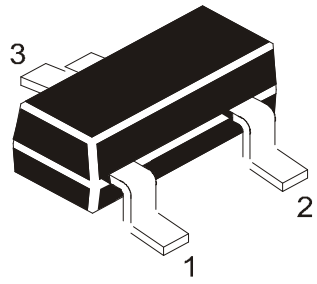
SOT-23 Formed SMD Package

BCW71
BCW72

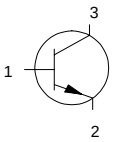
SILICON PLANAR EPITAXIAL TRANSISTORS

N–P–N transistors

Marking
BCW71 = Kl
BCW72 = K2



Pin configuration
1 = BASE
2 = EMITTER
3 = COLLECTOR



ABSOLUTE MAXIMUM RATINGS

			BCW71	BCW72	
D.C. current gain at T_j = 25 °C		>	110	200	
I_C = 2 mA; V_{CE} = 5 V	h_{FE}	<	220	450	
Collector–base voltage (open emitter)	V_{CB0}	*max.*	50		*V*
Collector–emitter voltage (open base)	V_{CE0}	*max.*	45		*V*
Collector current (peak value)	I_{CM}	*max.*	200		*mA*
Total power dissipation up to T_{amb} = 25 °C	P_{tot}	*max.*	250		mW
Junction temperature	T_j	*max.*	150		*° C*
Transition frequency at f = 35 MHz					
I_C = 10 mA; V_{CE} = 5 V	f_T	*typ.*	300		MHz
Noise figure at R_S = 2 kΩ					
I_C = 200 µA; V_{CE} = 5 V;					
f = 1 kHz; B = 200 Hz	*F*	<	10		*dB*

RATINGS *(at T_A = 25°C unless otherwise specified)*

Limiting values			
Collector–base voltage (open emitter)	V_{CB0}	*max.*	*50 V*
Collector–emitter voltage (open base)			
I_C = 2 *mA*	V_{CE0}	*max.*	*45 V*
Emitter–base voltage (open collector)	V_{EB0}	*max.*	*5 V*
Collector current (d.c.)	I_C	*max.*	*100 mA*
Collector current (peak value)	I_{CM}	*max.*	*200 mA*
Total power dissipation up to T_{amb} = 25 °C	P_{tot}	*max.*	*250* mW
Storage temperature	T_{stg}		*–55 to +150* °C
Junction temperature	T_j	*max.*	*150* ° C

