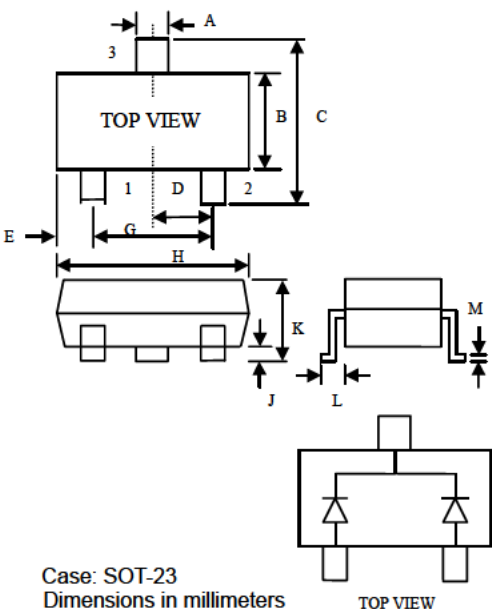


## VII. Switching Diode

### SMD Type (SOT-23) BAV70

(Package: SOT-23)

<p><u>FEATURES</u></p> <ul style="list-style-type: none"> <li>• Fast switching speed</li> <li>• For general purpose switching applications</li> <li>• High conductance</li> <li>• Low current leakage</li> <li>• Small outline surface mount package</li> <li>• RoHS compliant/Green EMC</li> </ul> <p><u>DEVICE MARKING CODE</u></p> <ul style="list-style-type: none"> <li>• BAV70 : A4</li> </ul>	 <table border="1" style="float: right; margin-left: 20px;"> <thead> <tr> <th colspan="3">SOT-23</th> </tr> <tr> <th>DIM</th> <th>Min</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>0.37</td> <td>0.51</td> </tr> <tr> <td>B</td> <td>1.20</td> <td>1.40</td> </tr> <tr> <td>C</td> <td>2.10</td> <td>2.64</td> </tr> <tr> <td>D</td> <td>0.89</td> <td>1.03</td> </tr> <tr> <td>E</td> <td>0.45</td> <td>0.60</td> </tr> <tr> <td>G</td> <td>1.78</td> <td>2.05</td> </tr> <tr> <td>H</td> <td>2.80</td> <td>3.04</td> </tr> <tr> <td>J</td> <td>0.013</td> <td>0.10</td> </tr> <tr> <td>K</td> <td>0.90</td> <td>1.11</td> </tr> <tr> <td>L</td> <td>0.45</td> <td>0.60</td> </tr> <tr> <td>M</td> <td>0.09</td> <td>0.18</td> </tr> </tbody> </table> <p style="text-align: center;">All Dimensions in mm</p> <p>Case: SOT-23 Dimensions in millimeters</p>	SOT-23			DIM	Min	Max	A	0.37	0.51	B	1.20	1.40	C	2.10	2.64	D	0.89	1.03	E	0.45	0.60	G	1.78	2.05	H	2.80	3.04	J	0.013	0.10	K	0.90	1.11	L	0.45	0.60	M	0.09	0.18
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### Ratings & Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20%.

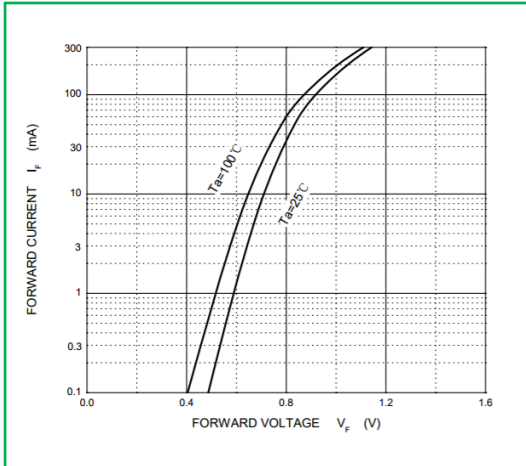
#### Maximum ratings

Symbol	Parameter	Value	Units
$V_R$	Reverse voltage	75	Volts
$I_o$	Average rectified output current	150	mA
$P_D$	Power dissipation	225	mW
$I_{FSM}$	Peak forward surge current @ $t=1.0s$ Non-repetitive	1.0	A
$T_j$	Junction temperature	150	°C
$T_{stg}$	Storage temperature	-55 to 150	°C
$R_{th}$	Thermal resistance	357	°C/W

