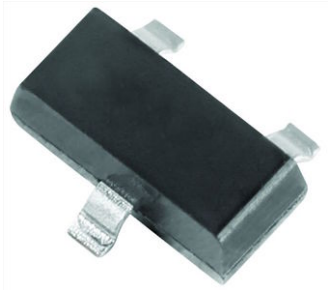
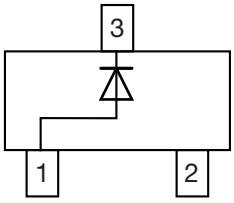
Small Signal Schottky Diodes, Single and Dual

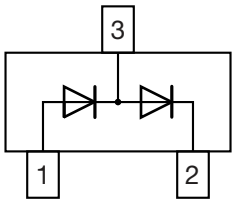


BAS70-00

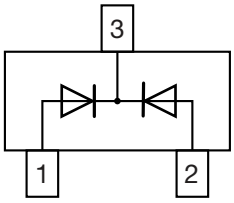


Top view

BAS70-04

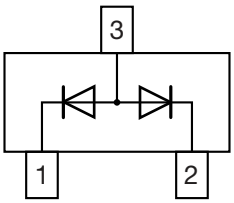


BAS70-05



Top view

BAS70-06



FEATURES

- These diodes feature very low turn-on voltage and fast switching
- These devices are protected by a PN junction guardring against excessive voltage, such as electrostatic discharges
- AEC-Q101 qualified available
- Molding compound meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level (MSL) 1
- 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

AUTOMOTIVE GRADE Available

Pb-free

e3

RoHS COMPLIANT

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

LINKS TO ADDITIONAL RESOURCES

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

PARTS TABLE

PART	ORDERING CODE	AEC-Q101 QUALIFIED	TYPE MARKING	CIRCUIT CONFIGURATION	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
BAS70-00	BAS70-00-E3-08	no	73G	Single	3 000 (8 mm tape on 7” reel)	15 000
	BAS70-00-HE3_A-08	yes				
	BAS70-00-E3-18	no			10 000 (8 mm tape on 13” reel)	10 000
	BAS70-00-HE3_A-18	yes				
BAS70-04	BAS70-04-E3-08	no	74G	Dual serial	3 000 (8 mm tape on 7” reel)	15 000
	BAS70-04-HE3_A-08	yes				
	BAS70-04-E3-18	no			10 000 (8 mm tape on 13” reel)	10 000
	BAS70-04-HE3_A-18	yes				
BAS70-05	BAS70-05-E3-08	no	75G	Common cathode	3 000 (8 mm tape on 7” reel)	15 000
	BAS70-05-HE3_A-08	yes				
	BAS70-05-E3-18	no			10 000 (8 mm tape on 13” reel)	10 000
	BAS70-05-HE3_A-18	yes				
BAS70-06	BAS70-06-E3-08	no	76G	Common anode	3 000 (8 mm tape on 7” reel)	15 000
	BAS70-06-HE3_A-08	yes				
	BAS70-06-E3-18	no			10 000 (8 mm tape on 13” reel)	10 000
	BAS70-06-HE3_A-18	yes				

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
Repetitive peak reverse voltage		$V_{RRM} = V_{RWM} = V_R$	70	V
Forward continuous current (1)		I_F	200	mA
Surge forward current (1)	$t_p < 1$ s	I_{FSM}	600	mA
Power dissipation	on FR-4 board with recommended soldering footprint	P_{tot}	220	mW
	Infinite heatsink		310	mW

Note
(1) Infinite heatsink

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 lead	Infinite heatsink	R_{thJL}	320	K/W
Maximum junction temperature		T_j	125	°C
Storage temperature range		T_{stg}	-65 to +150	°C
Operating temperature range		T_{op}	-55 to +125	°C

