



MASTER INSTRUMENT CORPORATION

BAV99

Dual surface mount switching diode

FEATURES

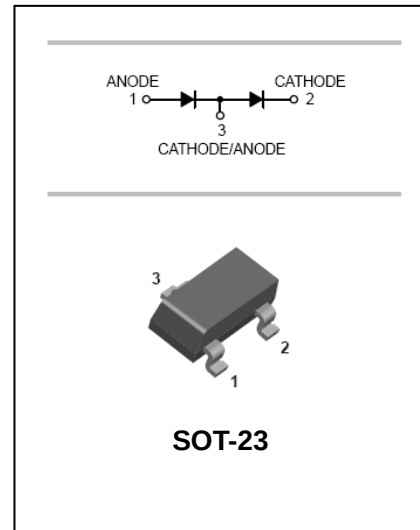
- Fast switching speed Max:6ns
- High conductance
- Connected in series
- Surface mount package ideally suited for automatic insertion



Lead-free

APPLICATIONS

- Small signal switching



ORDERING INFORMATION

Type No.	Marking	Package Code
BAV99	A7	SOT-23

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Parameter	Symbol	Value	Unit
Repetitive peak reverse voltage	V_{RRM}	85	V
Continuous Reverse voltage	V_R	75	V
Peak forward surge current @t=1.0μs @t=1.0ms @t=1.0s	I_{FSM}	4 1 0.5	A
Forward continuous current single diode loaded double diodes loaded	I_F	215 125	mA
Non-Repetitive peak forward current	I_{FRM}	450	mA
Power dissipation	P_d	250	mW
Thermal resistance junction to ambient air	$R_{\theta JA}$	500	°C/W
Operating and storage temperature range	T_j, T_{STG}	-65 to 150	°C



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

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Reverse breakdown voltage	$V_{(BR)}$	$I_R=2.5\mu\text{A}$	75		V
Reverse voltage leakage current	I_R	$V_R=25\text{V}$		35	nA
		$V_R=75\text{V}$		1	μA
		$V_R=25\text{V } T_j=150^\circ\text{C}$		30	μA
		$V_R=75\text{V } T_j=150^\circ\text{C}$		50	μA
Forward voltage	V_F	$I_F=1\text{mA}$		715	mV
		$I_F=10\text{mA}$		855	
		$I_F=50\text{mA}$		1000	
		$I_F=150\text{mA}$		1250	
Diode capacitance	C_D	$V_R=0\text{V } f=1\text{MHz}$		1.5	pF
Reverse recovery time	t_{rr}	$I_F=I_R=10\text{mA}$, $I_{rr}=0.1\times I_R, R_L=100\Omega$		4	nS

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

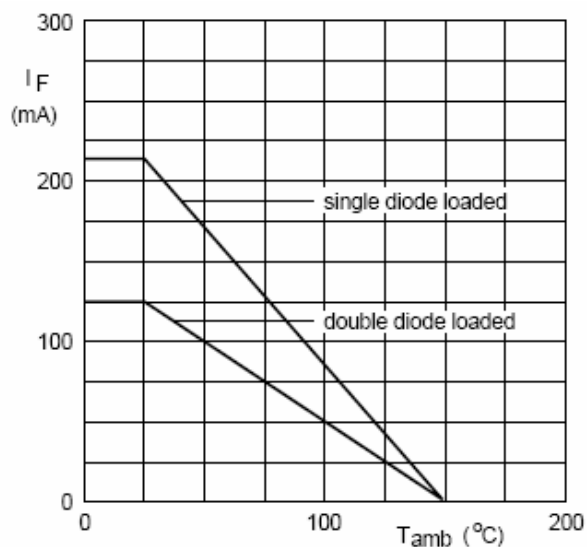
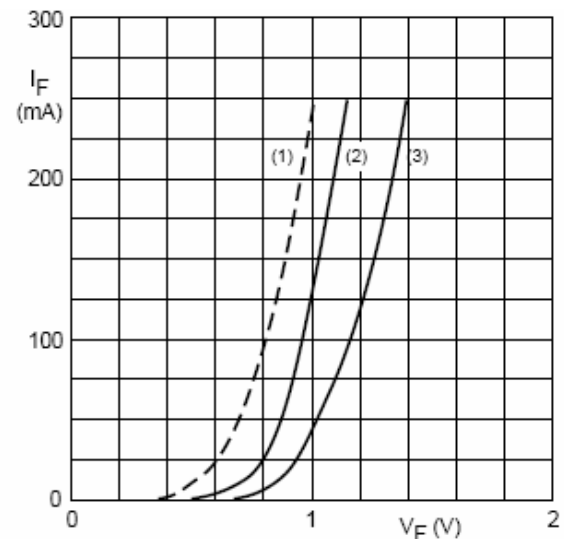


Fig.2 Maximum permissible continuous forward current as a function of ambient temperature.



