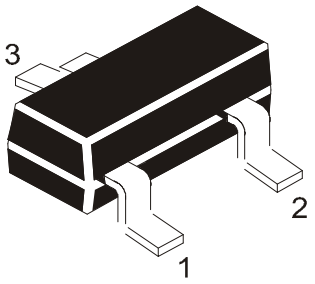
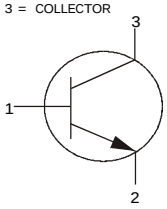
NPN SILICON PLANAR EPITAXIAL TRANSISTOR

CMBTA44



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



SOT-23
Formed SMD Package

Marking Code is =3Z

Designed for Extremely High Voltage Applications

ABSOLUTE MAXIMUM RATINGS (T_a=25ºC)

DESCRIPTION	SYMBOL	VALUE	UNITS
Collector Base Voltage	V_{CBO}	450	V
Collector Emitter Voltage	V_{CEO}	400	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	300	mA
Collector Power Dissipation	P_D	350	mW
Operating And Storage Junction Temperature Range	T_j, T_{stg}	- 65 to+150	ºC

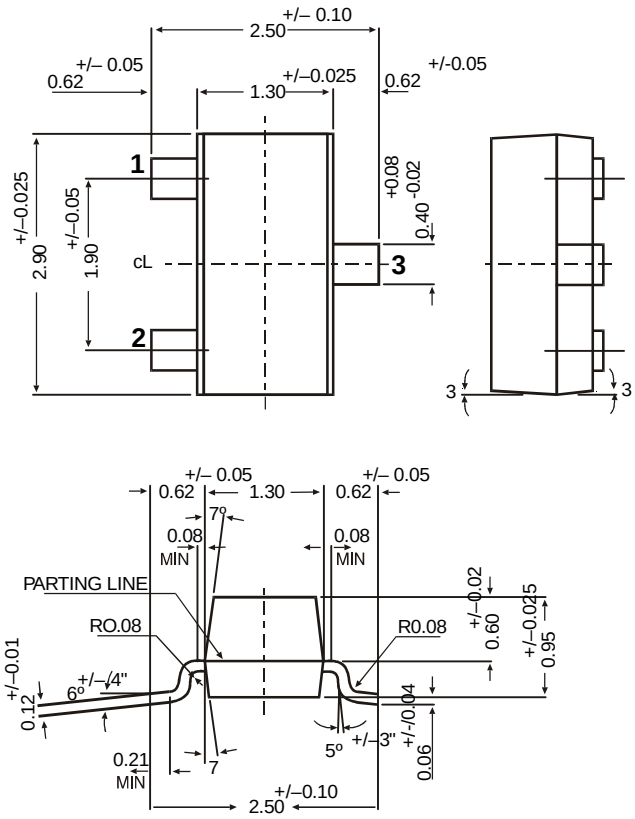
THERMAL RESISTANCE

Junction to Ambient in free air	$R_{th(j-a)}$	357	ºC/W

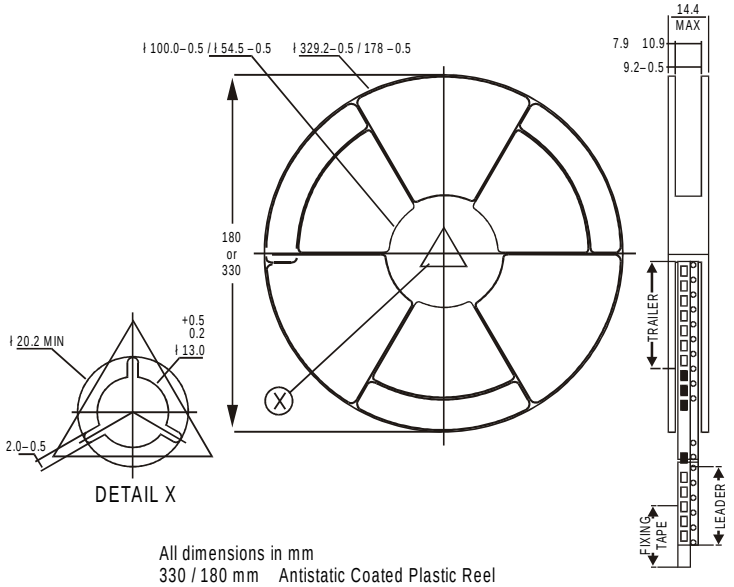
Electrical Characterstics (T_a=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Collector Cut Off Current	I_{CBO}	V_{CB}=400V, I_E=0			100	nA
Collector Cut Off Current	I_{CES}	V_{CE}=400V, V_{BE}=0			500	nA
Emitter Cut Off Current	I_{EBO}	V_{EB}=4V, I_C=0			100	nA
Collector Base Voltage	V_{CBO}	I_C=100µA, I_E=0	450			V
