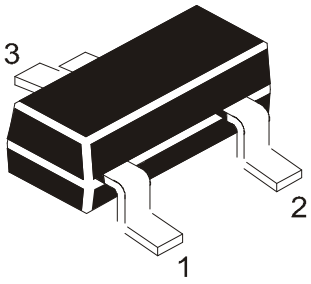
Continental Device India Limited

An ISO/TS16949 and ISO 9001 Certified Company

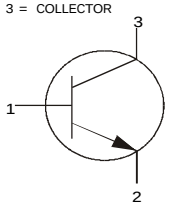
NPN SILICON PLANAR EPITAXIAL TRANSISTOR

CMBT8050

SOT-23
Formed SMD Package



PIN CONFIGURATION (NPN)
1 = BASE
2 = EMITTER
3 = COLLECTOR



ABSOLUTE MAXIMUM RATINGS

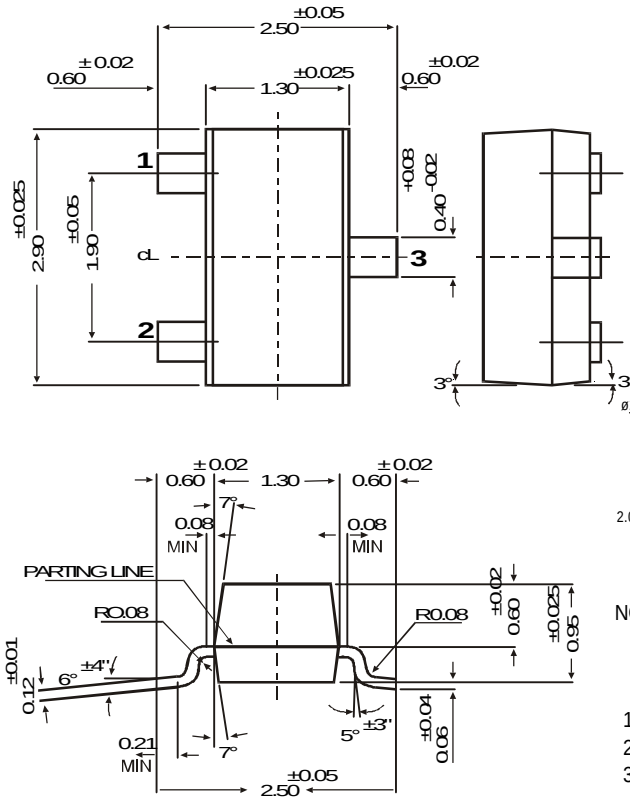
DESCRIPTION	SYMBOL	VALUE	UNITS
Collector Base Voltage	V_{CBO}	30	V
Collector Emitter Voltage	V_{CEO}	25	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current Continuous	I_C	800	mA
Collector Dissipation @ T_a=25ºC	P_C	250	mW
Operating And Storage Junction Temperature Range	T_j, T_{stg}	- 55 to +125	ºC

ELECTRICAL CHARACTERISTICS (T_a=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
Collector Base Voltage	V_{CBO}	I_C=100µA, I_E=0	30			V
Collector Emitter Voltage	V_{CEO}	I_C=10mA, I_B=0	25			V
Emitter Base Voltage	V_{EBO}	I_E=10µA, I_C=0	6			V
Collector Cut Off Current	I_{CBO}	V_{CB}=15V, I_E=0			50	nA
Emitter Cut Off Current	I_{EBO}	V_{EB}=4V, I_C=0			500	nA
DC Current Gain	h_{FE}	*I_C=50mA, V_{CE}=1V I_C=350mA, V_{CE}=1V	100 60		400	
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=500mA, I_B=50mA			0.5	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=500mA, I_B=50mA			1.2	V
Transition Frequency	f_T	I_C=100mA, V_{CE}=10V, f=100MHz	150			MHz
Output Capacitance	C_{ob}	V_{CB}=10V, f=1MHz			20	pF