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	I_R = 10 µA (pulsed)	V_{BR}	70			V
Leakage current	V_R = 50 V	I_R		20	100	nA
Forward voltage	I_F = 1 mA	V_F			410	mV
Forward voltage (1)	I_F = 50 mA	V_F			1	V
Diode capacitance	V_R = 0; f = 1 MHz	C_D		1.5	2	pF
Reverse recovery time	$I_F = I_R$ = 10 mA, i_R = 1 mA, R_L = 100 Ω	t_{rr}			5	ns

Note
(1) Pulse test $t_p < 300$µs

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

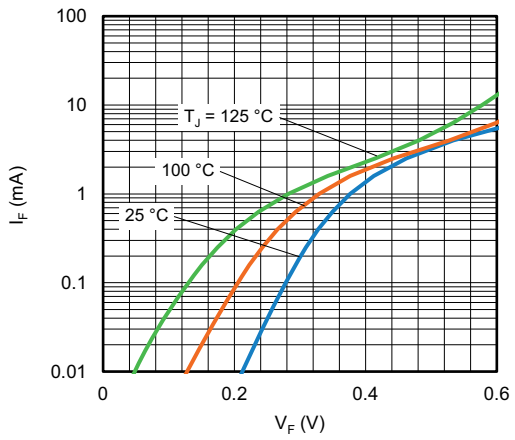