THERMAL RESISTANCE

From junction to ambient	$R_{th\ j-a}$	=	*500* K/W

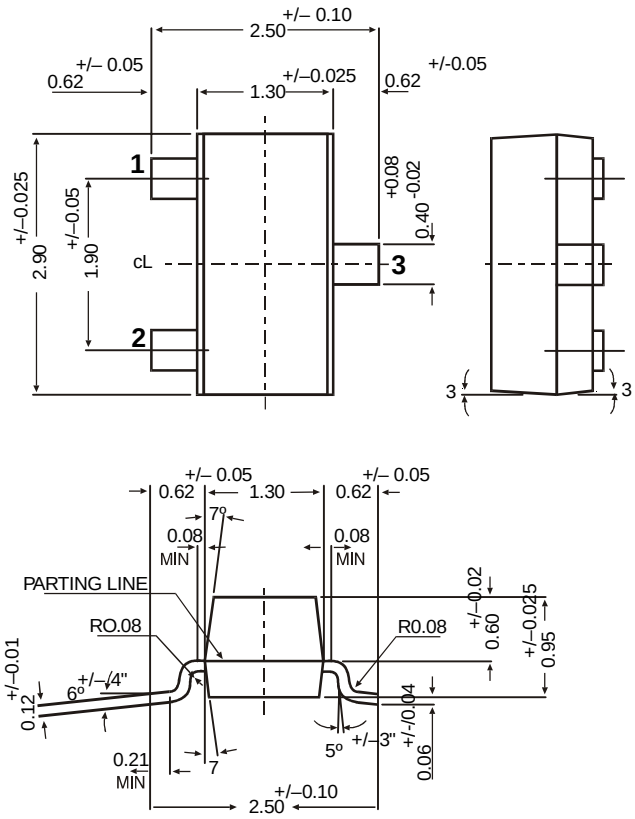
CHARACTERISTICS

T_j = 25 °C *unless otherwise specified*

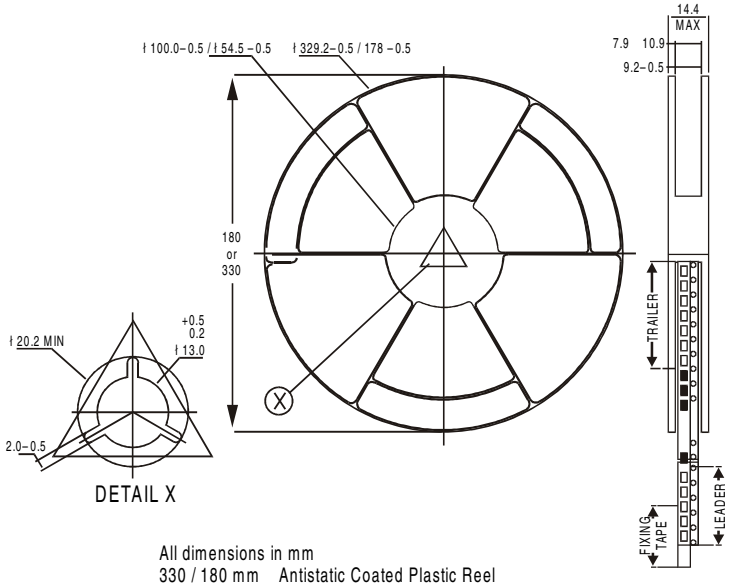
Collector cut–off current			
I_E = 0; V_{CB} = 20 *V*	I_{CB0}	<	*100 nA*
I_E = 0; V_{CB} = 20 *V*; T_j = 100 °C	I_{CB0}	<	*10* µA
Base emitter voltage			
I_C = 2 *mA*; V_{CE} = 5 *V*	V_{BE}		*550 to 700 mV*
Saturation voltages			
I_C = 10 *mA*; I_B = 0,5 *mA*		*typ.*	*120 mV*
	V_{CEsat}	<	*250 mV*
	V_{BEsat}	*typ.*	*750 mV*
I_C = 50 *mA*; I_B = 2,5 *mA*	V_{CEsat}	*typ.*	*210 mV*
	V_{BEsat}	*typ.*	*850 mV*

D.C. current gain			***BCW71***	***BCW72***
I_C = 10 µA; V_{CE} = 5 *V*	h_{FE}	*typ.*	*90*	*150*
I_C = 2 *mA*; V_{CE} = 5 *V*	h_{FE}	>	*110*	*200*
		<	*220*	*450*
Collector capacitance at f = 1 MHz				
$I_E = I_e$ = 0; V_{CB} = 10 *V*	C_c	*typ.*	*2,5*	*pF*
Transition frequency at f = 35 MHz				
I_C = 10 *mA*; V_{CE} = 5 *V*	f_T	*typ.*	*300*	MHz
Noise figure at R_S = 2 kΩ				
I_C = 200 µA; V_{CE} = 5 *V*				
f = 1 kHz; B = 200 Hz	*F*	<	*10*	*dB*

SOT-23 Formed SMD Package



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

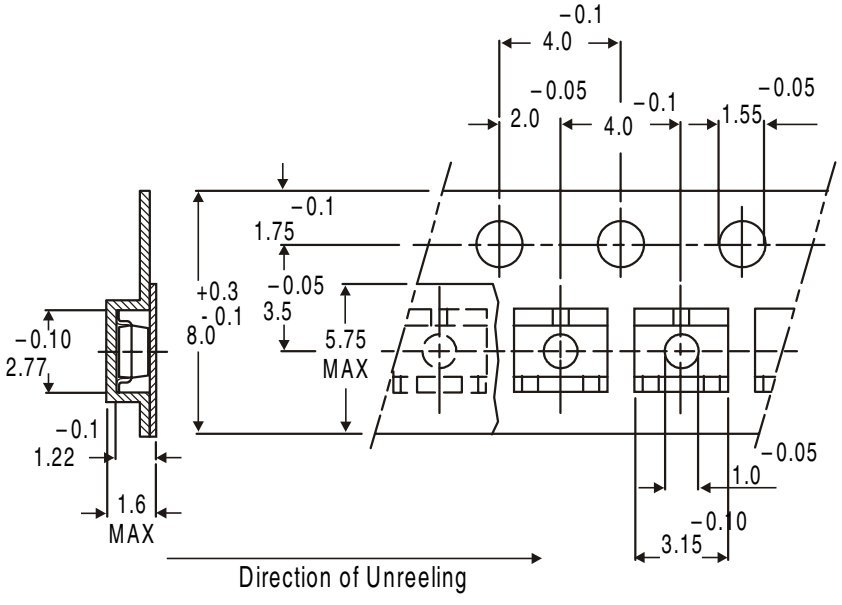


All dimensions in mm
330 / 180 mm Antistatic Coated Plastic Reel

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

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 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).

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