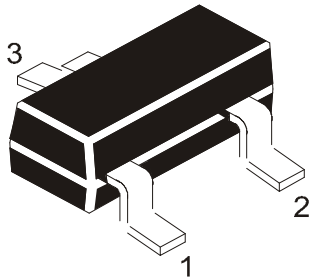


**NPN SILICON PLANAR EPITAXIAL TRANSISTOR**

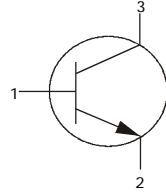
**CMBTA44**

**SOT-23  
Formed SMD Package**



PIN CONFIGURATION (NPN)

- 1 = BASE
- 2 = EMITTER
- 3 = COLLECTOR



Marking Code is =3Z

Designed for Extremely High Voltage Applications

**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub>=25°C)**

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector Base Voltage	V <sub>CBO</sub>	450	V
Collector Emitter Voltage	V <sub>CEO</sub>	400	V
Emitter Base Voltage	V <sub>EBO</sub>	6	V
Collector Current	I <sub>C</sub>	300	mA
Collector Power Dissipation	P <sub>D</sub>	350	mW
Operating And Storage Junction Temperature Range	T <sub>j</sub> , T <sub>stg</sub>	- 65 to+150	°C

**THERMAL RESISTANCE**

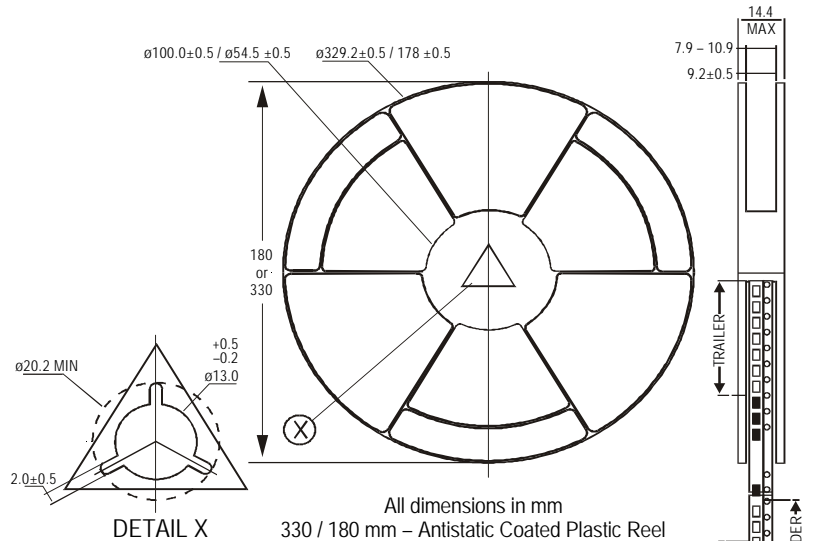
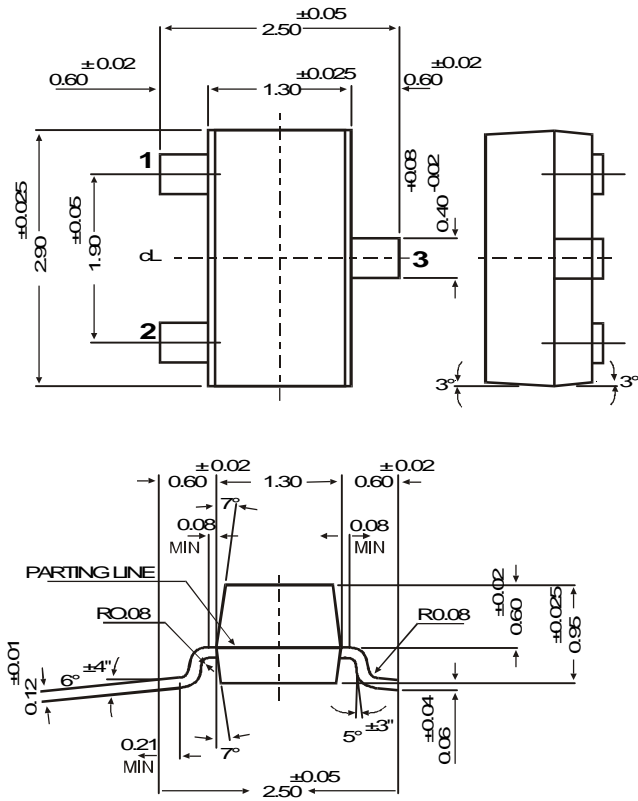
Junction to Ambient in free air	R <sub>th(j-a)</sub>	357	°C/W
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**Electrical Characteristics (T<sub>a</sub>=25°C unless specified otherwise)**

