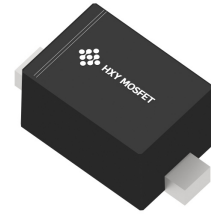




Features

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



SOD-523

Applications

- High speed switching
- High voltage switching.



Package Marking and Ordering Information

Product ID	Pack	Packaging	Qty(PCS)
BAS521,115	SOD-523	Tape	3000

Maximum Ratings (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{RRM}	Repetitive peak reverse voltage	300	V
V_R	Continuous reverse voltage		
I_F	Continuous forward current $T_s \leq 90^\circ\text{C}$; Note 1	250	mA
I_{FRM}	Repetitive forward current $t_p = 1\text{ms}$	1	A
I_{FSM}	Non-repetitive Peak Forward Surge Current $t_p = 1\text{ms}$; square wave; $T = 25^\circ\text{C}$ prior to surge	4.5	A
P_{tot}	Total power dissipation $T_s \leq 90^\circ\text{C}$; Note 1	500	mW
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}, T_{amb}	Storage And operating ambient temperature	-55~+150	$^\circ\text{C}$

Note

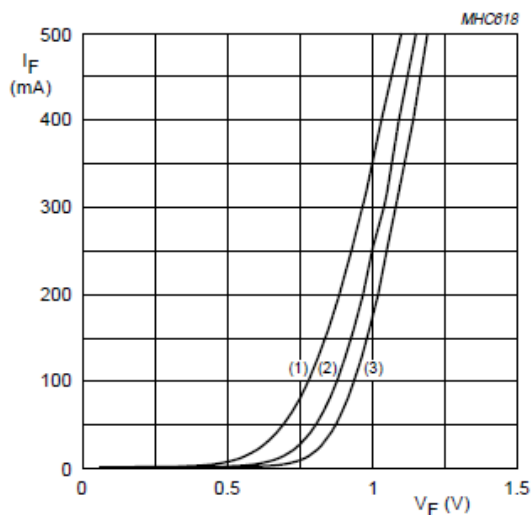
1. T_s is the temperature at the soldering point of the cathode tab.



Electrical Characteristics (Ta=25°C unless otherwise specified)

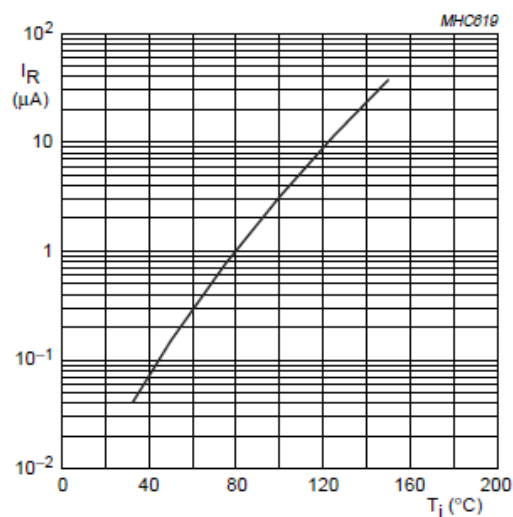
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
breakdown voltage	V_{BR}	$I_R=100\mu A$	300	340		V
Forward voltage	V_F	$I_F=100mA$		0.95	1.1	V
Reverse current	I_R	$V_R=250V$		30	150	nA
		$V_R=250V, T_J=150^\circ C$		40	100	μA
Diode capacitance	C_d	$V_R=0, f=1MHz$		0.4	5	pF
Reverse recovery time	t_{rr}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

Typical Characteristics



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

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.

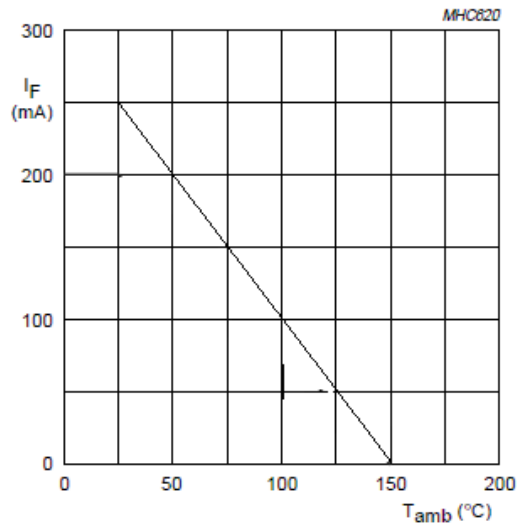


Fig 3 Maximum permissible continuous forward current as a function of ambient temperature.

