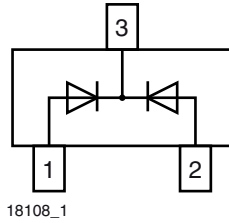


## Small Signal Switching Diode, Dual



### FEATURES

- Silicon epitaxial planar diode
- Fast switching dual diode with common cathode
- AEC-Q101 qualified
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



### MECHANICAL DATA

**Case:** SOT-23

**Weight:** approx. 8.8 mg

**Packaging codes/options:**

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 15K/box

### PARTS TABLE

PART	ORDERING CODE	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
BAV23C	BAV23C-E3-08 or BAV23C-E3-18	Dual diodes common cathode	KT6	Tape and reel
	BAV23C-HE3-08 or BAV23C-HE3-18			

### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Continuous reverse voltage		$V_R$	200	V
Repetitive peak reverse voltage		$V_{RRM}$	250	V
Non-repetitive peak forward current	$t = 1\ \mu\text{s}$	$I_{FSM}$	9	A
Non-repetitive peak forward surge current	$t = 1\ \text{s}$	$I_{FSM}$	0.5	A
Maximum average forward rectified current <sup>(1)</sup>		$I_{F(AV)}$	200	mA
Forward continuous current <sup>(2)</sup>		$I_F$	400	mA
Repetitive peak forward current		$I_{FRM}$	625	mA
Power dissipation <sup>(2)</sup>		$P_{tot}$	350	mW

#### Notes

<sup>(1)</sup> Measured under pulse conditions; pulse time =  $t_p \leq 0.3\ \text{ms}$

<sup>(2)</sup> Device on fiberglass substrate

### THERMAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air <sup>(1)</sup>		$R_{thJA}$	357	K/W
Junction temperature		$T_j$	150	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	- 65 to + 150	$^{\circ}\text{C}$
Operating temperature range		$T_{op}$	- 55 to + 150	$^{\circ}\text{C}$

#### Note

<sup>(1)</sup> Device on fiberglass substrate



ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 100\text{ }\mu\text{A}$ , $t_p = 300\text{ ms}$	$V_{(BR)}$	250			V
Forward voltage	$I_F = 100\text{ mA}$	$V_F$			1	V
	$I_F = 200\text{ mA}$	$V_F$			1.25	V
Reverse current	$V_R = 200\text{ V}$	$I_R$			100	nA
	$V_R = 200\text{ V}$ , $T_j = 150\text{ }^{\circ}\text{C}$	$I_R$			100	$\mu\text{A}$
Dynamic forward resistance	$I_F = 10\text{ mA}$	$r_f$		5		$\Omega$
Diode capacitance	$V_R = 0\text{ V}$ , $f = 1\text{ MHz}$	$C_D$			5	pF
Reverse recovery time	$I_F = I_R = 30\text{ mA}$ , $R_L = 100\text{ }\Omega$ $i_R = 3\text{ mA}$	$t_{rr}$			50	ns

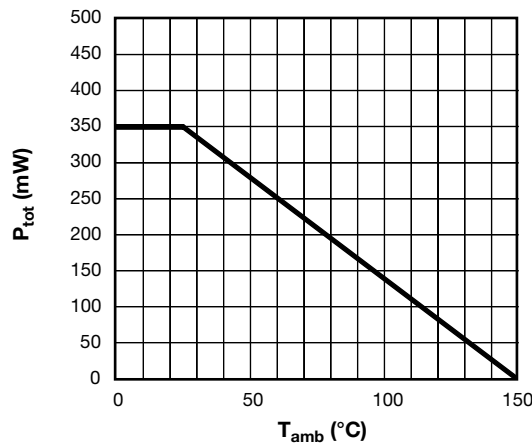


Fig. 1 - P<sub>tot</sub> - Admissible Power Dissipation vs. Ambient Temperature

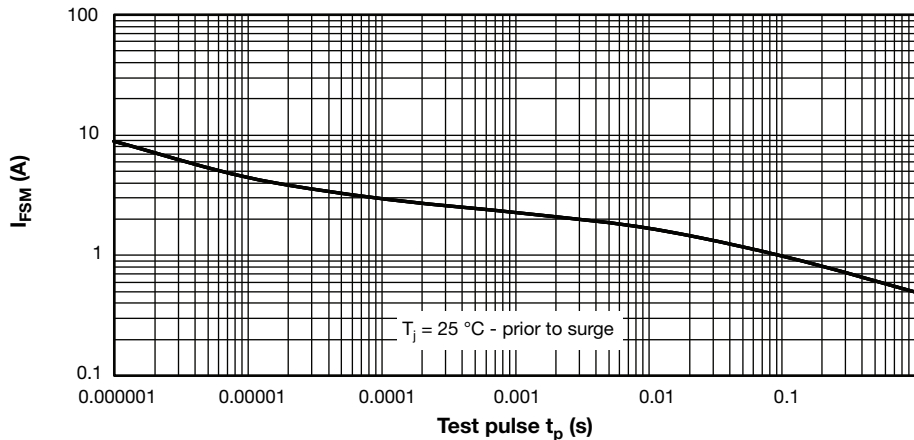


Fig. 2 - I<sub>FSM</sub> - Non-Repetitive Peak Forward Current vs. Pulse Duration - Maximum Admissible Values of Square Pulses

