

BAV99

HIGH SPEED DOUBLE DIODE

PRV : 85 Volts

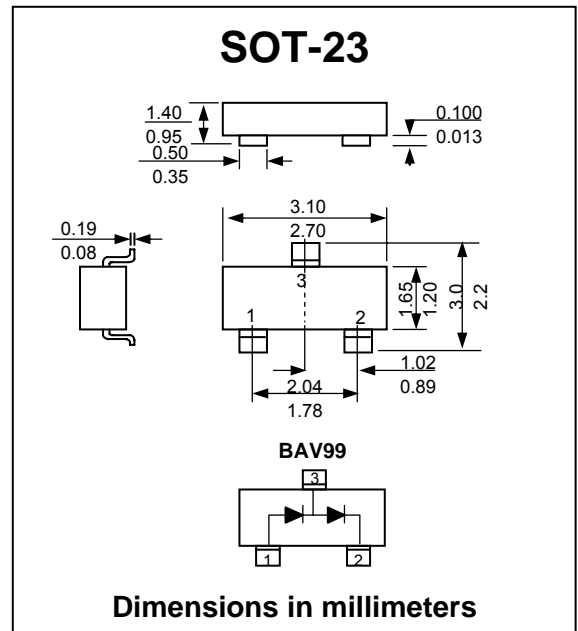
Io : 125 mA

FEATURES :

- * Small plastic SMD package
- * High switching speed : max. 4 ns
- * Continuous reverse voltage : max.75 V
- * Repetitive peak reverse voltage : max. 85 V
- * Repetitive peak forward current : max. 450 mA
- * Pb / RoHS Free

MECHANICAL DATA :

- * Case : SOT-23 plastic Case
- * Marking Code : A7



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	85	V
Maximum Continuous Reverse Voltage	V_R	75	V
Maximum Continuous Forward Current (Note 1)	I_F	125	mA
Maximum Repetitive Peak Forward Current	I_{FRM}	450	mA
Maximum Non-repetitive Peak Forward Current (square wave; $T_j = 25\text{ }^\circ\text{C}$ prior to surge)	I_{FSM}	$t = 1\mu\text{s}$	4
		$t = 1\text{ms}$	1
		$t = 1\text{s}$	0.5
Total Power Dissipation (Note 1)	P_{tot}	250	mW
Thermal Resistance Junction to tie-point	$R_{th\ j-tp}$	360	K/W
Thermal Resistance Junction to Ambient (Note 1)	$R_{th\ j-a}$	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 (Rating at 25 °C ambient temperature unless otherwise specified.)

Parameter	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage	$I_F = 1\text{ mA}$	V_F	-	-	715	mV
	$I_F = 10\text{ mA}$	V_F	-	-	855	mV
	$I_F = 50\text{ mA}$	V_F	-	-	1.0	V
	$I_F = 150\text{ mA}$	V_F	-	-	1.25	V
Reverse Current	$V_R = 25\text{ V}$	I_R	-	-	30	nA
	$V_R = 75\text{ V}$	I_R	-	-	1.0	μA
	$V_R = 25\text{ V}$; $T_j = 150\text{ }^\circ\text{C}$	I_R	-	-	30	μA
	$V_R = 75\text{ V}$; $T_j = 150\text{ }^\circ\text{C}$	I_R	-	-	50	μA
Diode Capacitance	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$	C_D	-	-	1.5	pF
Reverse Recovery Time	$I_F = 10\text{ mA}$ to $I_R = 10\text{ mA}$, $I_R = 1\text{ mA}$, $R_L = 100\ \Omega$	T_{rr}	-	-	4	ns

Notes : (1) Device mounted on an FR-4 printed-circuit board

RATINGS AND CHARACTERISTIC CURVES (BAV99)

