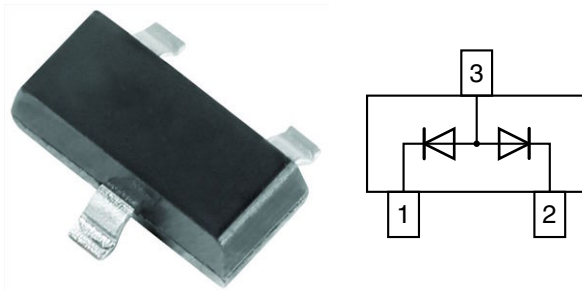


# Dual Common Anode Small Signal High Voltage Switching Diode



## FEATURES

- Silicon epitaxial planar diode
- Fast switching dual common anode 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](http://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
GSD2004A	GSD2004A-E3-08 or GSD2004A-E3-18	Dual diodes common anode	DBA	Tape and reel
	GSD2004A-HE3-08 or GSD2004A-HE3-18			

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Continuous reverse voltage		$V_R$	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	$t_p = 1\text{ }\mu\text{s}$	$I_{FSM}$	4	A
	$t_p = 1\text{ s}$		1	A
Power dissipation <sup>(1)</sup>		$P_{tot}$	350	mW

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

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Typical thermal resistance junction to ambient air <sup>(1)</sup>		$R_{thJA}$	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

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

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , 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	$\mu\text{A}$
Forward voltage	$I_F = 20\text{ mA}$	$V_F$		0.83	0.87	V
	$I_F = 100\text{ mA}$	$V_F$			1	V
Diode capacitance	$V_F = V_R = 0, f = 1\text{ MHz}$	$C_D$			5	pF
Reverse recovery time	$I_F = I_R = 30\text{ mA}, I_R = 3\text{ mA}, R_L = 100\text{ }\Omega$	$t_{rr}$			50	ns

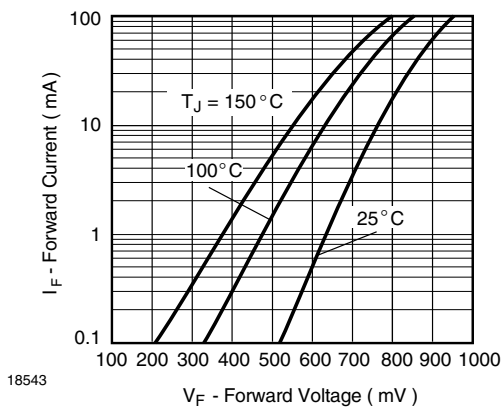
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Typical Instantaneous Forward Characteristics

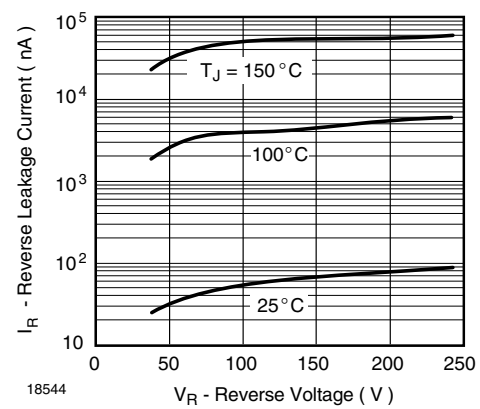


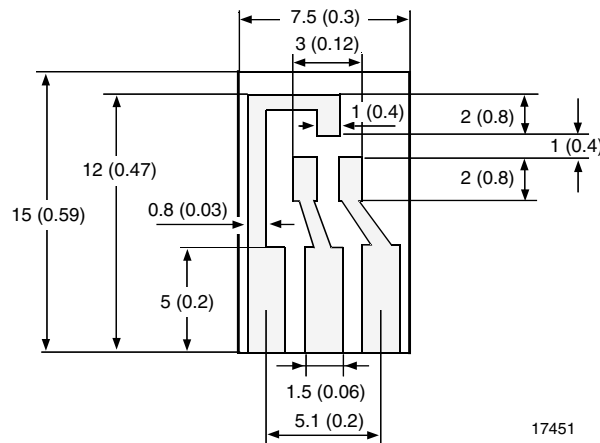
Fig. 2 - Typical Reverse Characteristics

**Layout For RthJA test**

Thickness:

Fiberglass 1.5 mm (0.059 in.)

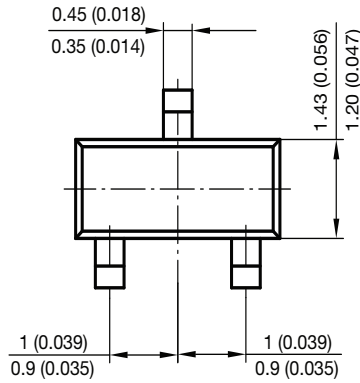
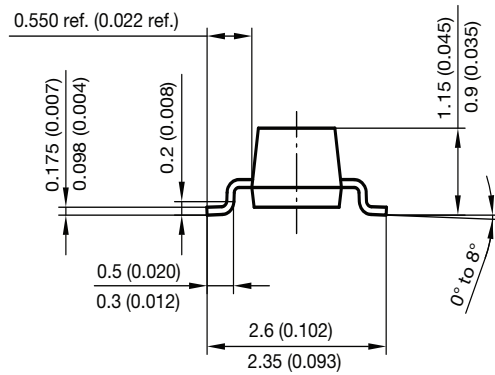
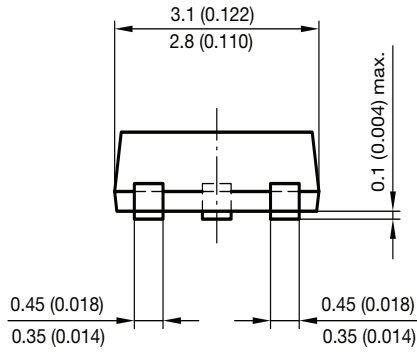
Copper leads 0.3 mm (0.012 in.)



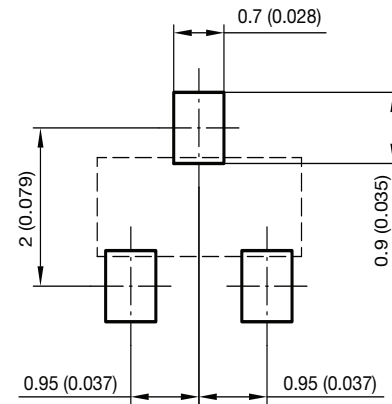
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**PACKAGE DIMENSIONS** in millimeters (inches): **SOT-23**



Foot print recommendation:



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Rev. 8 - Date: 23.Sept.2009  
17418



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