Fig. 1 - Typical Forward Current vs. Forward Voltage

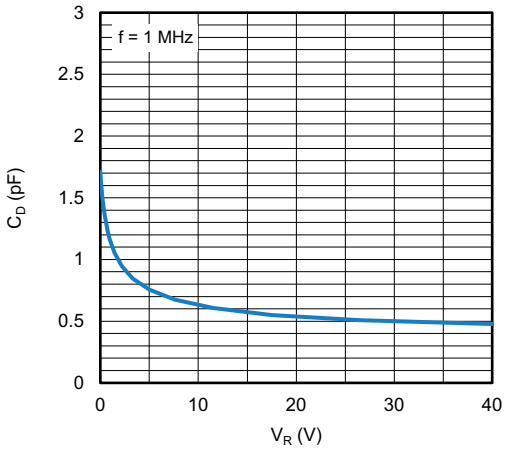


Fig. 3 - Typical Capacitance vs. Reverse Voltage

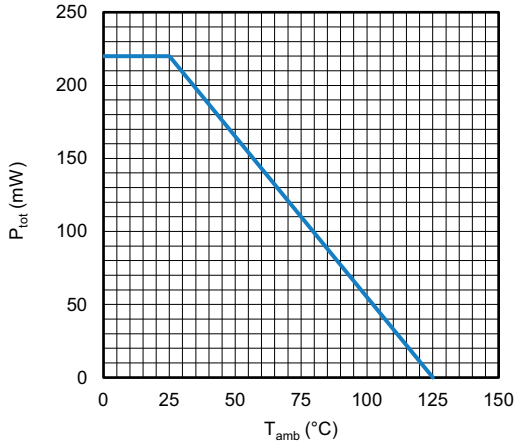


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

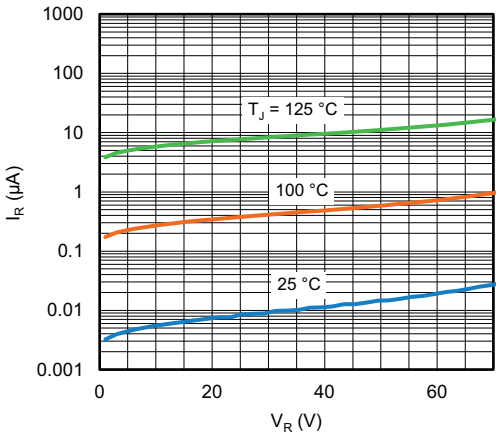
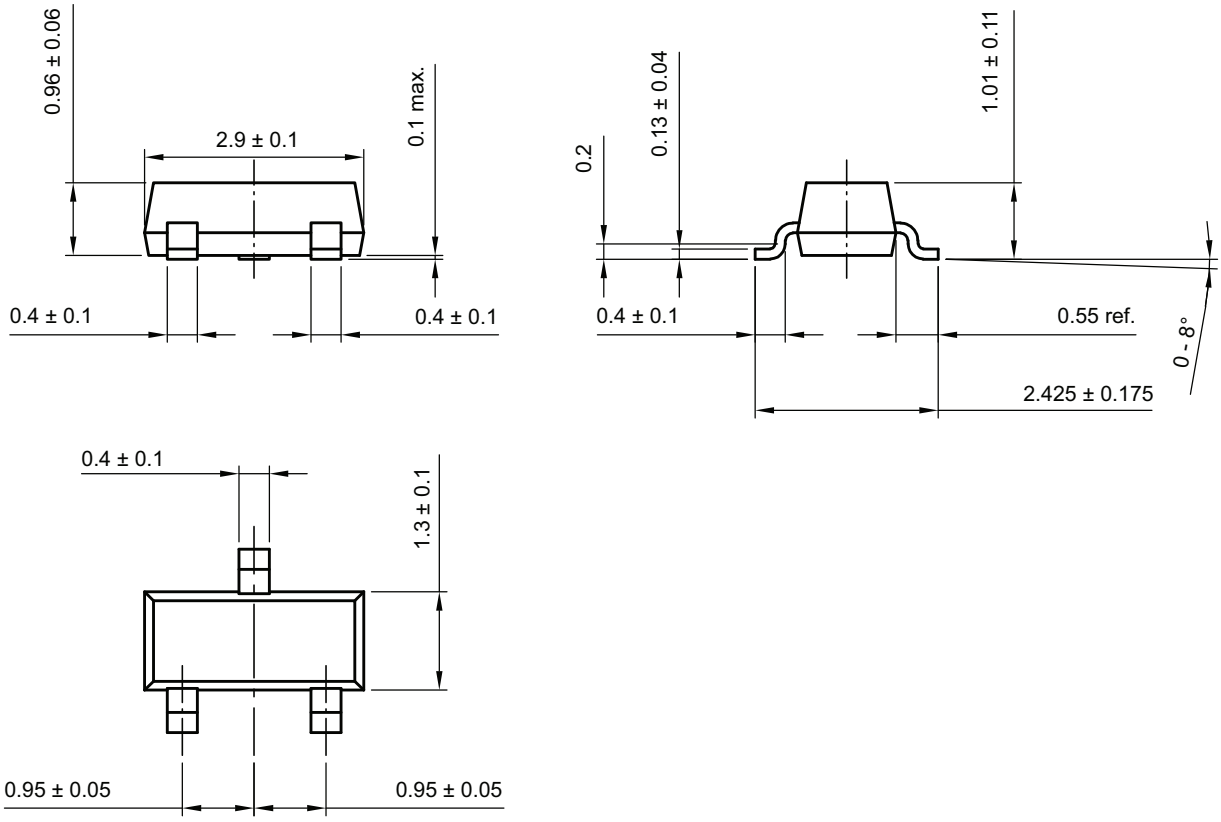
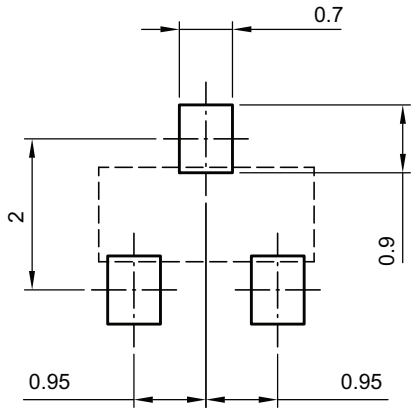


Fig. 4 - Typical Reverse Leakage Current vs. Reverse Voltage

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



footprint recommendation:



