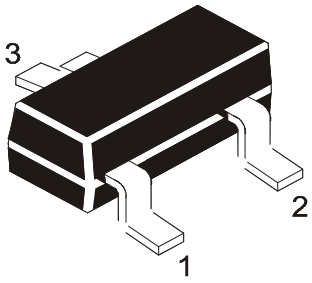
**SOT-23 Formed SMD Package**

**BCX17**
**BCX18**

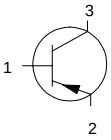
# *SILICON PLANAR EPITAXIAL TRANSISTORS*

*P–N–P transistors*

***Marking***
*BCX17 = T1*
*BCX18 = T2*




**Pin configuration**
1 = BASE
2 = EMITTER
3 = COLLECTOR




## *ABSOLUTE MAXIMUM RATINGS*

| | | | ***BCX17*** | ***BCX18*** | |
|---|---|---|---|---|---|
| *Collector–emitter voltage ($V_{BE}$ = 0)* | $-V_{CES}$ | *max.* | *50* | *30* | *V* |
| *Collector–emitter voltage (open base)* | $-V_{CE0}$ | *max.* | *45* | *25* | *V* |
| *Collector current (peak value)* | $-I_{CM}$ | *max.* | *1000* | | *mA* |
| *Total power dissipation up to $T_{amb}$ = 25 °C* | $P_{tot}$ | *max.* | *250* | | mW |
| *Junction temperature* | $T_j$ | *max.* | *150* | | *° C* |
| *D.C. current gain* | | | | | |
| *$-I_C$ = 100 mA; $-V_{CE}$ = 1 V* | $h_{FE}$ | | *100 to 600* | | |
| *Transition frequency* | | | | | |
| *$-I_C$ = 10 mA; $-V_{CE}$ = 5 V; f = 35 MHz* | $f_T$ | *typ.* | *100* | | MHz |

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

| | | | ***BCX17*** | ***BCX18*** | |
|---|---|---|---|---|---|
| *Collector–emitter voltage ($V_{BE}$ = 0)* | $-V_{CES}$ | *max.* | *50* | *30* | *V* |
| *Collector–emitter voltage* | | | | | |
| *$-I_C$ = 10 mA (see Fig. 2)* | $-V_{CE0}$ | *max.* | *45* | *25* | *V* |
| *Emitter–base voltage (open collector)* | $-V_{EB0}$ | *max.* | *5* | *5* | *V* |
| *Collector current (d.c.)* | $-I_C$ | *max.* | *500* | | *mA* |
| *Collector current (peak value)* | $-I_{CM}$ | *max.* | *1000* | | *mA* |
| *Emitter current (peak value)* | *IEM* | *max.* | *1000* | | *mA* |
| *Base current (d.c.)* | $-I_B$ | *max.* | *100* | | *mA* |
| *Base current (peak value)* | $-I_{BM}$ | *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***

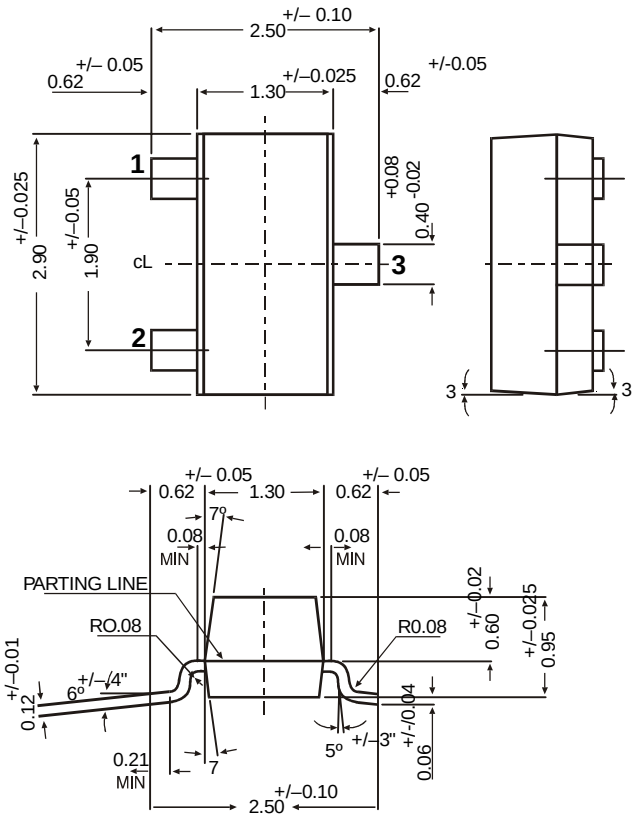
| | | | | |
|---|---|---|---|---|
| *From junction to ambient* | $R_{th\ j-a}$ | = | *500* | K/W |