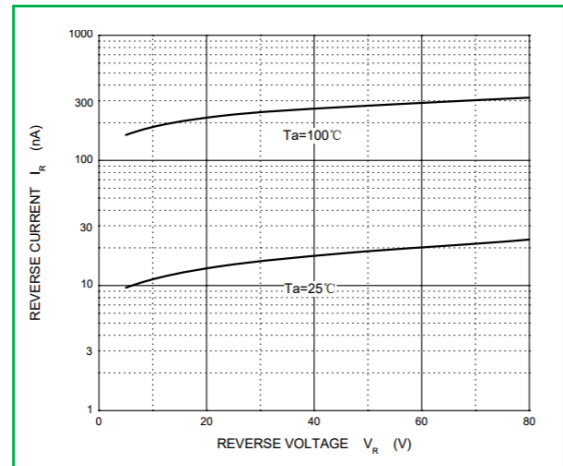
#### Electrical characteristics

Symbol	Parameter	Test conditions	Min	Max	Units
$V_F$	Forward voltage	$I_F=1mA$ $I_F=10mA$ $I_F=50mA$ $I_F=150mA$	-	0.715 0.855 1.000 1.250	Volts
$V_{(BR)R}$	Reverse breakdown voltage	$I_R=100\mu A$	75	-	Volts
$I_R$	Reverse voltage leakage current	$V_R=75V$ $V_R=75V \quad T_a=150^\circ C$	-	2.5 50	$\mu A$ $\mu A$
$C_j$	Typical junction capacitance	$V_R=0V, f=1.0MHz$	-	2	pF
$T_{rr}$	Reverse recovery time	$I_F=10mA, V_R=0V, R_L=100\Omega$	-	4	ns

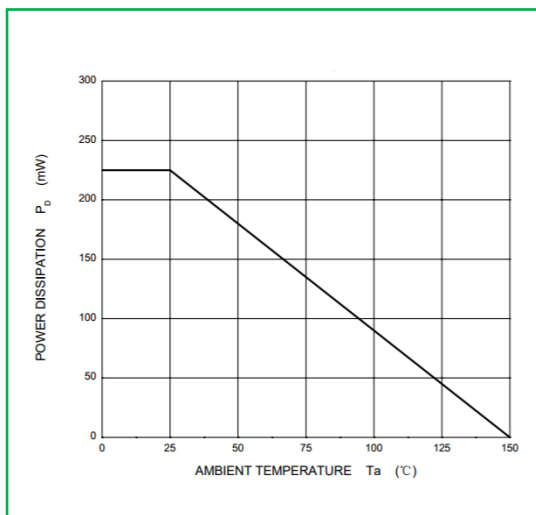
# Ratings and Characteristic Curves of BAV70



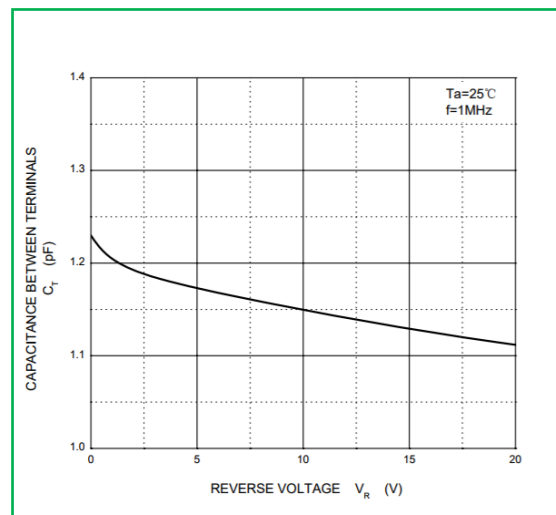
Forward Characteristics



Reverse Characteristics



Power Derating Curve



Capacitance Characteristics