

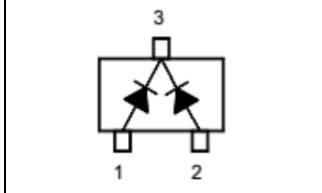
SMD Switching Diode

Primary characteristics			
Parameter	Symbol	Value	Unit
Continuous reverse voltage	V_R	75	V
Continuous Forward Current	Single diode	125	mA
	Double diode	215	
Power Dissipation	P_D	250	mW

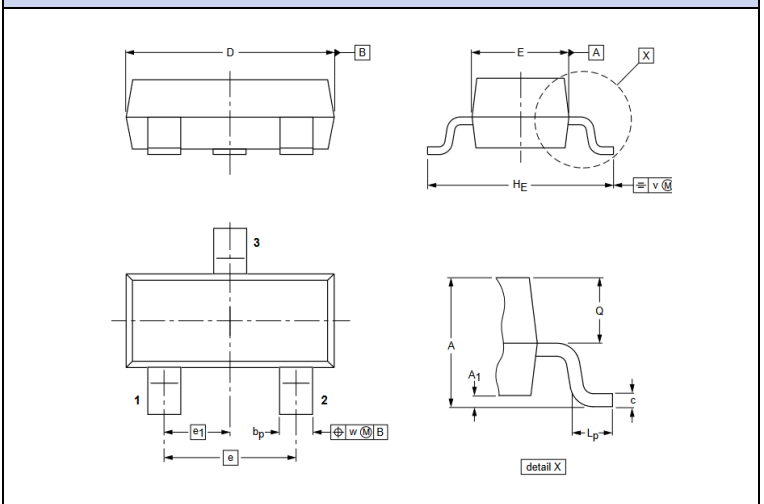
Features

- **SOT-23** case for easy automatic insertion.
- Pb-free and **RoHS** compliant
- Fast reverse recovery time

Pin configuration



Case dimensions



SOT-23 (TO-236AB)

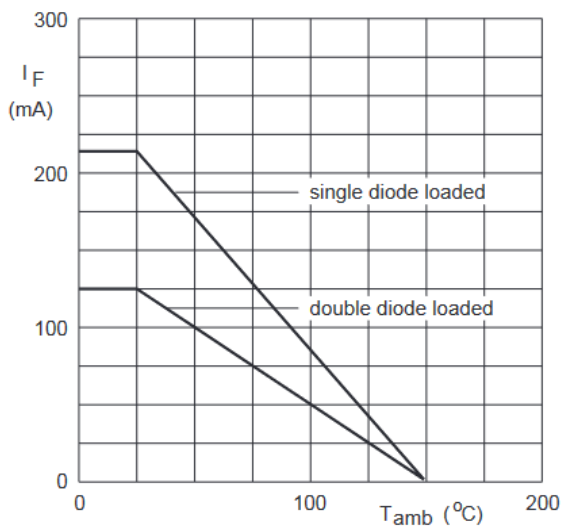
Unit	A	A ₁ max	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.0 ±0.1	0.1	0.43 ±0.05	0.12 ±0.03	2.9 ±0.1	1.3 ±0.1	1.9	0.95	2.3 ±0.2	0.3 ±0.15	0.5 ±0.05	0.2	0.1

Maximum ratings and electrical characteristics (T_a = 25°C)

