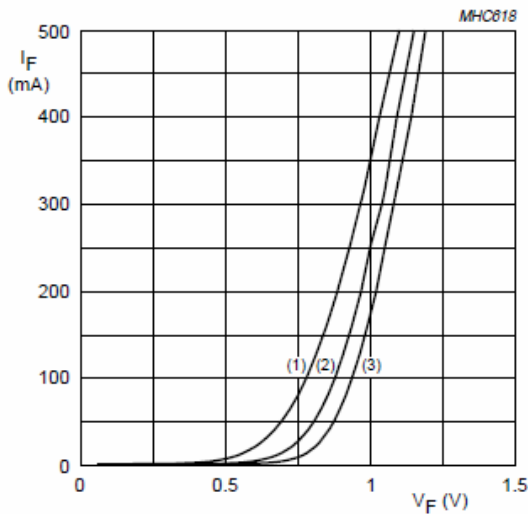
High voltage switching diode

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

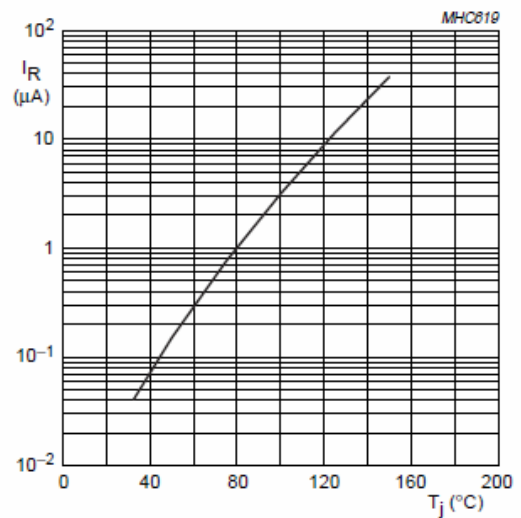
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
breakdown voltage	V_{BR}	$I_R=100\mu\text{A}$	300	340		V
Forward voltage	V_F	$I_F=100\text{mA}$		0.95	1.1	V
Reverse current	I_R	$V_R=250\text{V}$		30	150	nA
		$V_R=250\text{V}, T_J=150^\circ\text{C}$		40	100	μA
Diode capacitance	C_d	$V_R=0, f=1\text{MHz}$		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

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



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

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.

High voltage switching diode

BAS521

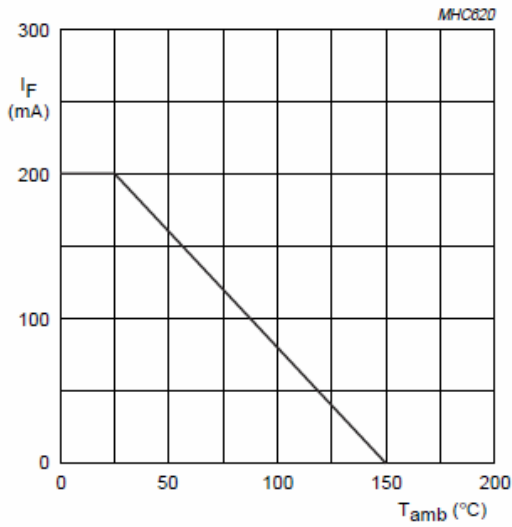


Fig 3 Maximum permissible continuous forward current as a function of ambient temperature.

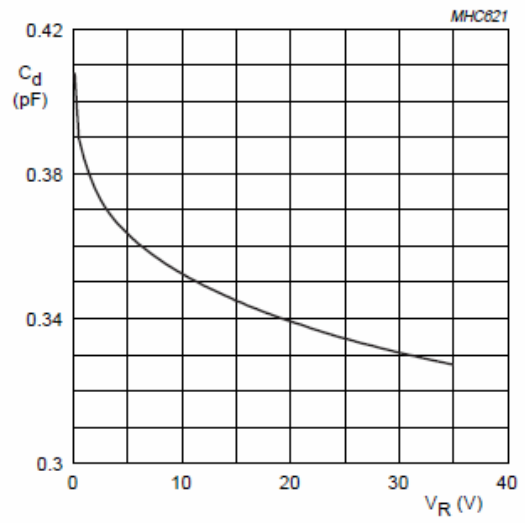
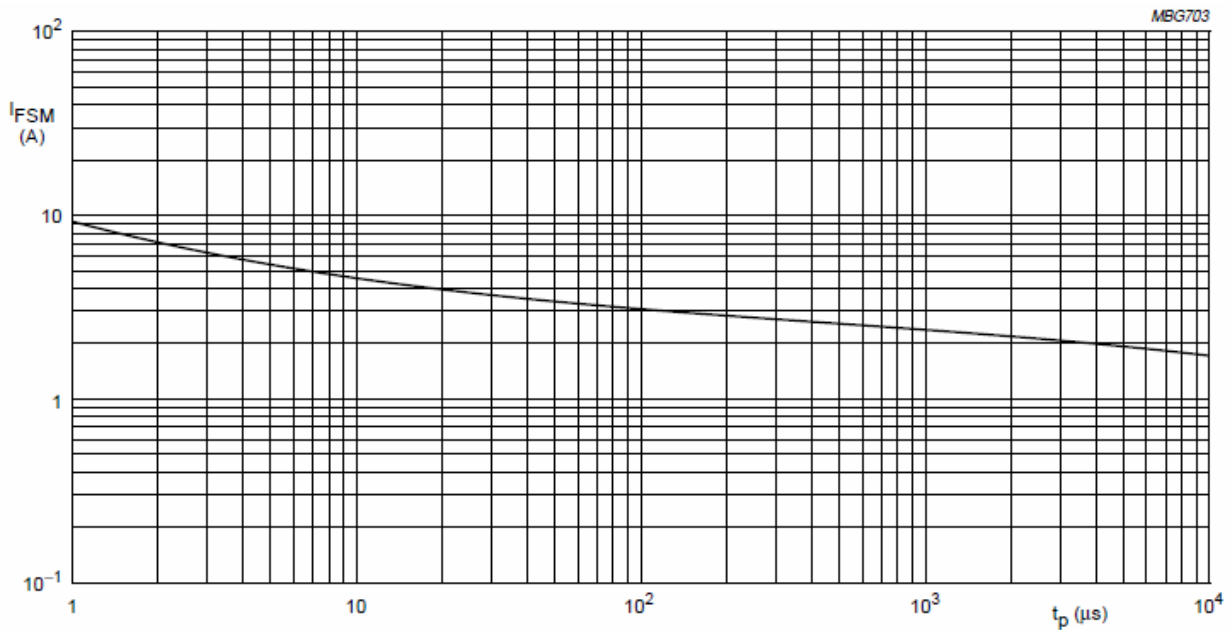