- (1) $T_j = 150^\circ\text{C}$; typical values.
- (2) $T_j = 25^\circ\text{C}$; typical values.
- (3) $T_j = 25^\circ\text{C}$; maximum values.

Fig.3 Forward current as a function of forward voltage.

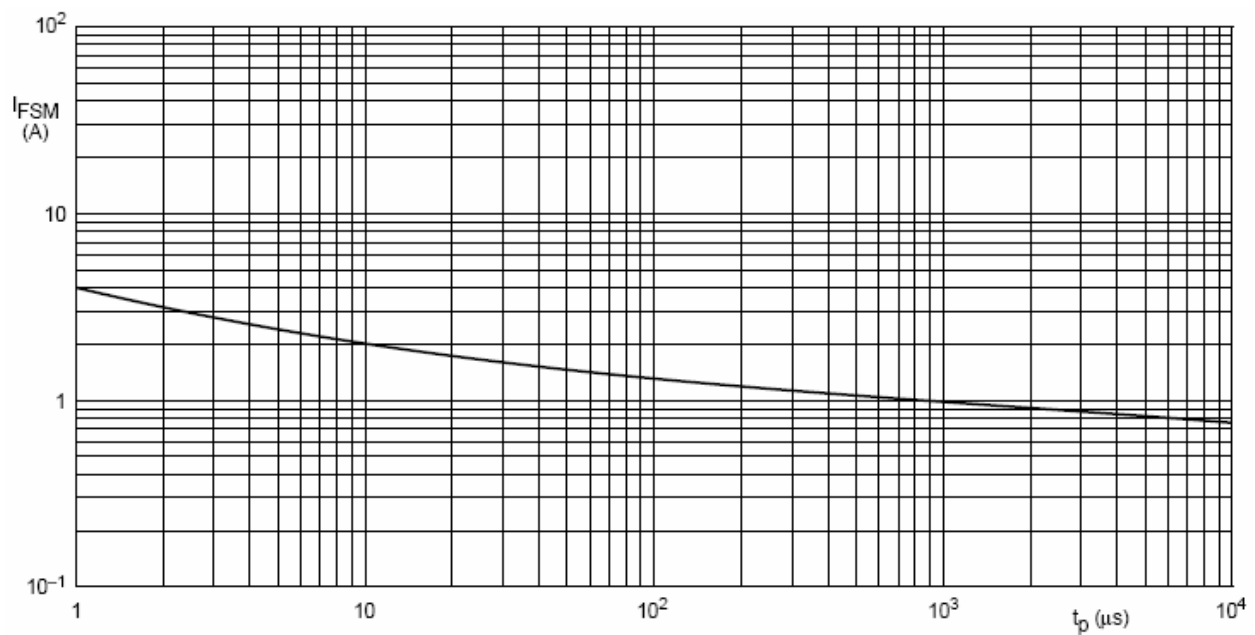


Fig.4 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

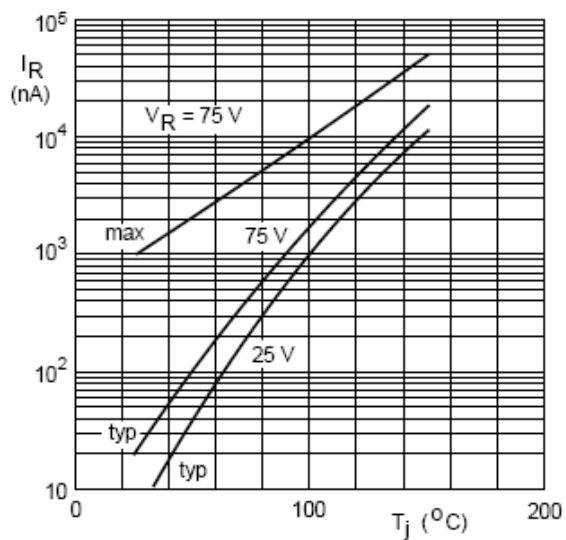


Fig.5 Reverse current as a function of junction temperature.