DESCRIPTION	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut Off Current	I <sub>CBO</sub>	V <sub>CB</sub> =400V, I <sub>E</sub> =0			100	nA
Collector Cut Off Current	I <sub>CES</sub>	V <sub>CE</sub> =400V, V <sub>BE</sub> =0			500	nA
Emitter Cut Off Current	I <sub>EBO</sub>	V <sub>EB</sub> =4V, I <sub>C</sub> =0			100	nA
Collector Base Voltage	V <sub>CBO</sub>	I <sub>C</sub> =100µA, I <sub>E</sub> =0	450			V
Collector Emitter Voltage	V <sub>CES</sub>	I <sub>C</sub> =100µA, V <sub>BE</sub> =0	450			V
Collector Emitter Voltage	V <sub>CEO</sub>	I <sub>C</sub> =1mA, I <sub>B</sub> =0	400			V
Emitter Base Voltage	V <sub>EBO</sub>	I <sub>E</sub> =10µA, I <sub>C</sub> =0	6			V
Collector Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =1mA, I <sub>B</sub> =0.1mA			0.40	V
		I <sub>C</sub> =10mA, I <sub>B</sub> =1mA			0.50	V
		I <sub>C</sub> =50mA, I <sub>B</sub> =5mA			0.75	V
Base Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1mA			0.75	V
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =1mA	40		200	
		V <sub>CE</sub> =10V, I <sub>C</sub> =10mA	50			
		V <sub>CE</sub> =10V, I <sub>C</sub> =50mA	45			
		V <sub>CE</sub> =10V, I <sub>C</sub> =100mA	20			
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =10mA, f=10MHz	20			MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> =20V, I <sub>E</sub> =0, f=1MHz			7.0	pF
Input Capacitance	C <sub>ib</sub>	V <sub>EB</sub> =0.5V, I <sub>C</sub> =0, f=1MHz			130	pF

SOT-23 Formed SMD Package

SOT-23 Package Reel Information  
Reel Specifications for W Packing (13" and 7")

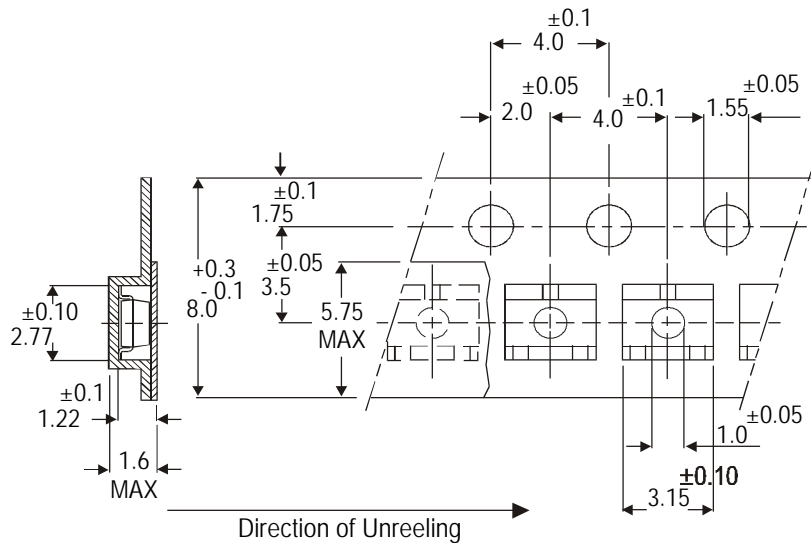


All dimensions in mm  
330 / 180 mm – Antistatic Coated Plastic Reel

NOTES:

- |                | 8mm Tape Size of Reel      | 8mm Tape Size of Reel    |
|----------------|----------------------------|--------------------------|
| No. of Devices | 330 mm (13")<br>10,000 Pcs | 180 mm (7")<br>3,000 Pcs |
- The bandolier of 330 mm reel contains at least 10,000 devices.
  - The bandolier 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 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/feel	136 gm/3K pcs	3" x 7.5" x 7.5"	12 K	17" x 15" x 13.5"	192 K	12 kgs
	10K/feel	415 gm/10K pcs	9" x 9" x 9"	51 K	19" x 19" x 19"	408 K	28 kgs
			13" x 13" x 0.5"	10 K	17" x 15" x 13.5"	300 K	16 kgs

### Disclaimer

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**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