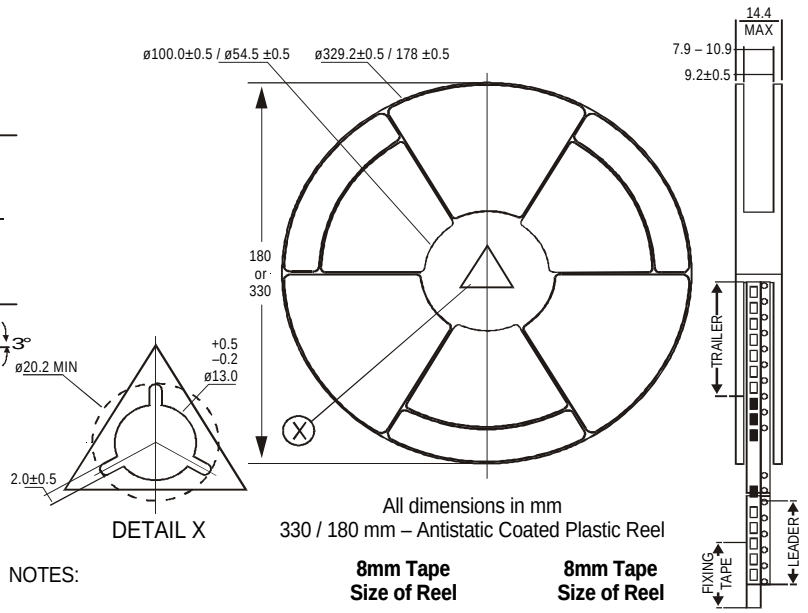
CLASSIFICATIONS	CMBT8050	C	D	E
*h_{FE}	100 - 400	100 - 200	150 - 300	280 - 400
MARKING	05	05C	05D	05E

SOT-23 Formed SMD Package



SOT-23 Package Reel Information

Reel Specifications for W Packing (13") and 7"



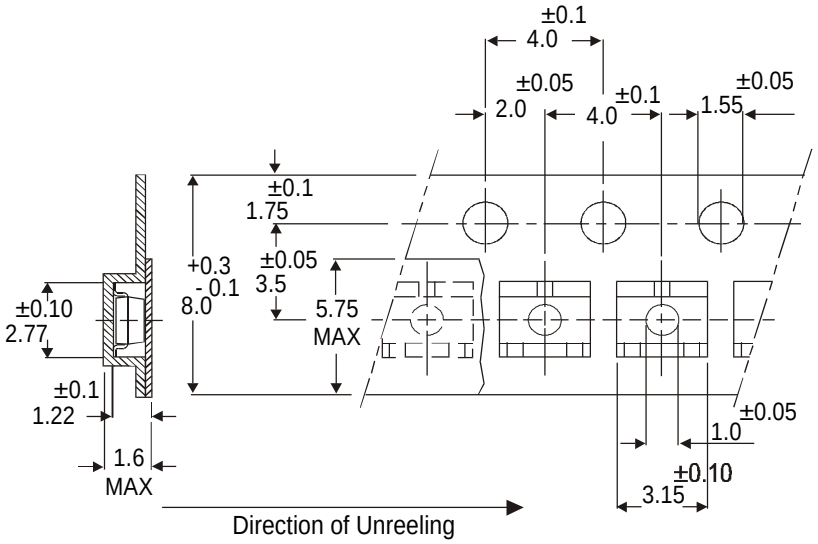
All dimensions in mm
330 / 180 mm – Antistatic Coated Plastic Reel

NOTES:

	8mm Tape Size of Reel	8mm Tape Size of Reel
	330 mm (13")	180 mm (7")
No. of Devices	10,000 Pcs	3,000 Pcs

1. The bandolier of 330 mm reel contains at least 10,000 devices.
2. The bandolier 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 bandolier 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 K**	**17" x 15" x 13.5"**	**192 K**	**12 kgs**
			9" x 9" x 9"	**51 K**	**19" x 19" x 19"**	**408 K**	**28 kgs**
	10K /reel	**415 gm /10K pcs**	**13" x 13" x 0.5"**	**10 K**	**17" x 15" x 13.5"**	**300 K**	**16 kgs**

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 in the Data Sheet and 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).

CDIL strives for continuous improvement and reserves the right to change the specifications of its products without prior notice.

CDIL is a registered Trademark of
Continental Device India Limited
C-120 Naraina Industrial Area, New Delhi 110 028, India.
Telephone + 91-11-2579 6150, 5141 1112 Fax + 91-11-2579 5290, 5141 1119
email@cdil.com www.cdilsemi.com