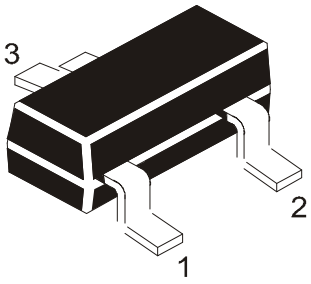
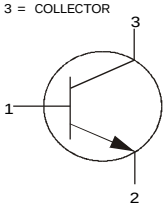
NPN SILICON PLANAR EPITAXIAL TRANSISTORS

BC846, BC847, BC848



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



SOT-23
Formed SMD Package
For Lead Free Parts, Device Part # will be Prefixed with "T"

Marking
BC846 =1D
BC846A=1A
BC846B=1B
BC847 =1H
BC847A=1E
BC847B=1F
BC847C=1G
BC848 =1M
BC848A=1J
BC848B=1K
BC848C=1L

For use in Driver Stages of Audio Amplifier in Thick and Thin-film Hybrid Circuits

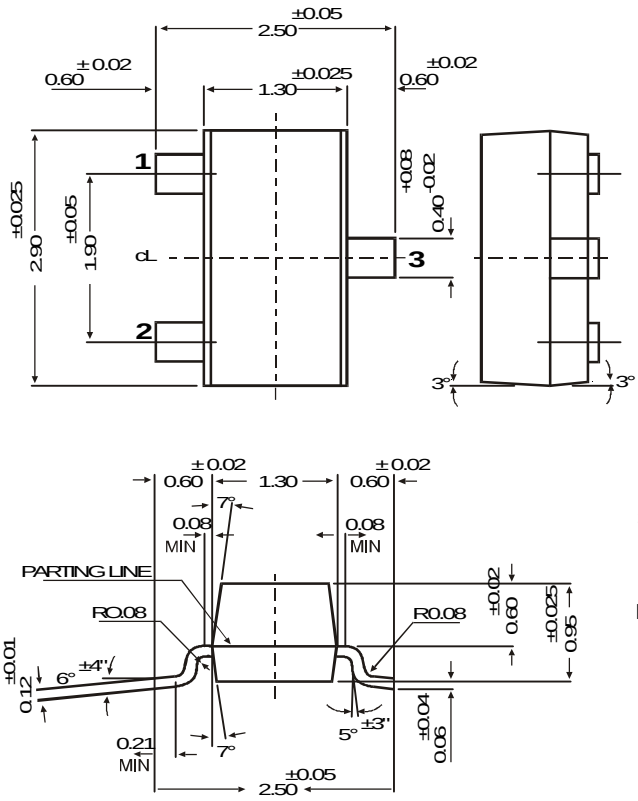
ABSOLUTE MAXIMUM RATINGS (T_a=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	BC846	BC847	BC848	UNITS
Collector Base Voltage	V_{CBO}	80	50	30	V
Collector Emitter Voltage	V_{CEO}	65	45	30	V
Emitter Base Voltage	V_{EBO}	6	6	5	V
Collector Current (DC)	I_C	100			mA
Collector Current - Peak	I_{CM}	200			mA
Power Dissipation	P_{tot}	250			mW
Storage Temperature	T_{stg}	- 65 to +150			ºC
Junction Temperature	T_j	150			ºC

ABSOLUTE MAXIMUM RATINGS (T_a=25ºC unless specified otherwise)