FIG.1 - MAXIMUM PERMISSIBLE CONTINUOUS FORWARD CURRENT AS A FUNCTION OF AMBIENT TEMPERATURE

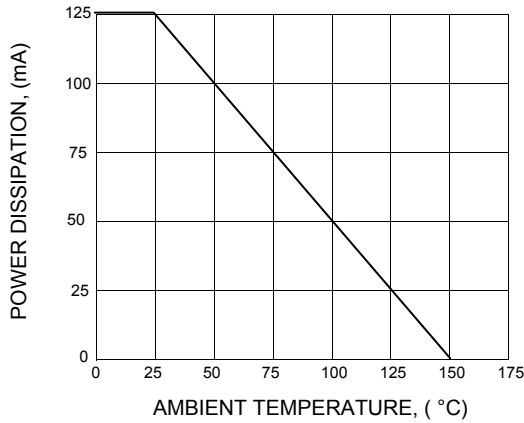


FIG.2 - DIODE CAPACITANCE VS. REVERSE VOLTAGE

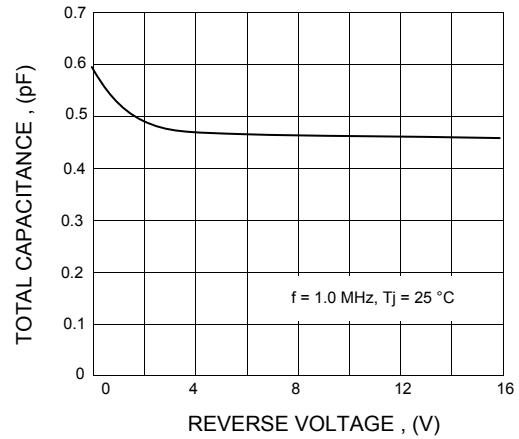


FIG.3 - FORWARD CURRENT AS A FUNCTION OF FORWARD VOLTAGE

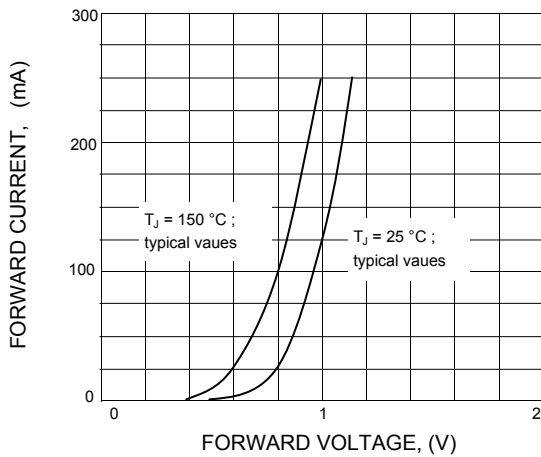
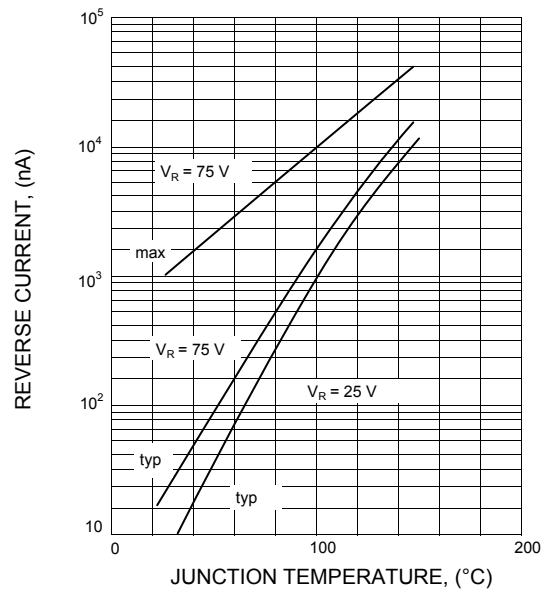


FIG.4 - REVERSE CURRENT AS A FUNCTION OF JUNCTION TEMPERATURE



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