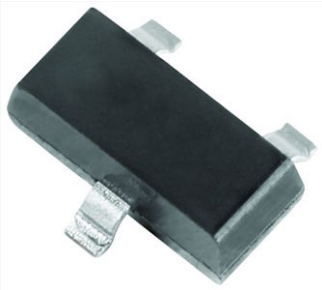
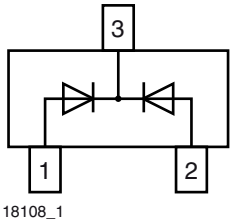
Small Signal Switching Diode, Dual





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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

Pb-free

e3

RoHS COMPLIANT

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 °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 µs	I_{FSM}	9	A
Non-repetitive peak forward surge current	t = 1 s	I_{FSM}	0.5	A
Maximum average forward rectified current (1)		$I_{F(AV)}$	200	mA
Forward continuous current (2)		I_F	400	mA
Repetitive peak forward current		I_{FRM}	625	mA
Power dissipation (2)		P_{tot}	350	mW

Notes

(1) Measured under pulse conditions; pulse time = $t_p \leq 0.3$ ms

(2) Device on fiberglass substrate

THERMAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	**TEST CONDITION**	**SYMBOL**	**VALUE**	**UNIT**
Thermal resistance junction to ambient air (1)		R_{thJA}	357	K/W
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	- 65 to + 150	°C
Operating temperature range		T_{op}	- 55 to + 150	°C

Note

(1) Device on fiberglass substrate

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

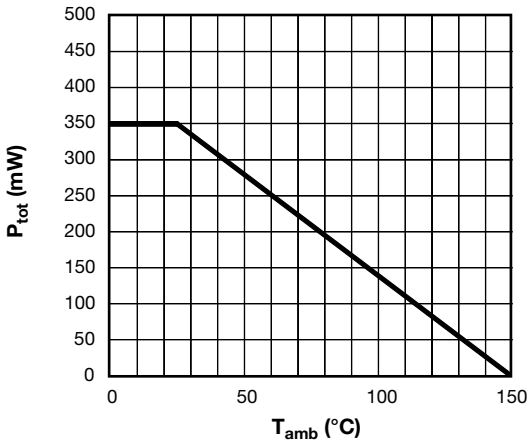


Fig. 1 - P_{tot} - Admissible Power Dissipation vs. Ambient Temperature

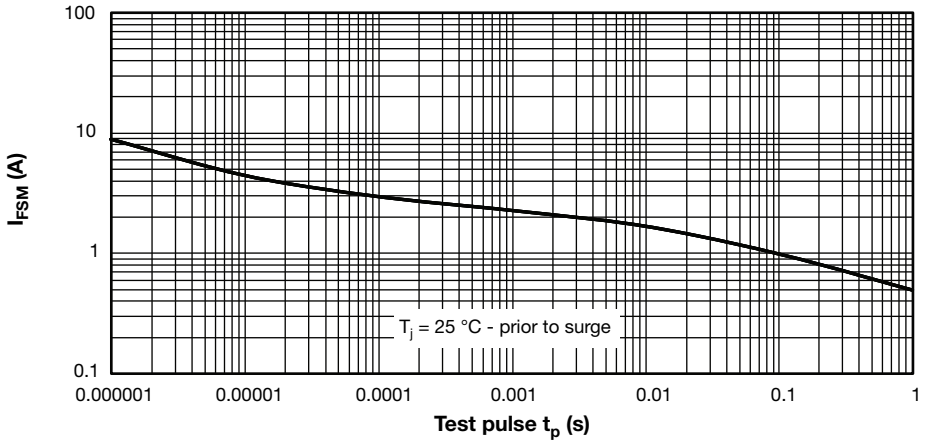


Fig. 2 - I_{FSM} - Non-Repetitive Peak Forward Current vs. Pulse Duration - Maximum Admissible Values of Square Pulses

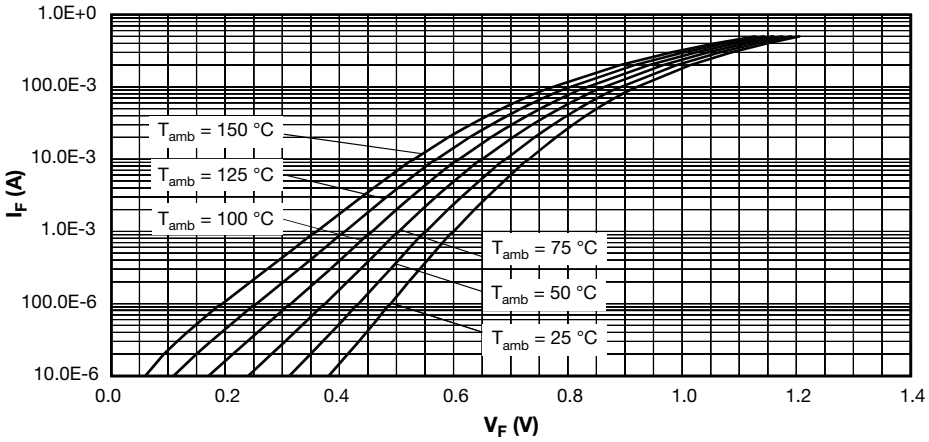


Fig. 3 - V_F - Typical Forward Current vs. Forward Voltage vs. Various Temperatures

