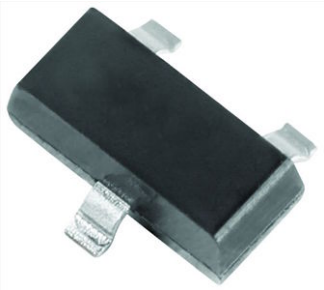
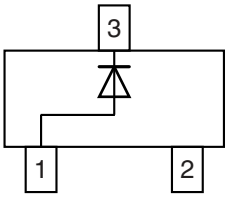
Small Signal Switching Diode





FEATURES

- Silicon epitaxial planar diode
- Fast switching diode in case SOT-23, especially suited for automatic insertion
- 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

Pb-free

e3

RoHS COMPLIANT

HALOGEN FREE

GREEN (5-2008)

LINKS TO ADDITIONAL RESOURCES

3D Models | SPICE Models | Marking | Parametric Search | Order Samples

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
MMBD914-G	MMBD914-G3-08	no	5DG	Single	3 000 (8 mm tape on 7" reel)	15 000
	MMBD914-G3-18	no			10 000 (8 mm tape on 13" reel)	10 000

PACKAGE

PACKAGE NAME	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
SOT-23	9.2 mg	UL 94 V-0	MSL 1 (according J-STD-020)	Peak temperature max. 260 °C

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Peak reverse voltage		V_{RRM}	100	V
Maximum average forward rectified current	f ≥ 50 Hz	$I_{F(AV)}$	250	mA
Power dissipation	on FR-4 board with recommended soldering footprint	P_{tot}	270	mW
	Infinite heatsink		390	mW

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THERMAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	**TEST CONDITION**	**SYMBOL**	**VALUE**	**UNIT**
Thermal resistance junction to ambient air	according to JEDEC® 51-3 on FR-4 board with recommended soldering footprint	R_{thJA}	460	K/W
Thermal resistance junction to lead	Infinite heatsink	R_{thJL}	320	K/W
Maximum junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	-65 to +150	°C
Operating temperature range		T_{op}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MAX.**	**UNIT**
Forward voltage drop	I_F = 10 mA	V_F	1	V
Reverse current	V_R = 20 V	I_R	25	nA
	V_R = 75 V	I_R	5	µA
Reverse recovery time	I_F = 10 mA to i_R = 1 mA, V_R = 6 V, R_L = 100 Ω	t_{rr}	4	ns
Diode capacitance	V_R = 0 V, f = 1 MHz	C_D	1.5	pF

TYPICAL CHARACTERISICS (T_{amb} = 25 °C, unless otherwise specified)