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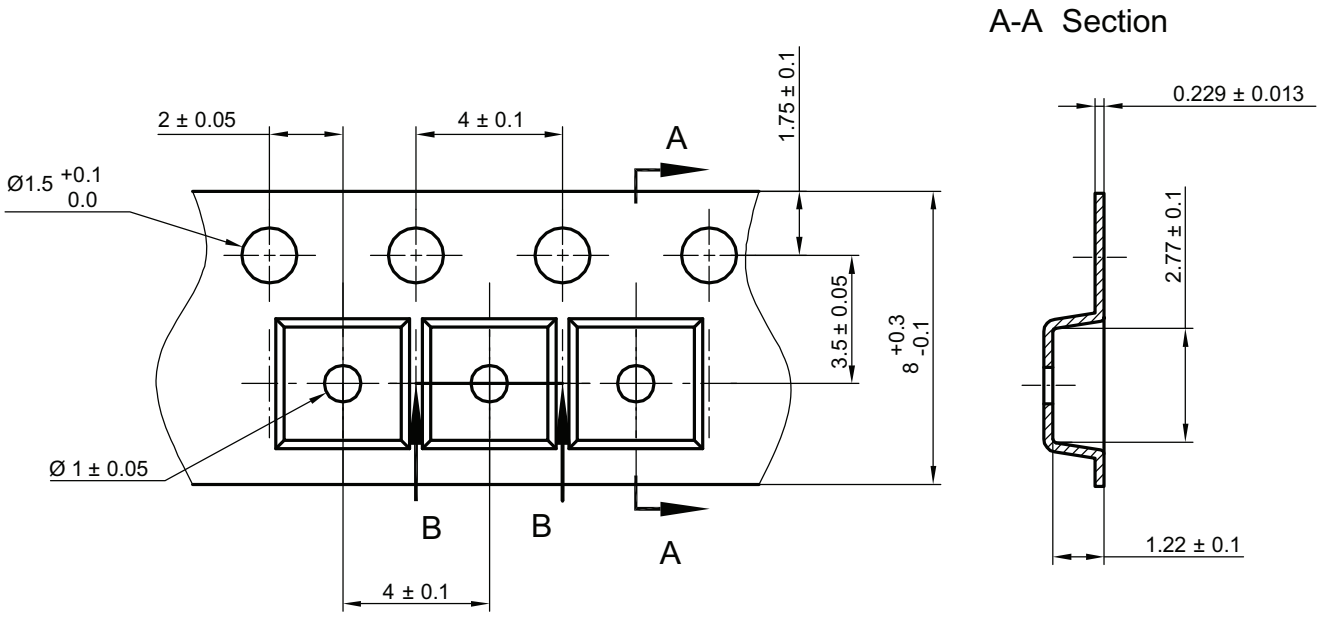
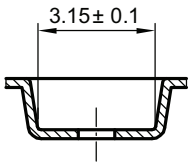
Rev. 01 - Date: 18-Jan-2022
S8-V-3929.01-009 (4)

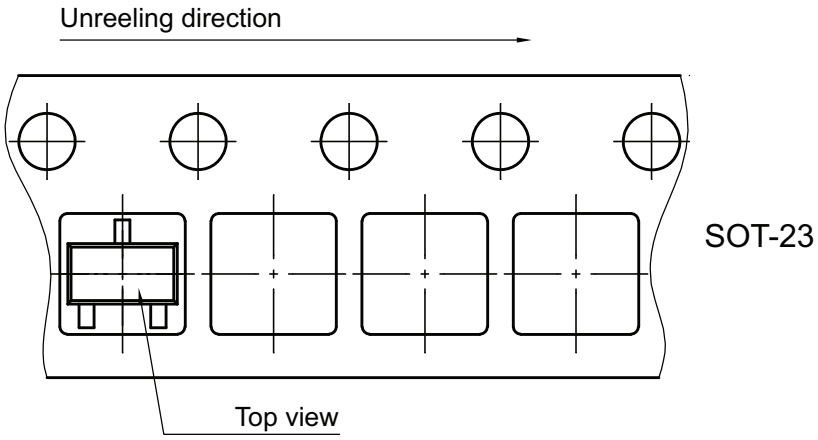
CARRIER TAPE SOT-23





Created Date: 04-Feb-2010
Rev. Date: 07-Feb-2022

ORIENTATION IN CARRIER TAPE SOT-23



Created Date: 04-Feb-2010
Rev. Date: 07-Nov-2022

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