

SOT-23 Formed SMD Package

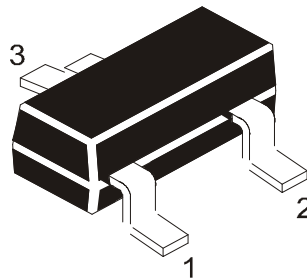
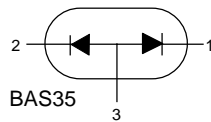
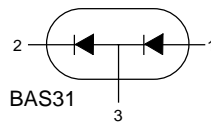
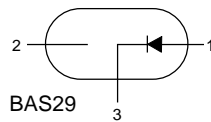
BAS29, BAS31, BAS35

SILICON PLANAR EPITAXIAL HIGH-SPEED DIODE

BAS29 single diode, BAS31 dual diodes in series and BAS35 dual diodes, common anodes.

Marking

BAS31 – L21
BAS35 – L22



ABSOLUTE MAXIMUM RATINGS (per diode)

Continuous reverse voltage	V_R	max.	90 V
Repetitive peak forward current	I_{FRM}	max.	600 mA
Forward current	I_F	max.	250 mA
Junction temperature	T_j	max.	150 °C
Forward voltage at $I_F = 50$ mA	V_F	<	0.84 V
Reverse recovery time when switched from $I_F = 30$ mA to $I_R = 30$ mA; $R_L = 100 \Omega$; measured at $I_R = 3$ mA	t_{rr}	<	75 ns

RATINGS (per diode) (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Limiting values

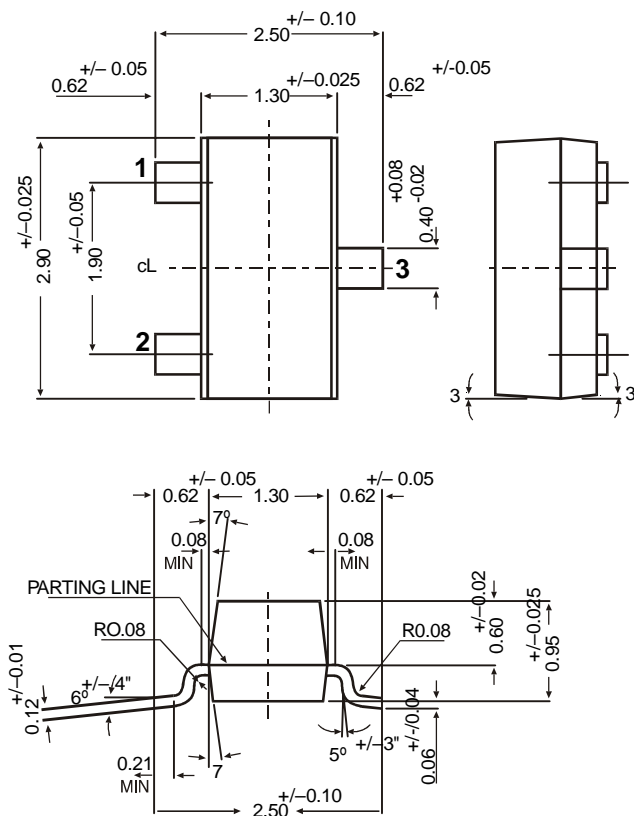
Continuous reverse voltage	V_R	max.	90 V
Repetitive peak forward current	I_{FRM}	max.	600 mA
Repetitive peak reverse current	I_{RRM}	max.	600 mA

BAS29, BAS31, BAS35

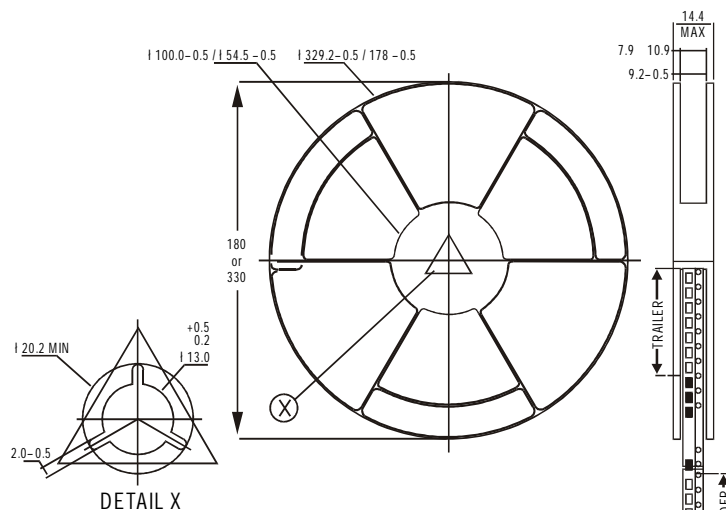
Average rectified forward current (averaged over any 20 ms period)	$I_{F(AV)}$	max.	250 mA
Non-repetitive peak forward current	I_{FSM}	max.	3 A
$t = 1 \mu s$; $T_j = 25^\circ C$ prior to surge; per crystal		max.	0.75 A
$t = 1 s$; $T_j = 25^\circ C$ prior to surge; per crystal	I_F	max.	250 mA
Forward current (D)			
Repetitive peak reverse energy	E_{RRM}	max.	5.0 mJ
$t_p \geq 50 \mu s$; $f \leq 20$ Hz; $T_j = 25^\circ C$	T_{stg}	-55 to +150	$^\circ C$
Storage temperature	T_j	max.	150 $^\circ C$
Junction temperature			
THERMAL RESISTANCE			
From junction to ambient*	$R_{th j-a}$	=	430 K/W
CHARACTERISTICS (per diode)			
$T_{amb} = 25^\circ C$ unless otherwise specified			
Forward voltage			
$I_F = 10$ mA	V_F	<	0.75 V
$I_F = 50$ mA	V_F	<	0.84 V
$I_F = 100$ mA	V_F	<	0.90 V
$I_F = 200$ mA	V_F	<	1.00 V
$I_F = 400$ mA	V_F	<	1.25 V
Reverse currents			
$V_R = 90$ V	I_R	<	100 nA
$V_R = 90$ V; $T_{amb} = 150^\circ C$	I_R	<	100 μA
Reverse avalanche breakdown voltage			
$I_R = 1$ mA	$V_{(BR)R}$	>	120 V
Diode capacitance			
$V_R = 0$; $f = 1$ MHz	C_d	<	35 pF
Reverse recovery time when switched from			
$I_F = 30$ mA to $I_R = 30$ mA; $R_L = 100 \Omega$; measured at $I_R = 3$ mA	t_{rr}	<	75 ns

