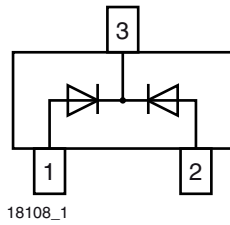


# Dual Common Cathode Small Signal High Voltage Switching Diode



## FEATURES

- Silicon epitaxial planar diode
- Fast switching dual common cathode diode, especially suited for applications requiring high voltage capability
- AEC-Q101 qualified available (part number on request)
- Molding compound meets UL 94 V-0 flammability rating
- Moisture sensitivity level (MSL) 1
- Base P/N-G3 - green, commercial grade
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



## LINKS TO ADDITIONAL RESOURCES



## MECHANICAL DATA

**Case:** SOT-23

**Weight:** approx. 9.2 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	AEC-Q101 QUALIFIED	TYPE MARKING	CIRCUIT CONFIGURATION	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
GSD2004C-G	GSD2004C-G3-08	no	DBK	Common cathode	3 000 (8 mm tape on 7" reel)	15 000
	GSD2004C-G3-18	no			10 000 (8 mm tape on 13" reel)	10 000

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) <sup>(1)</sup>		$I_F$	400	mA	
Peak repetitive forward current <sup>(1)</sup>		$I_{FRM}$	625	mA	
Non-repetitive peak forward current <sup>(1)</sup>	$t_p = 1\text{ }\mu\text{s}$	$I_{FSM}$	4	A	
	$t_p = 1\text{ s}$		1	A	
Power dissipation	on FR-4 board with recommended soldering footprint	$P_{tot}$	300	mW	
	Infinite heatsink		500	mW	

**Note**

<sup>(1)</sup> Infinite heatsink

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	according to JEDEC <sup>®</sup> 51-3 on FR-4 board with recommended soldering footprint	$R_{thJA}$	420	K/W	
Thermal resistance junction to lead	Infinite heatsink	$R_{thJL}$	250	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	$^{\circ}\text{C}$	



ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	I <sub>R</sub> = 100 μA	V <sub>BR</sub>	300			V
Leakage current	V <sub>R</sub> = 240 V	I <sub>R</sub>			100	nA
	V <sub>R</sub> = 240 V, T <sub>J</sub> = 150 °C	I <sub>R</sub>			100	μA
Forward voltage	I <sub>F</sub> = 20 mA	V <sub>F</sub>		0.83	0.87	V
	I <sub>F</sub> = 100 mA	V <sub>F</sub>			1	V
Diode capacitance	V <sub>F</sub> = V <sub>R</sub> = 0, f = 1 MHz	C <sub>D</sub>			5	pF
Reverse recovery time	I <sub>F</sub> = I <sub>R</sub> = 30 mA, I <sub>R</sub> = 3 mA, R <sub>L</sub> = 100 Ω	t <sub>rr</sub>			50	ns