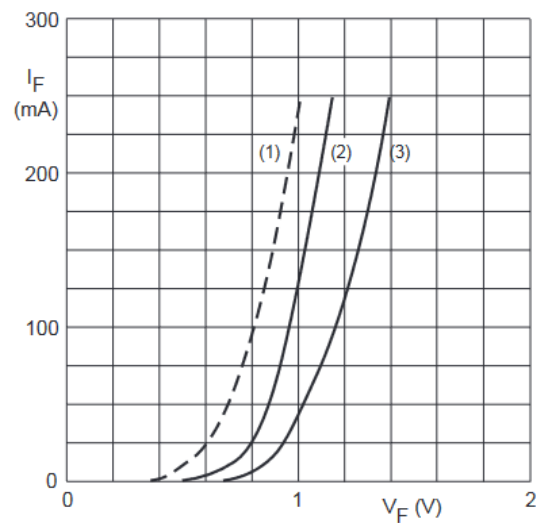
Characteristics		Symbol	Value	Unit
Maximum peak repetitive reverse voltage		V_{RRM}	85	V
Continuous reverse voltage		V_R	75	V
Continuous forward current	Single diode load	I_F	215	mA
	Double diode load		125	
Repetitive peak forward current		I_{FRM}	450	mA
Forward surge current	t = 1s	I_{FSM}	0.5	A
	t = 1ms		1.0	
	t = μ s		4.0	
Power dissipation		P_D	250	mW
Thermal resistance from junction to tie-point		$R_{\theta j-tp}$	360	K/W
Thermal resistance from junction to ambient		$R_{\theta j-a}$	500	K/W
Junction temperature		T_j	150	°C
Junction and storage temperature range		T_j, T_{STG}	-65 ~ 150	°C

Maximum ratings and electrical characteristics ($T_a = 25^\circ\text{C}$)

Characteristics		Symbol	Value	Unit
Forward voltage @ I_F	$I_F = 1.0\text{mA}$	V_F	0.715	V
	$I_F = 10\text{mA}$		0.855	
	$I_F = 50\text{mA}$		1.0	
	$I_F = 150\text{mA}$		1.25	
Forward recovery voltage	$I_F = 10\text{mA}$, $t_r = 20\text{ns}$	V_{fr}	1.75	V
Reverse current @ V_R	$V_R = 75\text{V}$	I_R	1.0	μA
	$V_R = 25\text{V}$, $T_J = 150^\circ\text{C}$		30	
	$V_R = 75\text{V}$, $T_J = 150^\circ\text{C}$		50	
Typical junction capacitance	$V_R = 4.0\text{V}$, $f = 1.0\text{MHz}$	C_J	1.5	pF
Maximum reverse recovery time		T_{rr}	4.0	ns

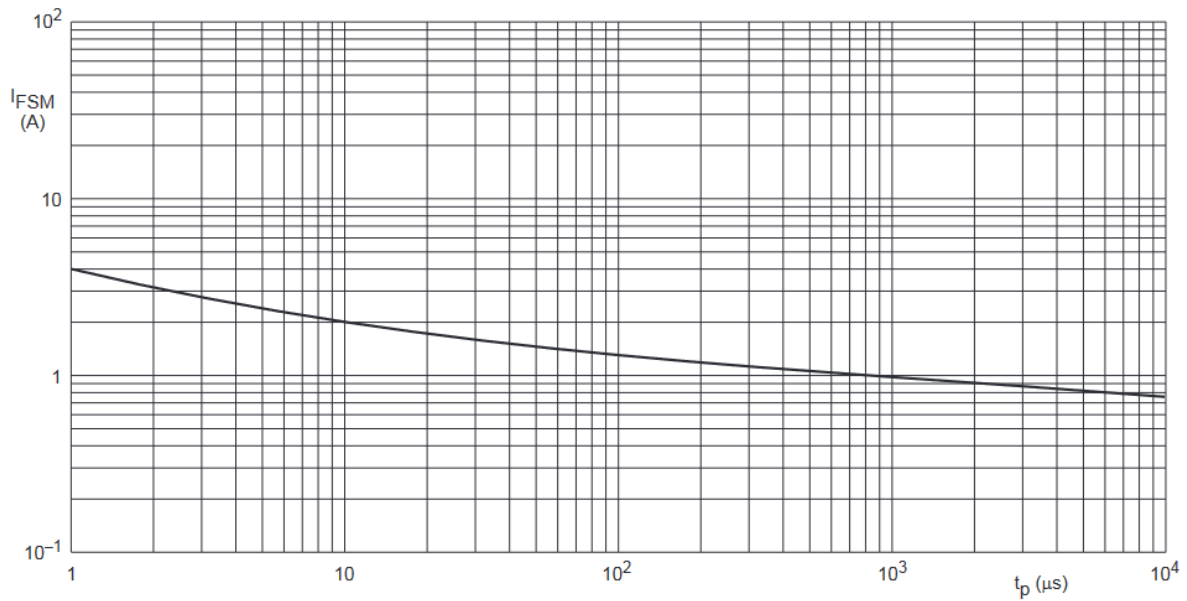
Forward current vs. ambient temperature


Device mounted on an FR4 printed-circuit board.

