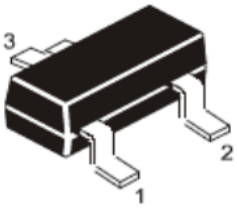
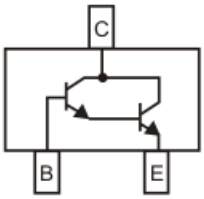
NPN SURFACE MOUNT DARLINGTON TRANSISTOR

CMBTA28
SOT-23
Surface Mounted
Plastic Package





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FEATURES

- Epitaxial Planar Die Construction
- Ideal for Medium Power Amplification and Switching
- High Current Gain

MAXIMUM RATINGS @ T_A = 25°C unless otherwise specified

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CES}	80	V
Emitter-Base Voltage	V_{EBO}	12	V
Collector Current – Continuous	I_C	500	mA
Power Dissipation	P_d	300	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	°C/W
Operating and Storage and Temperature Range	T_j, T_{STG}	-55 to 150	°C

ELECTRICAL CHARACTERISTICS

T_A = 25°C unless otherwise specified

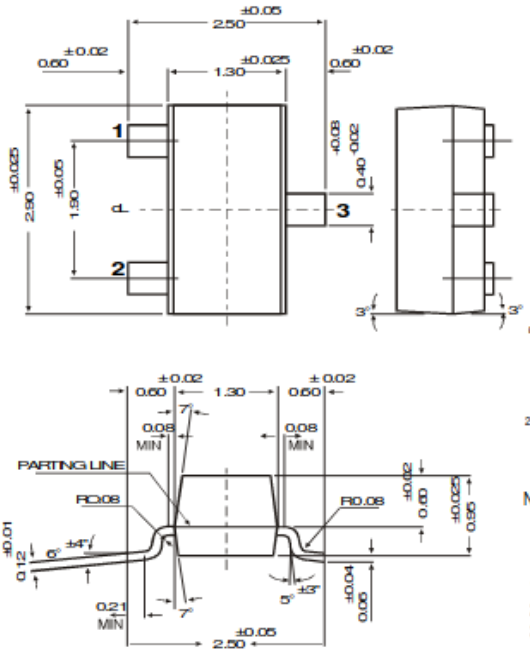
PARAMETER	SYMBOL	CONDITIONS	MIN	MAX	UNIT
OFF CHARACTERISTICS (Note 1)					
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=100µA, I_E=0	80		V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=100µA, I_C=0	12		V
Collector-Emitter Voltage	V_{CES}	I_C=100µA, V_{BE}=0	80		V
Collector Cutoff Current	I_{CBO}	V_{CB}=60V, I_E=0		100	nA
Emitter Cutoff Current	I_{EBO}	V_{EB}=10V, I_C=0		100	nA
ON CHARACTERISTICS (Note 1)					
DC Current Gain	h_{FE}	I_C=10mA, V_{CE}=5.0V	10,000		
		I_C=100mA, V_{CE}=5.0V	10,000		
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	I_C=100mA, I_B=100µA		1.5	V
Base- Emitter On Voltage	$V_{BE(on)}$	I_C=100mA, V_{CE}=5.0V		2.0	V
SMALL SIGNAL CHARACTERISTICS					
Output Capacitance	C_{obo}	V_{CB}=10V, f=1.0MHz, I_E=0	8.0 Typical		pF
Input Capacitance	C_{ibo}	V_{EB}=0.5V, f=1.0MHz, I_C=0	15 Typical		pF
Current Gain-Bandwidth Product	f_T	V_{CE}=5.0V, I_C=10mA, f = 100MHz	125		MHz

Notes:

1. Pulse Width ≤ 300µs, Duty Cycle ≤ 2%

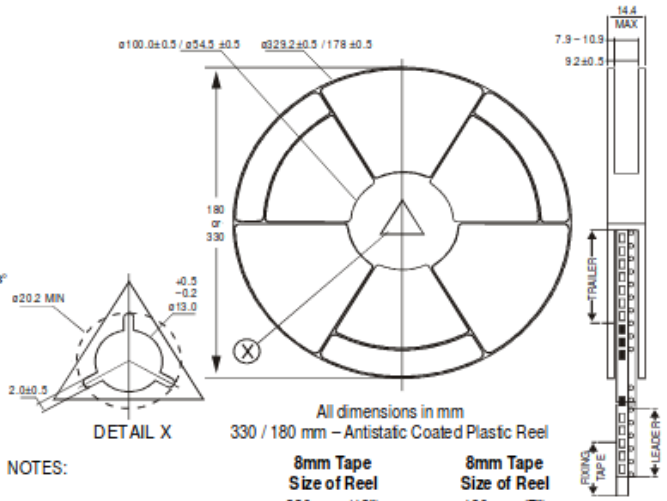
SOT-23 PACKAGE DIMENSIONS AND OUTLINE

SOT-23 Formed SMD Package



SOT-23 Package Reel Information

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



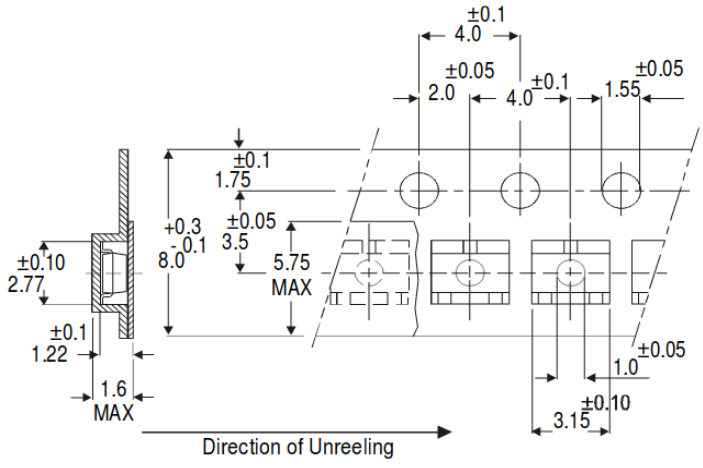
All dimensions in mm
330 / 180 mm – Antistatic Coated Plastic Reel

NOTES:

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 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

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).

DICLAIMER

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 in the Data Sheet and 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 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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Continental Device India Pvt. Limited
C-120 Naraina Industrial Area, New Delhi 110 028, India.
Telephone + 91-11-2579 6150, 4141 1112 Fax + 91-11-2579 5290, 4141 1119
email@cdil.com www.cdil.com
CIN No. U32109DL1964PTC004291