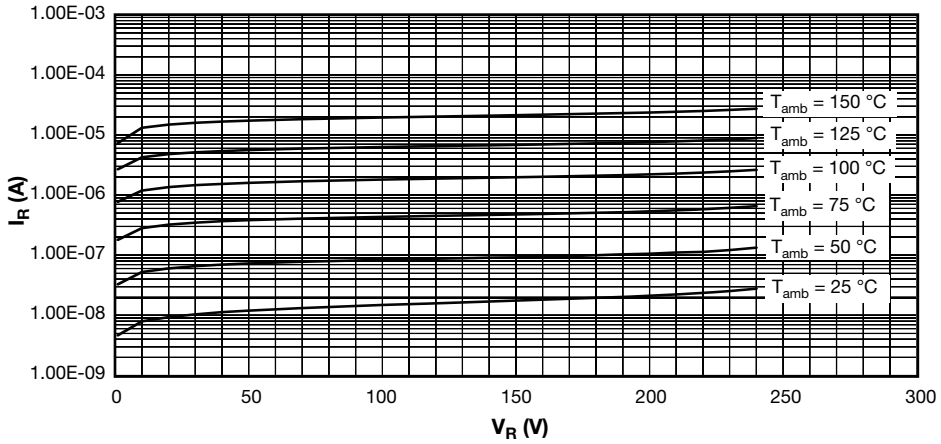
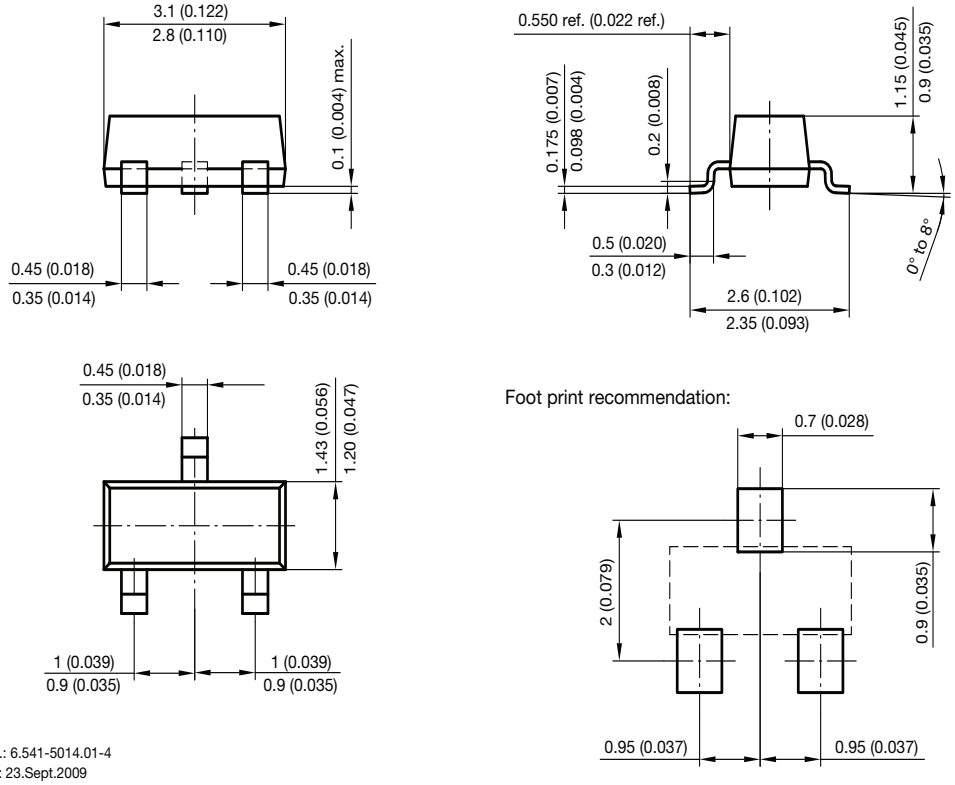


Fig. 4 - I_R - Typical Reverse Current vs. Reverse Voltage vs. Various Temperatures

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



Foot print recommendation:

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