

**SOT-23 Formed SMD Package**

**CMBD4150**

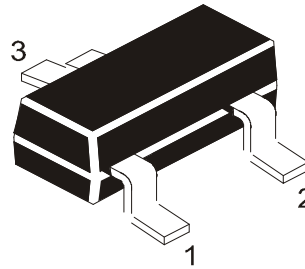
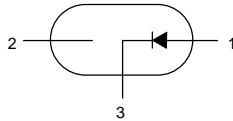
*SILICON PLANAR EPITAXIAL HIGH SPEED DIODE*

**Marking**

CMBD4150 = D18

**Pin configuration**

- 1 = ANODE
- 2 = NC
- 3 = CATHODE



**ABSOLUTE MAXIMUM RATINGS**

Continuous reverse voltage	$V_R$		50 V
Repetitive peak reverse voltage	$V_{RRM}$	max.	75 V
Repetitive peak forward current	$I_{FRM}$	max.	600 mA
Junction temperature	$T_j$	max.	150 °C
Peak forward surge current			
$T = 1 \mu\text{sec.}$	$I_{FSM}$	max.	4 A
$T = 1 \text{ sec.}$	$I_{FSM}$	max.	0.5 A
Reverse recovery time when switched from			
$I_F = 400 \text{ mA}$ to $I_R = 400 \text{ mA}$ ; $R_L = 100 \Omega$			
measured at $I_R = 4 \text{ mA}$	$T_{rr}$	max.	6 ns

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

Storage Temperature	$T_{stg}$		-55 to +150 °C
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## CMBD4150

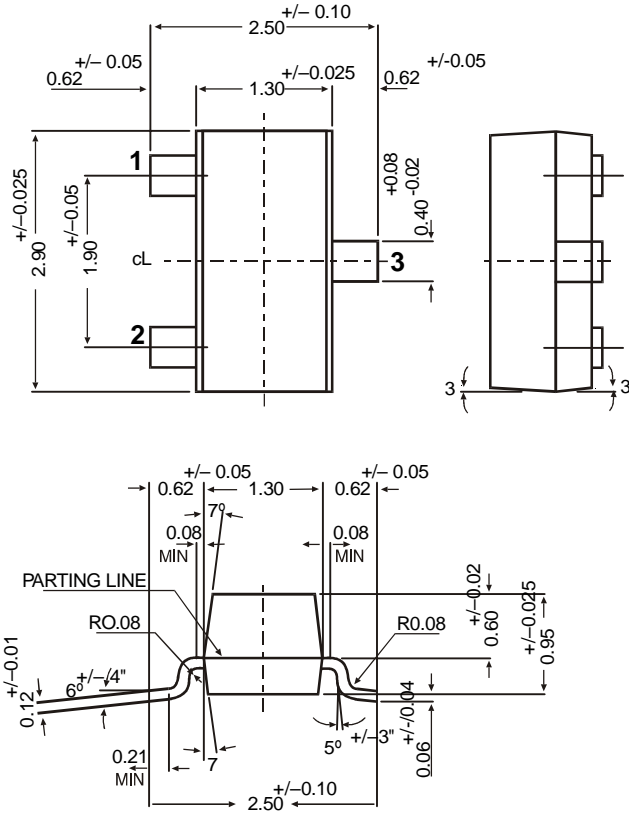
### THERMAL RESISTANCE

From junction to ambient  $R_{th\ j-a}$  500 K/W

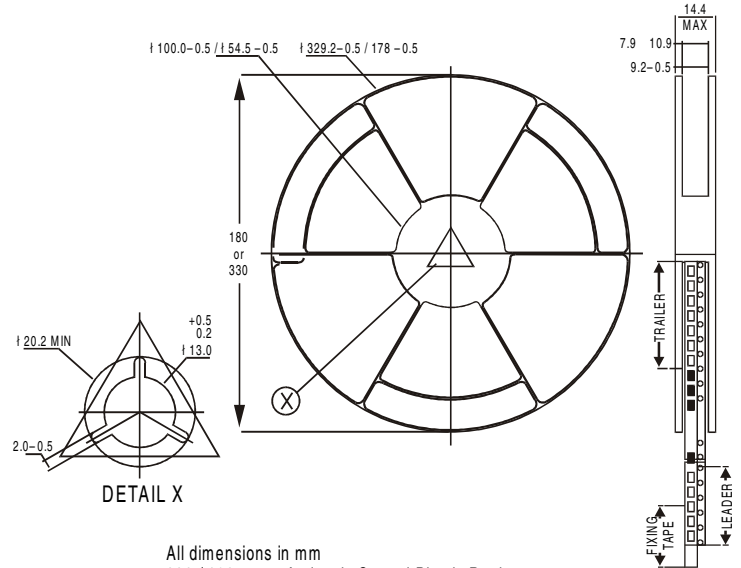
### CHARACTERISTICS (at $T_A = 25\text{ °C}$ , unless otherwise specified)