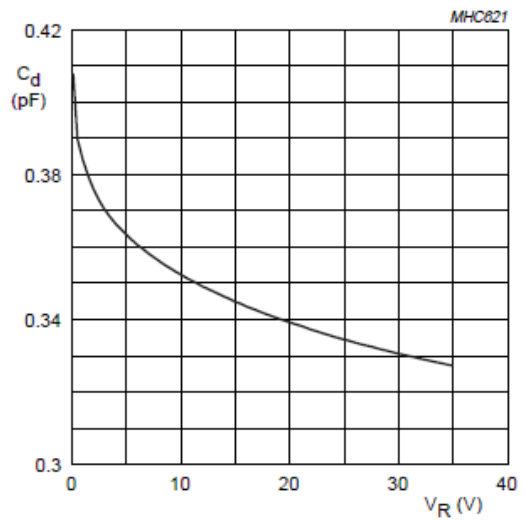
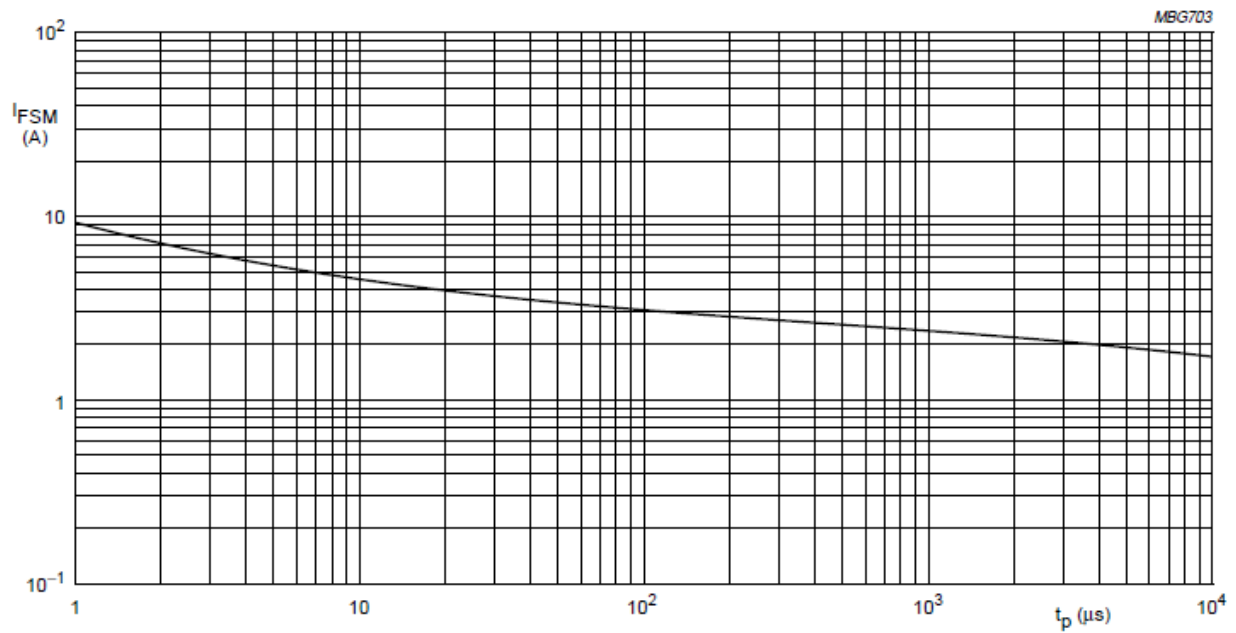


Fig 4 Diode capacitance as a function of reverse voltage; typical values.

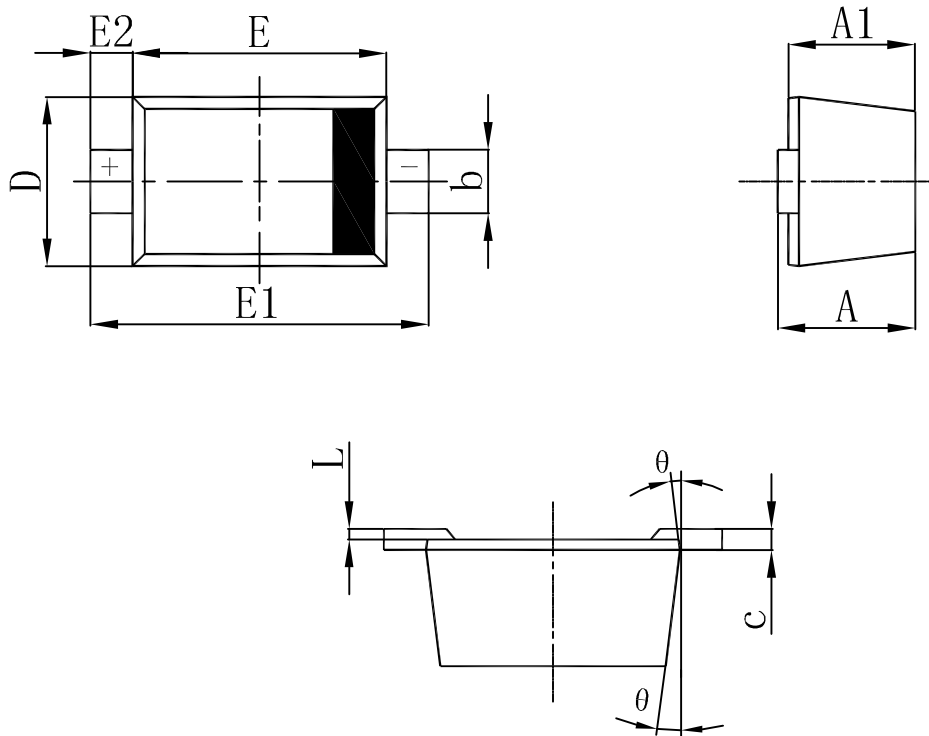


Based on square wave currents.
 $T_j = 25^\circ\text{C}$ prior to surge.

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



SOD-523 Package Outline Dimensions



Symbol	imensions In Millimeters		imensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
θ	7° REF		7° REF	



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