Forward current vs. forward voltage


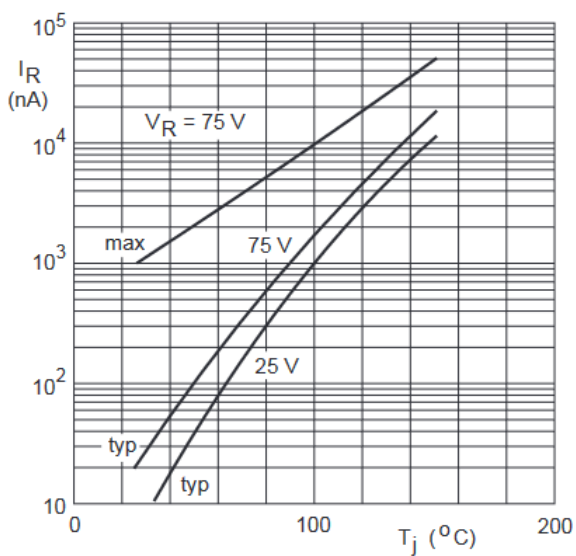
- (1) $T_J = 150^\circ\text{C}$; typical values.
- (2) $T_J = 25^\circ\text{C}$; typical values.
- (3) $T_J = 25^\circ\text{C}$; maximum values.

Peak forward current vs. pulse duration

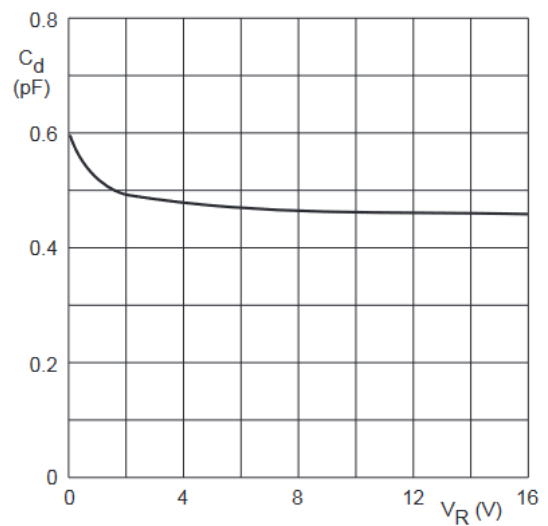


Based on square wave currents.
 $T_j = 25^\circ\text{C}$ prior to surge.

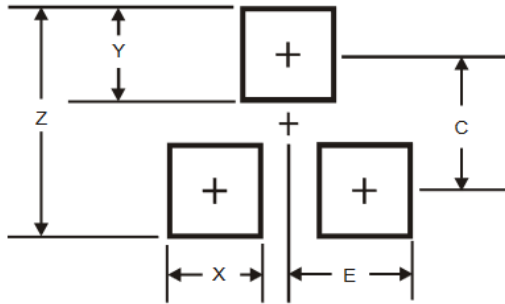
Reverse current vs. junction temperature



Diode capacitance vs. reverse voltage



$f = 1\text{ MHz}$; $T_j = 25^\circ\text{C}$.

Suggested soldering pad layout					
					
SOT-23 (TO-236AB)					
Pad dimensions					
Unit	Z	X	Y	C	E
mm	2.9	0.8	0.9	2.0	1.35

Ordering information			
Part Number	Package	Shipping Quantity	Dimensions
BAV70	SOT-23	3000 pcs / reel	---

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