Continuous reverse voltage	$V_R$	max.	50 V
Repetitive peak reverse voltage	$V_{RRM}$	max.	75 V
Forward current (d.c.)	$I_F$	max.	300 mA
Repetitive peak forward current	$I_{FRM}$	max.	600 mA
Non-repetitive peak forward current			
$T = 1\ \mu\text{sec}$	$I_{FSM}$	max.	4 A
$T = 1\ \text{sec}$	$I_{FSM}$	max.	0.5 A
Diode capacitance			
$V_R = 0; f = 1\ \text{MHz}$	$C_D$	max.	2.5 pF
Forward voltage			
$I_F = 1\ \text{mA}$	$V_F$	min.	540 mV
		max.	620 mV
$I_F = 10\ \text{mA}$	$V_F$	min.	660 mV
		max.	740 mV
$I_F = 50\ \text{mA}$	$V_F$	min.	760 mV
		max.	860 mV
$I_F = 100\ \text{mA}$	$V_F$	min.	820 mV
		max.	920 mV
$I_F = 200\ \text{mA}$	$V_F$	min.	870 mV
		max.	1 V
Reverse breakdown voltage			
$I_R = 100\ \text{mA}$	$V_{BR}$	min	75 V
Reverse voltage leakage current			
$V_R = 50\ \text{V}$	$I_R$	max.	100 nA
Reverse current			
$V_R = 50\ \text{V}; T_j = 150\text{ °C}$	$I_R$	max.	100 $\mu\text{A}$
Forward recovery voltage			
when switched to $I_F = 10\ \text{mA}; t_p = 20\ \text{nsec.}$	$V_{FR}$	max.	1.75 V
Reverse recovery time			
$I_F = I_R = 10 - 200\ \text{mA dc}, R_L = 100\ \Omega$	$t_{rr}$	max.	4 ns
$I_F = I_R = 200 - 400\ \text{mA dc}, R_L = 100\ \Omega$	$t_{rr}$	max.	6 ns

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



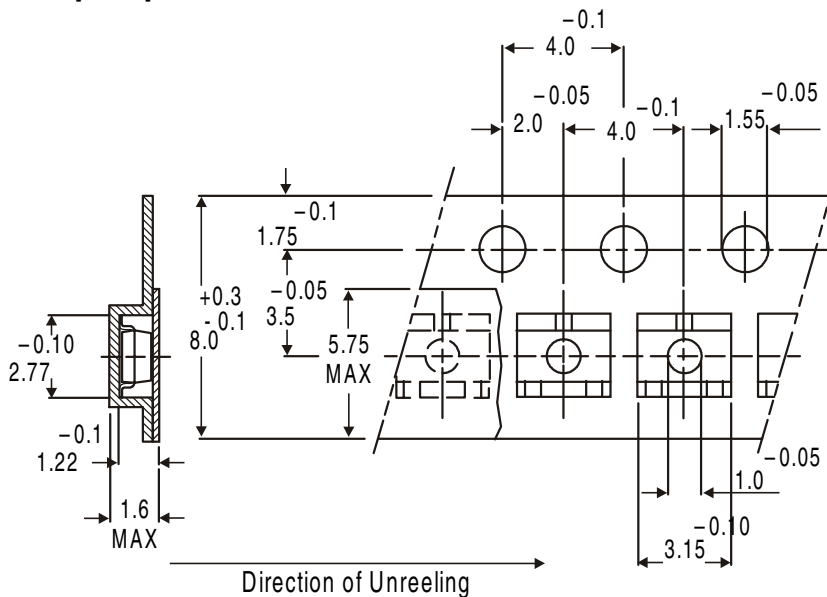
All dimensions in mm  
330 / 180 mm Antistatic Coated Plastic Reel

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
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- The bandoler of 330 mm reel contains at least 10,000 devices.
- The bandoler of 180 mm reel contains at least 3,000 devices.
- No more than 0.5% missing devices / reel. 50 empty compartments for 330 mm reel. 15 empty compartments for 180 mm reel.
- Three consecutive empty places might be found provided this gap is followed by 6 consecutive devices.
- 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 bandoler 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 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 are 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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