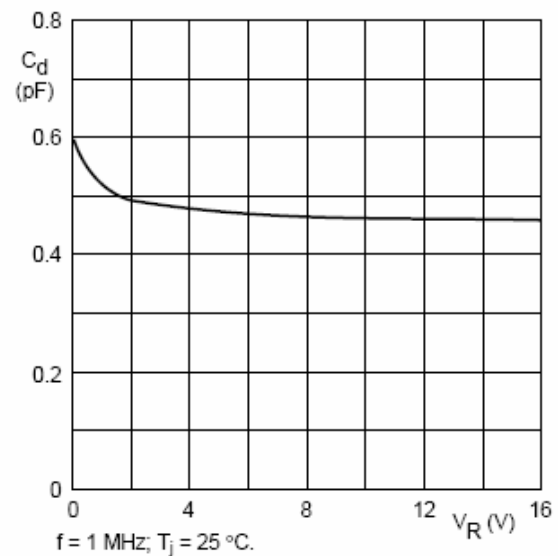
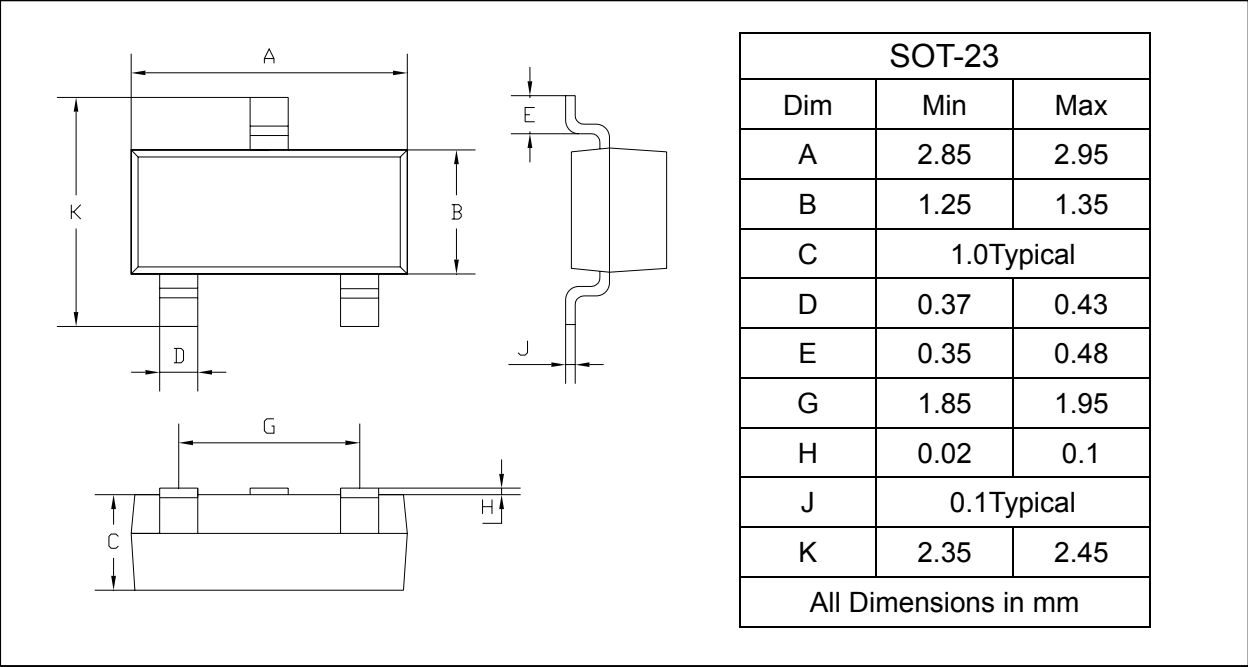


Fig.6 Diode capacitance as a function of reverse voltage; typical values.

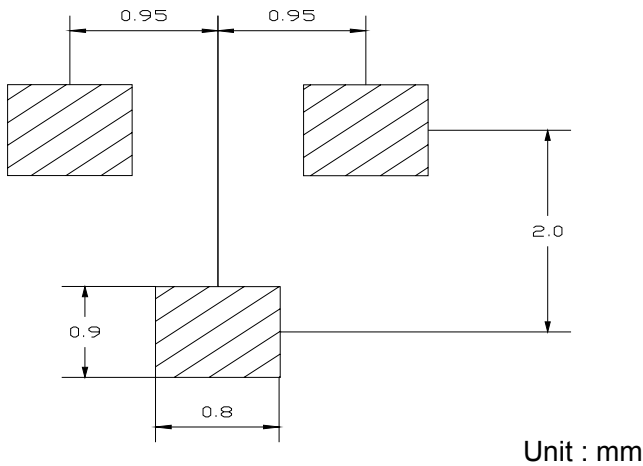
PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
BAV99	SOT-23	3000/Tape&Reel