Collector Emitter Voltage	V_{CES}	I_C=100µA, V_{BE}=0	450			V
Collector Emitter Voltage	V_{CEO}	I_C=1mA, I_B=0	400			V
Emitter Base Voltage	V_{EBO}	I_E=10µA, I_C=0	6			V
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=1mA, I_B=0.1mA I_C=10mA, I_B=1mA I_C=50mA, I_B=5mA			0.40 0.50 0.75	V V V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=10mA, I_B=1mA			0.75	V
DC Current Gain	h_{FE}	V_{CE} =10V, I_C=1mA V_{CE} =10V, I_C=10mA V_{CE} =10V, I_C=50mA V_{CE} =10V, I_C=100mA	40 50 45 20		200	
Transition Frequency	f_T	V_{CE}=10V, I_C=10mA, f=10MHz	20			MHz
Output Capacitance	C_{ob}	V_{CB}=20V, I_E =0, f=1MHz			7.0	pF
Input Capacitance	C_{ib}	V_{EB} =0.5V, Ic=0, f=1MHz			130	pF

SOT-23 Formed SMD Package



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

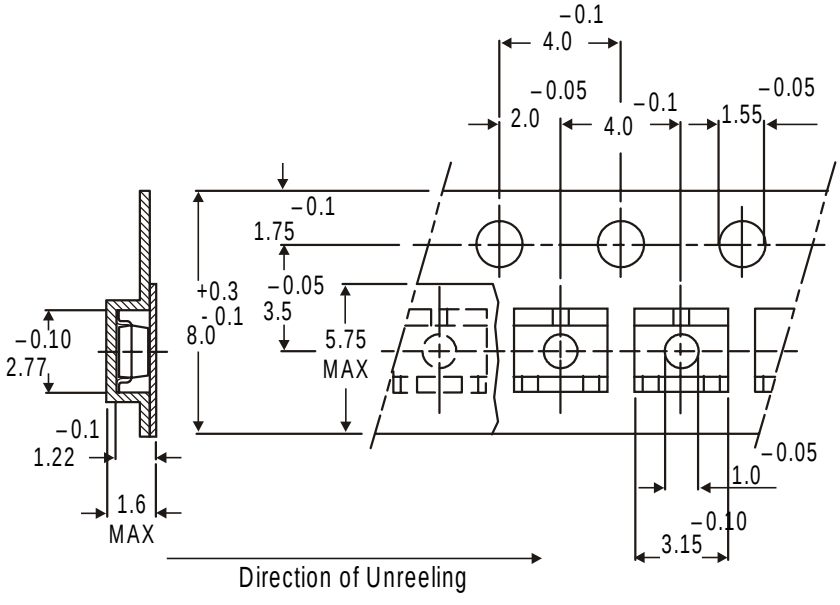


All dimensions in mm
330 / 180 mm Antistatic Coated Plastic Reel

NOTES:	8mm Tape Size of Reel 330 mm (13")	8mm Tape Size of Reel 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"	12.0K	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

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