

BAS521

PRV : 300 Volts
Io : 250 mA

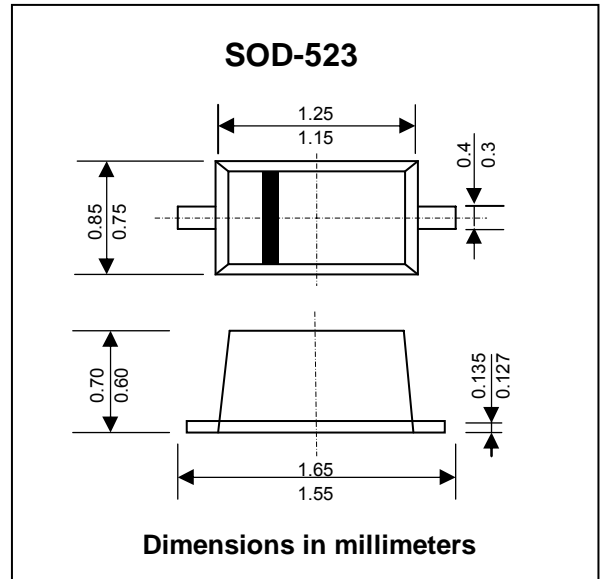
FEATURES :

- * Ultra small plastic SMD package
- * Switching speed: max. 50ns
- * Continuous reverse voltage: max. 300V
- * **Pb / RoHS Free**

MECHANICAL DATA :

- * Case : SOD-523 plastic Case
- * Weight : approx. 0.001 g

HIGH VOLTAGE SWITCHING



MAXIMUM RATINGS AND THERMAL CHARACTERISTICS (Ta = 25 °C unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	300	V
Maximum Continuous Reverse Voltage	V_R	300	V
Maximum Continuous Forward Current $T_S \leq 90\text{ }^\circ\text{C}$ (Note 1)	I_F	250	mA
Maximum Non-repetitive Peak Forward Current $t_p = 1\text{ }\mu\text{s}$ (square wave; $T_j = 25\text{ }^\circ\text{C}$ prior to surge)	I_{FSM}	4.5	A
Total Power Dissipation $T_S \leq 90\text{ }^\circ\text{C}$ (Note 1)	P_{tot}	500	mW
Thermal Resistance from Junction to soldering point (Note 2)	$R_{th(j-s)}$	120	K/W
Thermal Resistance from Junction to Ambient	$R_{th(j-a)}$	500	K/W
Junction Temperature Range	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (Ta = 25 °C unless otherwise specified)

Parameter	Test Condition	Symbol	Min	Typ.	Max.	Unit
Breakdown Voltage	$I_F = 100\text{ }\mu\text{A}$	V_{BR}	300	340	-	V
Forward Voltage	$I_F = 100\text{ mA}$ ($t_p = 300\text{ }\mu\text{s}$; $\delta = 0.02$)	V_F	-	0.95	1.1	V
Reverse Current	$V_R = 250\text{ V}$	I_R	-	30	150	nA
	$V_R = 250\text{ V}$, $T_a = 150\text{ }^\circ\text{C}$		-	40	100	μA
Diode Capacitance	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$	C_D	-	0.4	5	pF
Reverse Recovery Time	when switched from $I_F = 30\text{ mA}$ to $I_R = 30\text{ mA}$; $R_L = 100\text{ }\Omega$; measure at $I_R = 3\text{ mA}$	T_{rr}	-	16	50	ns

Notes :

- (1) T_s is the temperature at the soldering point of the cathode tab.
- (2) Soldering point of cathode tab.

RATINGS AND CHARACTERISTIC CURVES (BAS521)

FIG.1 - MAXIMUM CONTINUOUS FORWARD CURRENT VS. AMBIENT TEMPERATURE

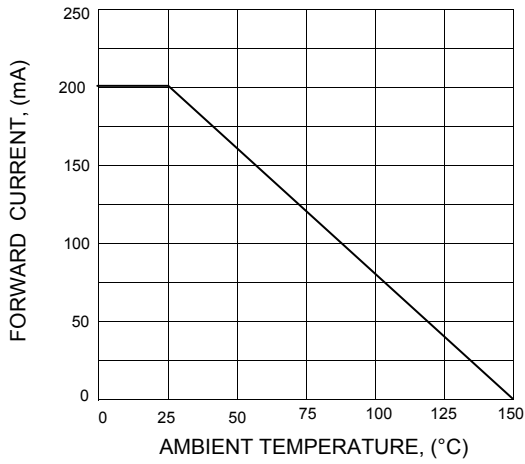


FIG.2 - DIODE CAPACITANCE VS. REVERSE VOLTAGE; TYPICAL VALUES

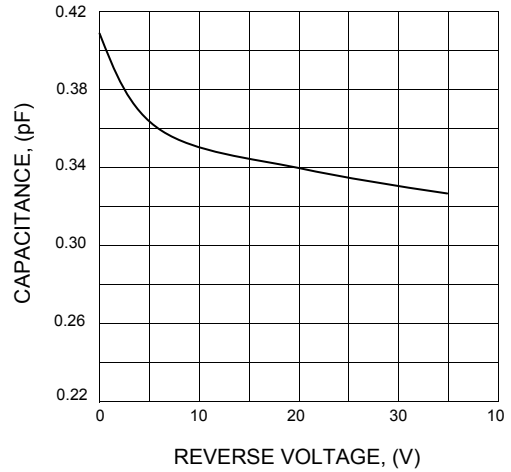


FIG.3 - FORWARD CURRENT VS. FORWARD VOLTAGE ; TYPICAL VALUES

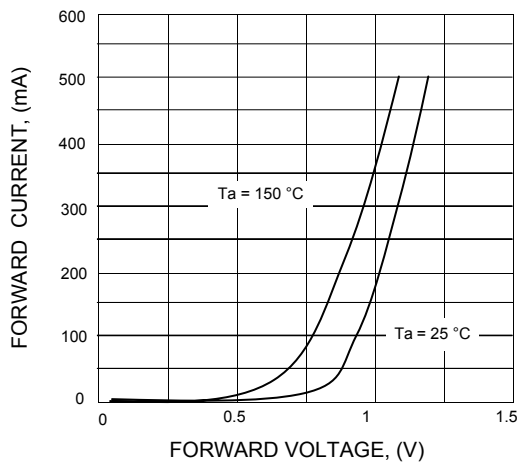


FIG.4 - REVERSE CURRENT VS. JUNCTION TEMPERATURE