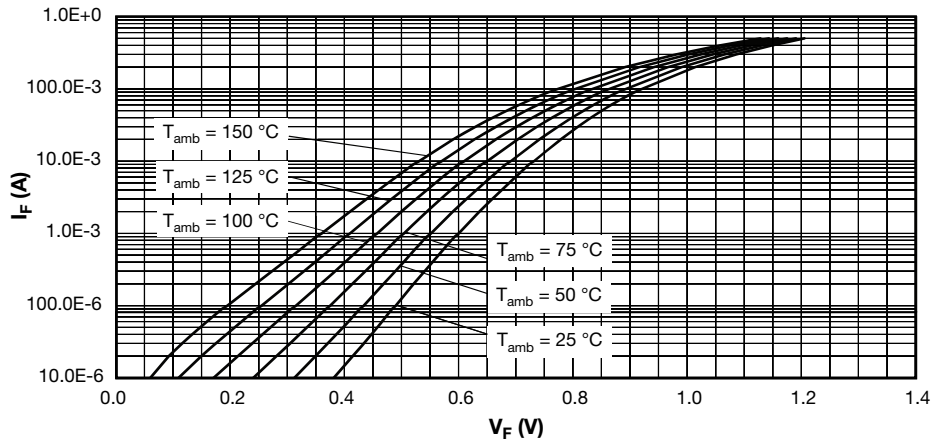


Fig. 3 -  $V_F$  - Typical Forward Current vs. Forward Voltage vs. Various Temperatures

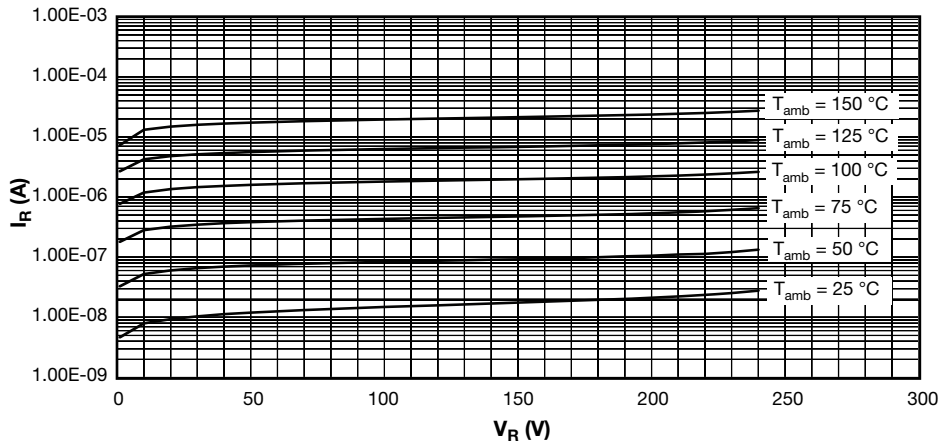
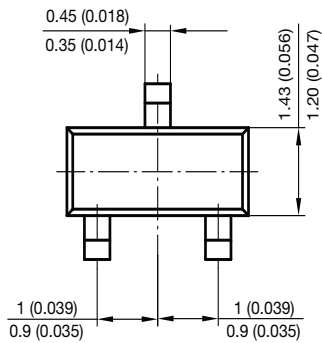
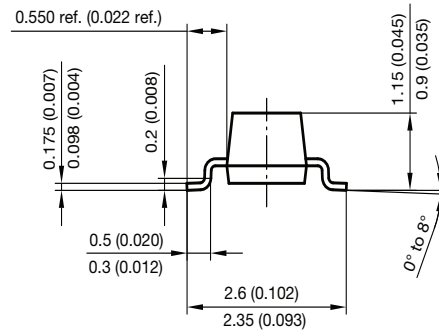
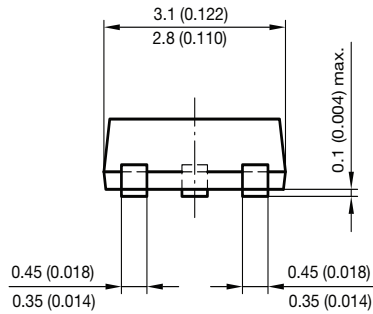


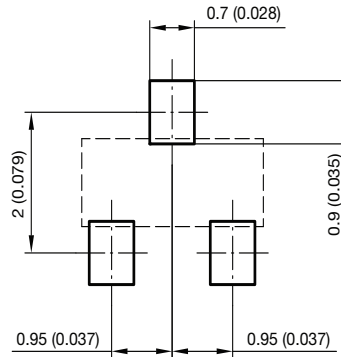
Fig. 4 -  $I_R$  - Typical Reverse Current vs. Reverse Voltage vs. Various Temperatures



**PACKAGE DIMENSIONS** in millimeters (inches): **SOT-23**



Foot print recommendation:



Document no.: 6.541-5014.01-4  
Rev. 8 - Date: 23.Sept.2009  
17418



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