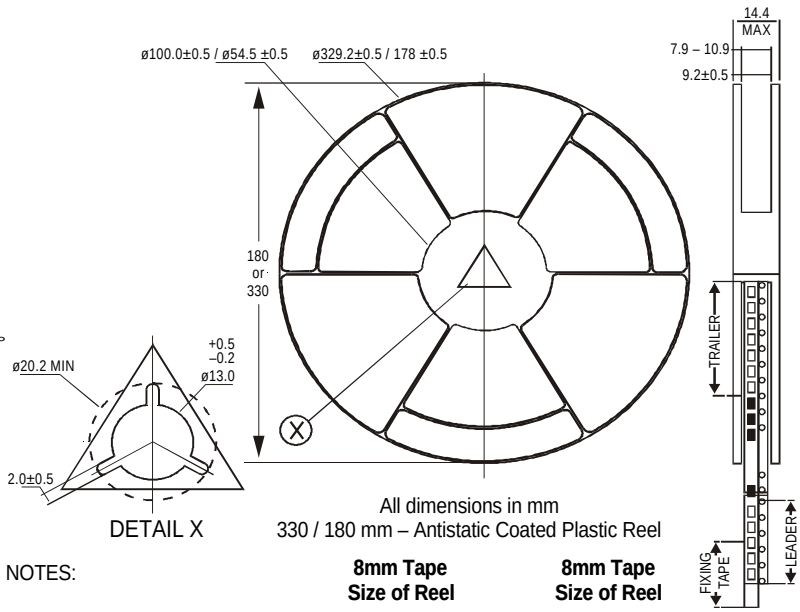
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
DC Current Gain	h_{FE}	I_C=2mA, V_{CE}=5V				
		A	110		220	
		B	200		450	
		C	420		800	
Collector Emitter Saturation Voltage	$V_{CE(Sat)}$	I_C=10mA, I_B=0.5mA			0.25	V
		I_C=100mA, I_B=5mA			0.60	V
Base Emitter on Voltage	$V_{BE(on)}$	I_C=2mA, V_{CE}=5V	0.58		0.70	V
		I_C=10mA, V_{CE}=5V			0.72	V
Collector Cut off Current	I_{CBO}	V_{CB}=30V, I_E=0			15	nA
Transition Frequency	f_T	I_C=10mA, V_{CE}=5V,f=100MHz		300		MHz
Output Capacitance	C_{ob}	V_{CB}=10V, f=1MHz			6.0	pF
Input Capacitance	C_{ib}	V_{EB}=0.5V, f=1MHz		9.0		pF
Noise Figure	NF	I_C=0.2mA, V_{CE}=5V			10	dB
		R_s=2kΩ, f=1KHz				

SOT-23 Formed SMD Package



SOT-23 Package Reel Information

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



DETAIL X

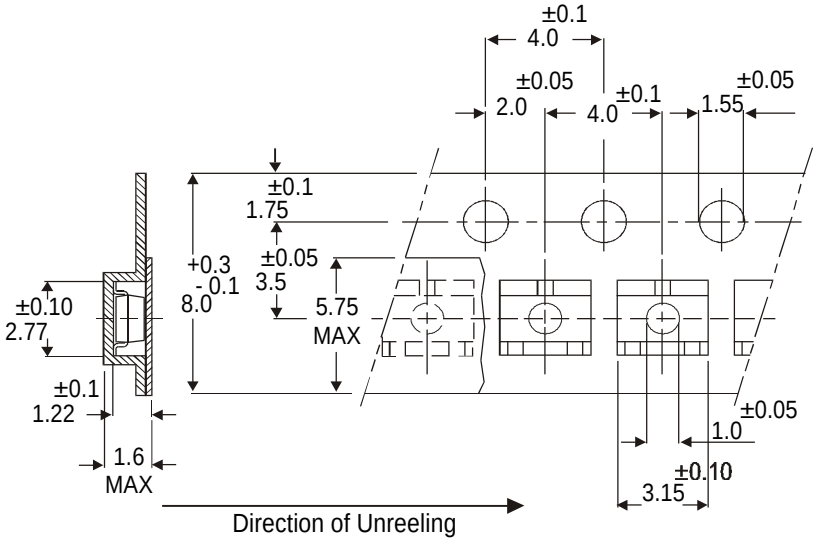
All dimensions in mm
330 / 180 mm – Antistatic Coated Plastic Reel

NOTES:

No. of Devices	8mm Tape Size of Reel	8mm Tape Size of Reel
	330 mm (13")	180 mm (7")
	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**

SOT-23
Formed SMD Package
For Lead Free Parts, Device Part # will be Prefixed with "T"

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 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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