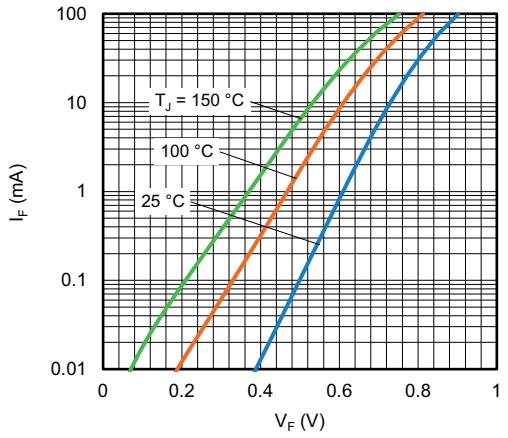

Fig. 1 - Forward Current vs. Forward Voltage

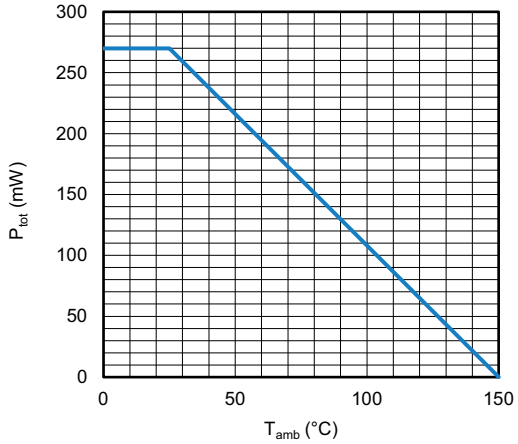

Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

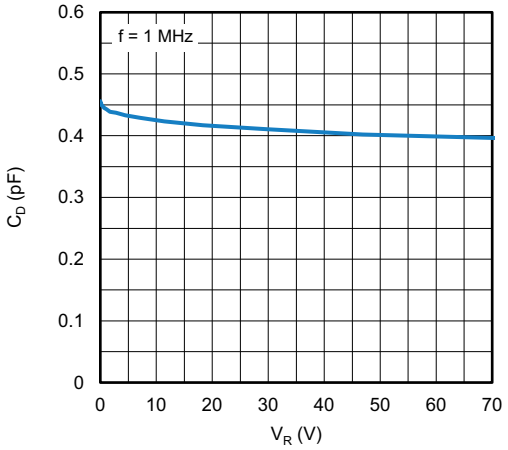

Fig. 3 - Typical Capacitance vs. Reverse Voltage

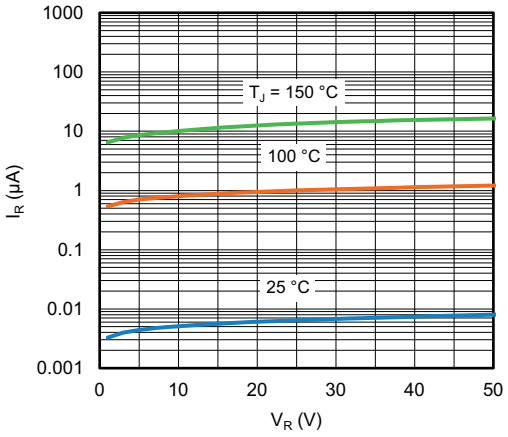

Fig. 4 - Typical Reverse Leakage Current vs. Reverse Voltage

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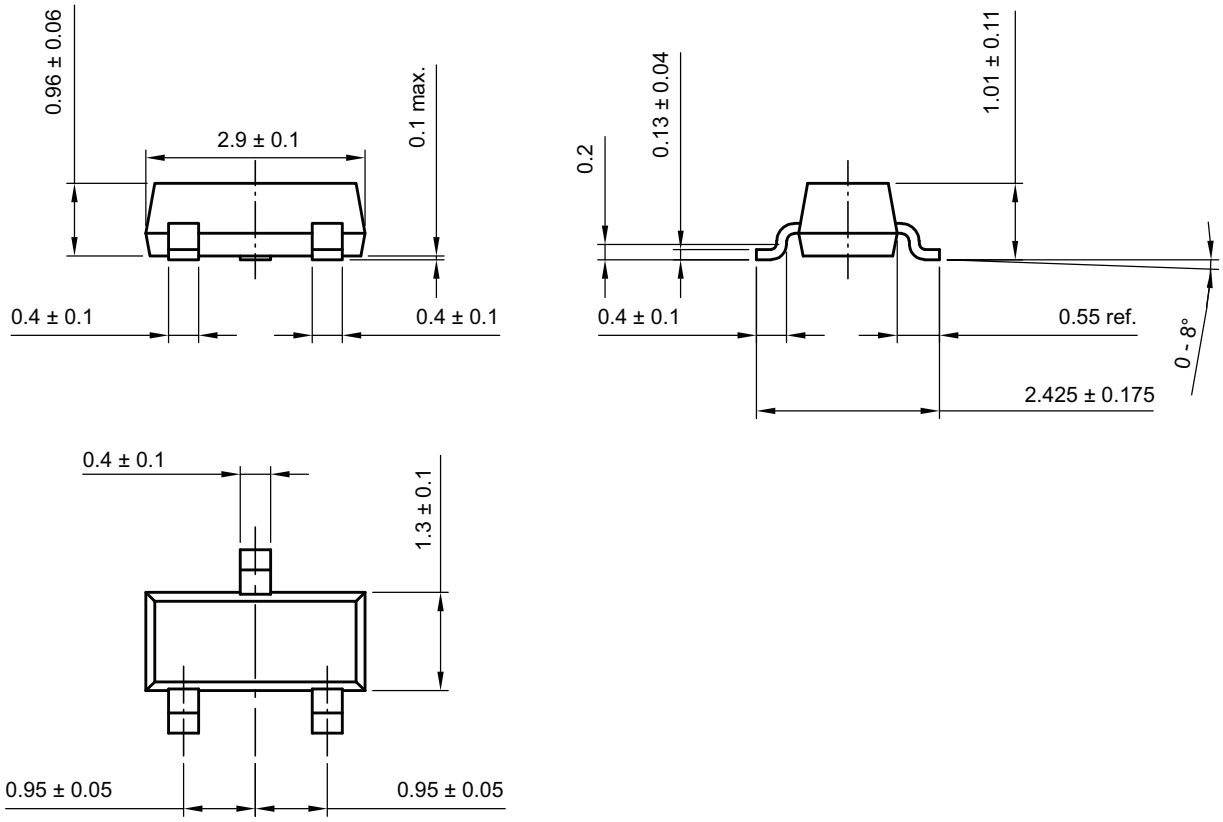
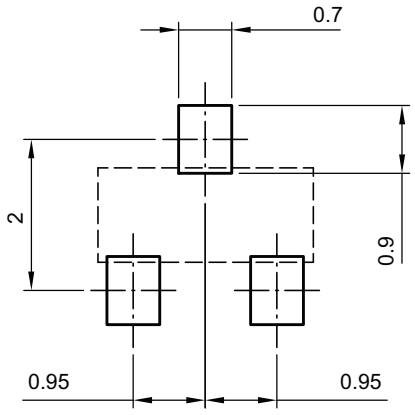
PACKAGE DIMENSIONS in millimeters: **SOT-23**



footprint recommendation:



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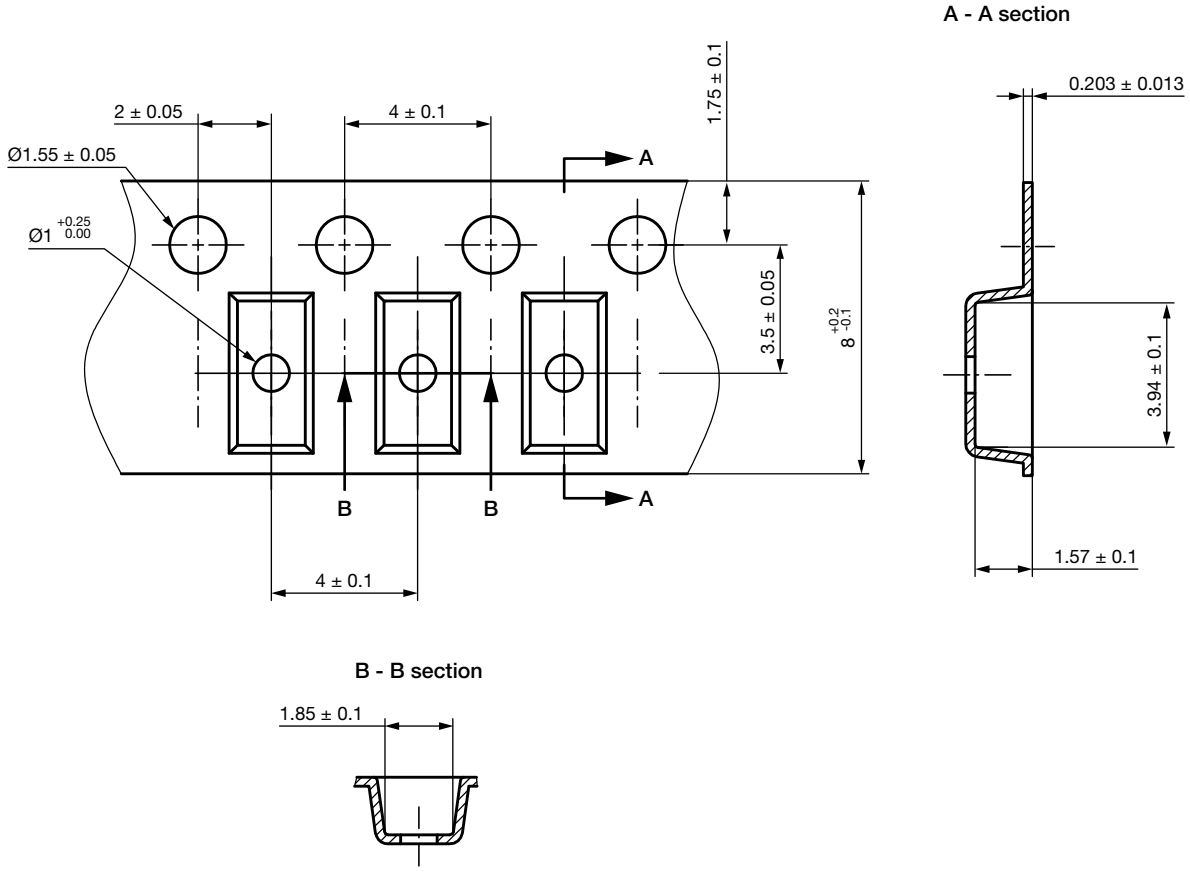
CARRIER TAPE SOT-23



Rev. 02 - Date: 21. Jan. 2014
Document no.: S8-V-3717.10-002 (4)

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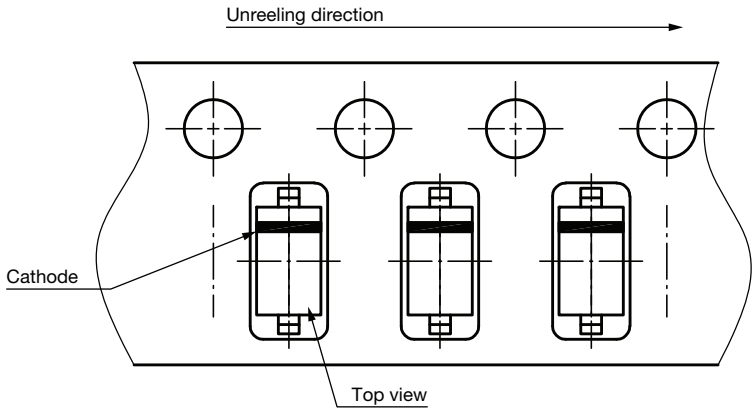
ORIENTATION IN CARRIER TAPE SOT-23



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