* When mounted on a ceramic substrate of 8 mm × 10 mm × 0.7 mm.

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SOT-23 Package Reel Information Reel specifications for Packing (13"/7" reels)

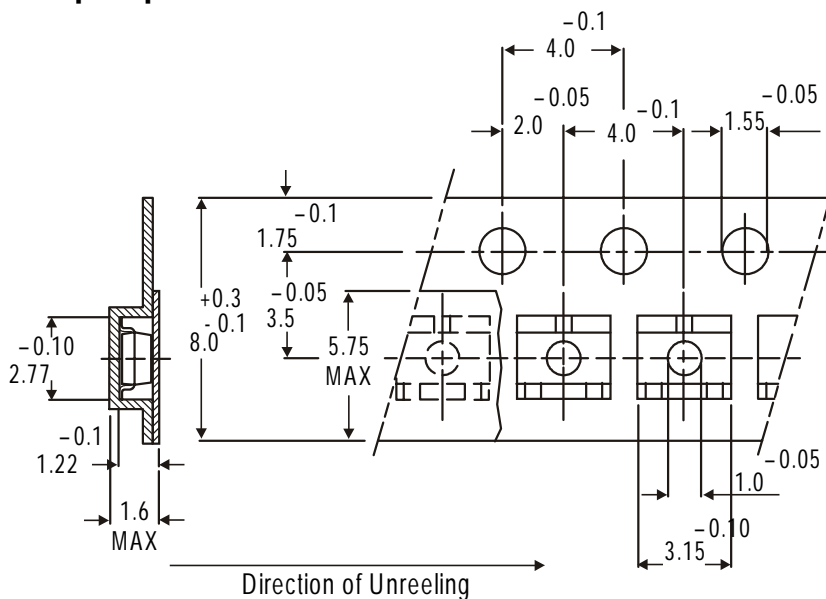


All dimensions in mm
330 / 180 mm Antistatic Coated Plastic Reel

NOTES:

- | No. of Devices | 8mm Tape
Size of Reel
330 mm (13")
10,000 Pcs | 8mm Tape
Size of Reel
180 mm (7")
3,000 Pcs |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| 1. | The bandier of 330 mm reel contains at least 10,000 devices. | |
| 2. | The bandier of 180 mm reel contains at least 3,000 devices. | |
| 3. | No more than 0.5% missing devices / reel. 50 empty compartments for 330 mm reel. 15 empty compartments for 180 mm reel. | |
| 4. | Three consecutive empty places might be found provided this gap is followed by 6 consecutive devices. | |
| 5. | The carrier tape (leader) starts with at least 75 empty positions (equivalent to 330 mm). In order to fix the carrier tape a self adhesive tape of 20 to 50 mm is applied. At the end of the bandier at least 40 empty positions (equivalent to 160 mm) are there. | |

Tape Specification for SOT-23 Surface Mount Device



All dimensions in mm

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
SOT-23 T&R	3K/reel	136 gm/3K pcs	3" x 7.5" x 7.5"	12.0K	17" x 15" x 13.5"	192.0K	12 kgs
			9" x 9" x 9"	51.0K	19" x 19" x 19"	408.0K	28 kgs
	10K/reel	415 gm/10K pcs	13" x 13" x 0.5"	10.0K	17" x 15" x 13.5"	300.0K	16 kgs

Customer Notes

Component Disposal Instructions

1. CDIL Semiconductor Devices are RoHS compliant, customers are requested to please dispose as per prevailing Environmental Legislation of their Country.
2. In Europe, please dispose as per EU Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE).

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished on the CDIL Web Site/ CD is believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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