**TYPICAL CHARACTERISTICS** (T<sub>amb</sub> = 25 °C, unless otherwise specified)

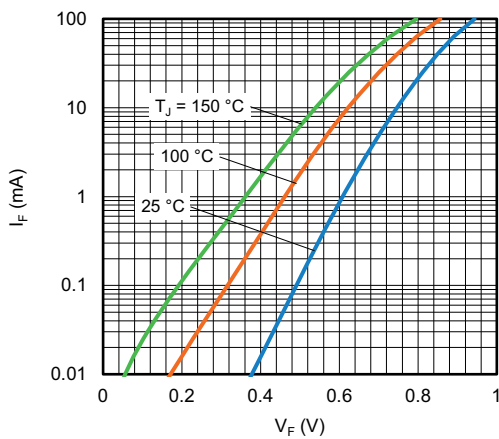


Fig. 1 - Forward Current vs. Forward Voltage

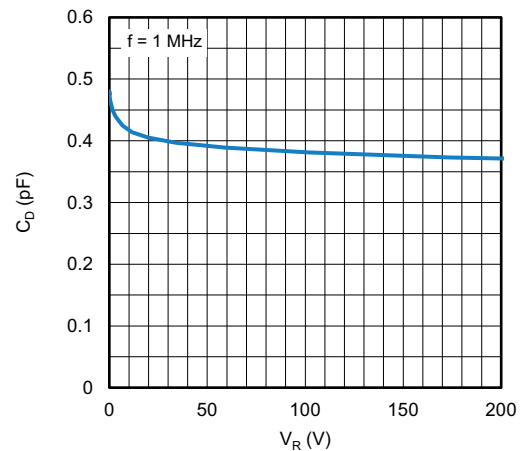


Fig. 3 - Typical Capacitance vs. Reverse Voltage

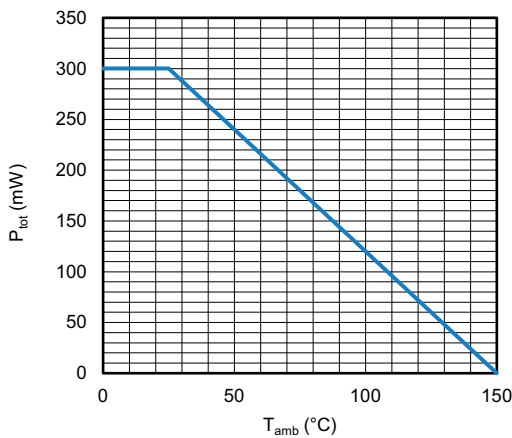


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

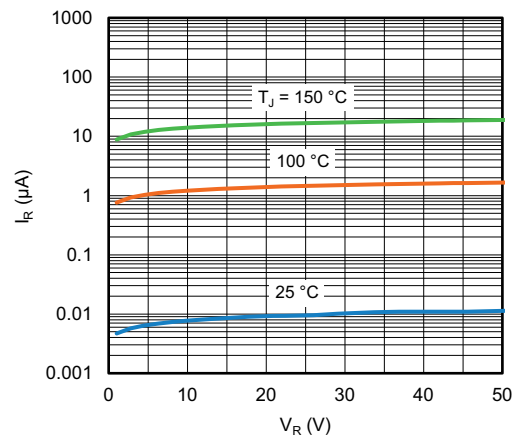
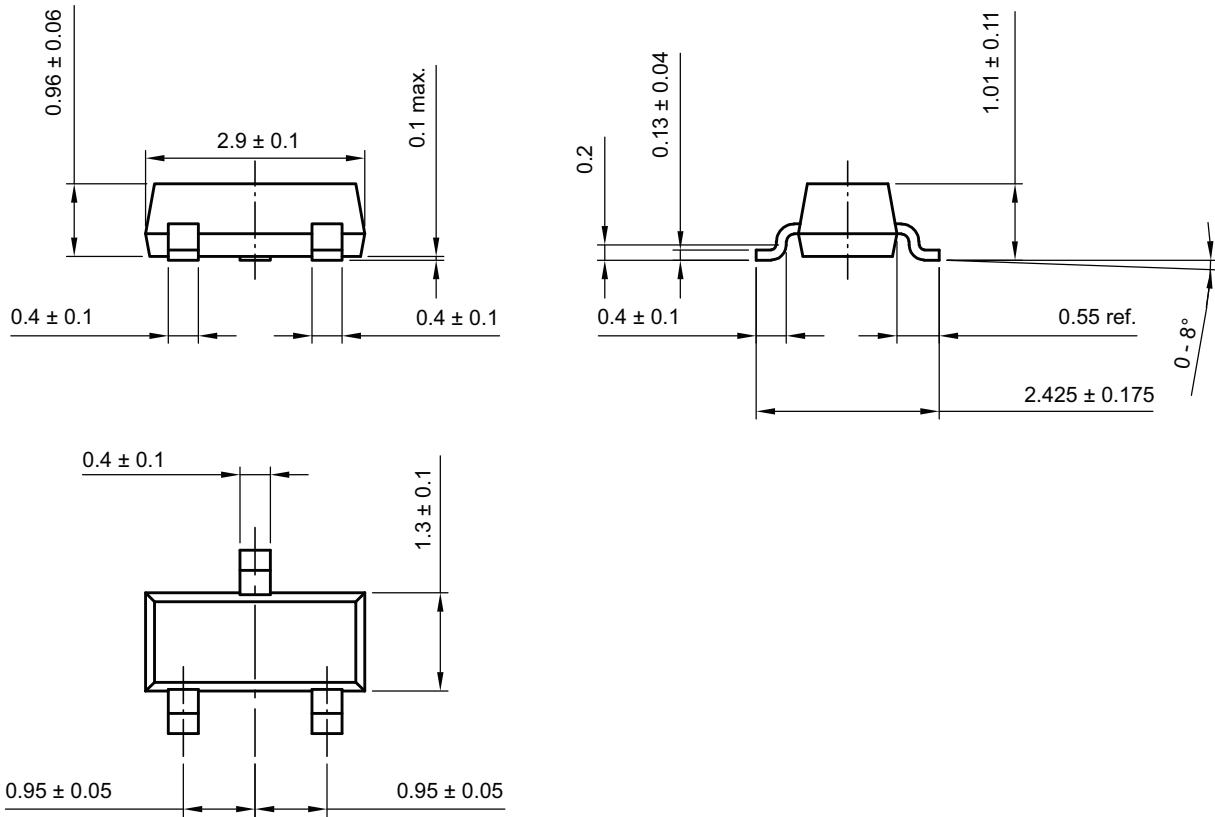