Fig 4 Diode capacitance as a function of reverse voltage; typical values.



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

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

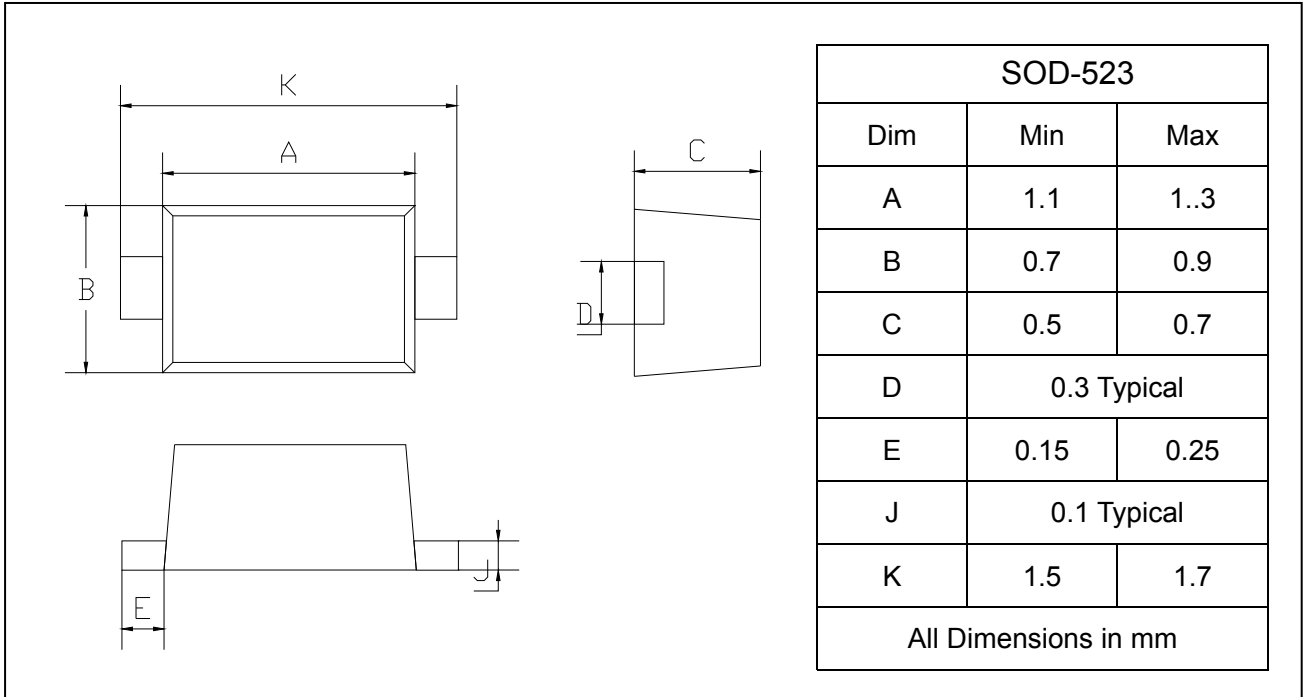
High voltage switching diode

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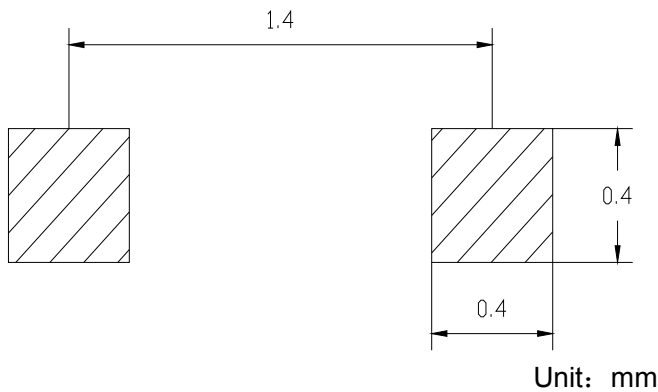
PACKAGE OUTLINE

Plastic surface mounted package

SOD-523



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
BAS521	SOD-523	3000/Tape&Reel