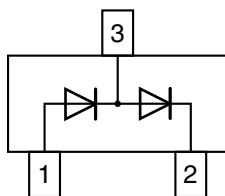


Dual In-Series Small Signal High Voltage Switching Diode



FEATURES

- Silicon epitaxial planar diode
- Fast switching dual in-series diode, especially suited for applications requiring high voltage capability
- 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


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
GSD2004S	GSD2004S-E3-08 or GSD2004S-E3-18	Dual diodes serial	DB6	Tape and reel
	GSD2004S-HE3-08 or GSD2004S-HE3-18			

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Continuous reverse voltage		V_R	240	V
Peak repetitive reverse voltage		V_{RRM}	300	V
Forward current (continuous)		I_F	225	mA
Peak repetitive forward current		I_{FRM}	625	mA
Non-repetitive peak forward current	$t_p = 1 \mu\text{s}$	I_{FSM}	4.0	A
	$t_p = 1 \text{ s}$	I_{FSM}	1.0	A
Power dissipation ⁽¹⁾		P_{tot}	350	mW

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Typical thermal resistance junction to ambient air ⁽¹⁾		R_{thJA}	357	$^{\circ}\text{C}/\text{W}$
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

⁽¹⁾ 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	$I_R = 100\text{ }\mu\text{A}$	V_{BR}	300			V
Leakage current	$V_R = 240\text{ V}$	I_R			100	nA
	$V_R = 240\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$	I_R			100	μA
Forward voltage	$I_F = 20\text{ mA}$	V_F		0.83	0.87	V
	$I_F = 100\text{ mA}$	V_F			1.00	V
Diode capacitance	$V_F = V_R = 0, f = 1\text{ MHz}$	C_D			5.0	pF
Reverse recovery time	$I_F = I_R = 30\text{ mA}, i_R = 3.0\text{ mA}, R_L = 100\text{ }\Omega$	t_{rr}			50	ns

Note

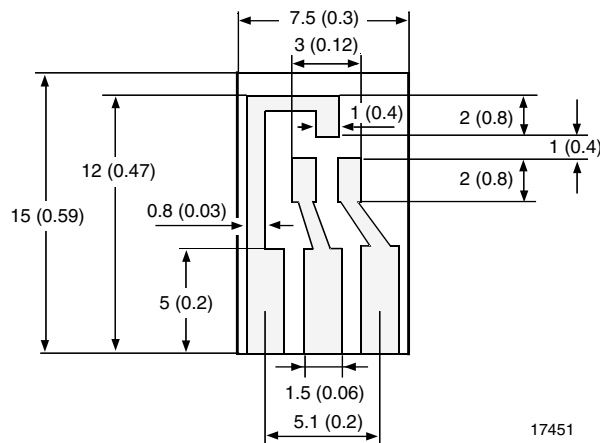
(1) Device on fiberglass substrate

LAYOUT FOR R_{thJA} TEST

Thickness:

Fiberglass 1.5 mm (0.059 inches)

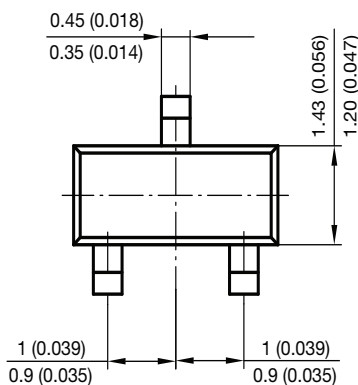
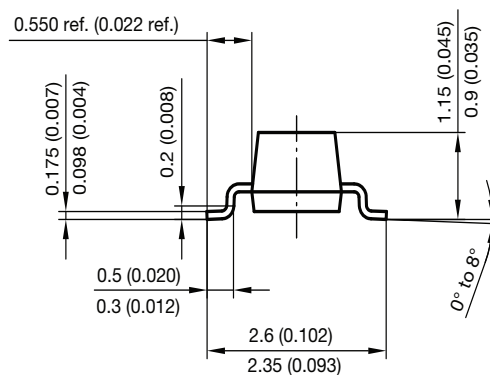
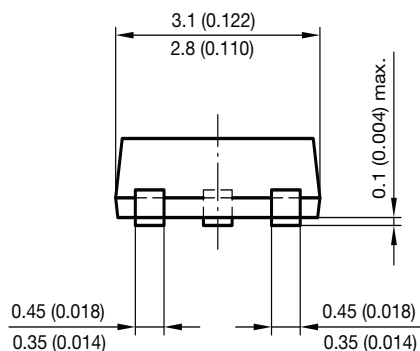
Copper leads 0.3 mm (0.012 inches)



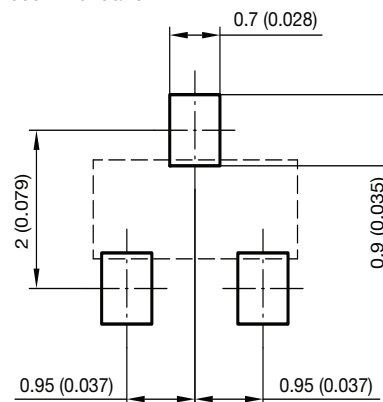
17451



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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Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9