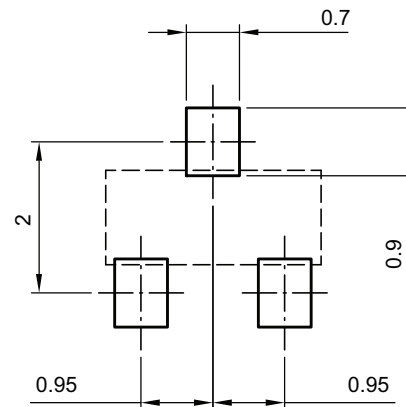
Fig. 4 - Typical Reverse Leakage Current vs. Reverse Voltage



PACKAGE DIMENSIONS in millimeters: SOT-23



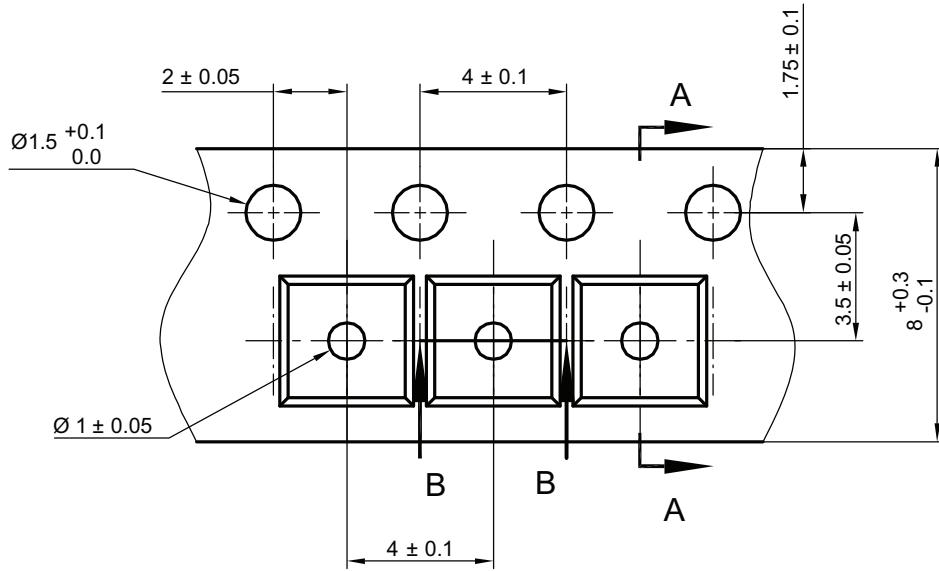
footprint recommendation:



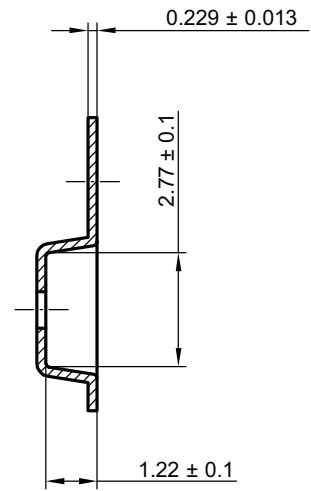
Created - Date: 18-Oct-2021  
 Rev. 01 - Date: 18-Jan-2022  
 S8-V-3929.01-009 (4)



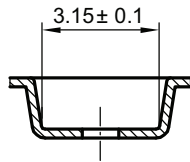
CARRIER TAPE SOT-23



A-A Section



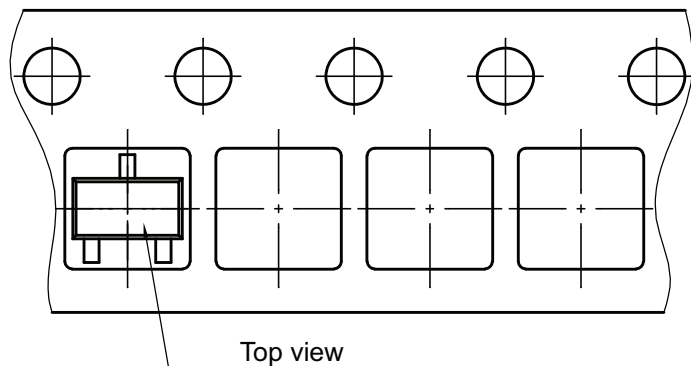
B-B Section



Created Date: 04-Feb-2010  
Rev. Date: 07-Feb-2022  
S8-V-3929.01-005 (4)

ORIENTATION IN CARRIER TAPE SOT-23

Unreeling direction →



Created Date: 04-Feb-2010  
Rev. Date: 07-Nov-2022  
S8-V-3929.01-005 (4)



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