***CHARACTERISTICS***

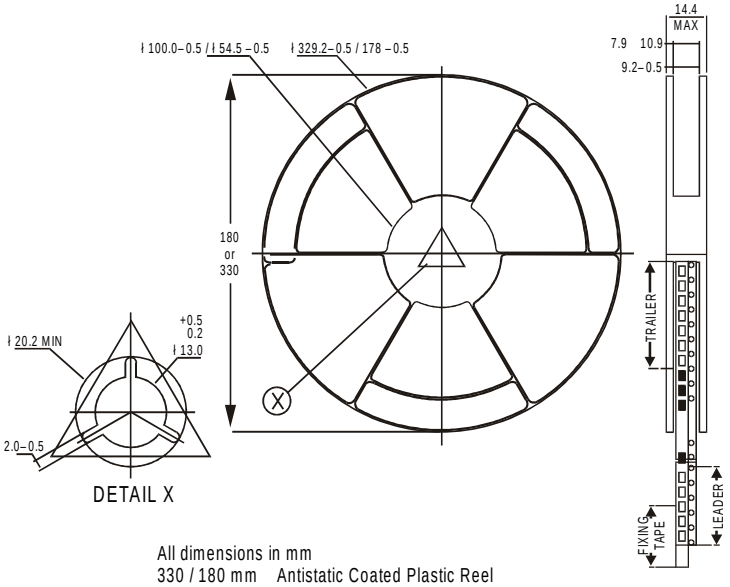
*$T_j$ = 25 °C unless otherwise specified*

| | | | | |
|---|---|---|---|---|
| *Collector cut–off current* | | | | |
| *$I_E$ = 0; $-V_{CB}$ = 20 V* | $-I_{CB0}$ | < | *100* | *nA* |
| *$I_E$ = 0; $-V_{CB}$ = 20V; $T_j$ = 150°C* | $-I_{CB0}$ | < | *5* | *µA* |
| *Emitter cut–off current* | | | | |
| *$I_C$ = 0; $-V_{EB}$ = 5V* | $-I_{EB0}$ | < | *10* | *µA* |
| *Base–emitter voltage ·* | | | | |
| *—$I_C$ = 500 mA; $-V_{CE}$ = 1 V* | $-V_{BE}$ | < | *1,2* | *V* |
| *Saturation voltage* | | | | |
| *$-I_C$ = 500 mA; $-I_B$ = 50 mA* | $-V_{CEsat}$ | < | *620* | *mV* |
| *D.C. current gain* | | | | |
| *$-I_C$ = 100 mA; $-V_{CE}$ = 1 V* | $h_{FE}$ | | *100 to 600* | |
| *$-I_C$ = 300 mA; $-V_{CE}$ = 1 V* | $h_{FE}$ | > | *70* | |
| *$-I_C$ = 500 mA; $-V_{CE}$ = 1 V* | $h_{FE}$ | > | *40* | |
| *Transition frequency at f = 35 MHz* | | | | |
| *$-I_C$ = 10 mA; $-V_{CE}$ = 5 V* | $f_T$ | *typ.* | *100* | MHz |
| *Collector capacitance at f = 1 MHz* | | | | |
| *$I_E = I_e$ = 0; $-V_{CB}$ = 10 V* | $C_c$ | *typ.* | *8* | *pF* |

## SOT-23 Formed SMD Package




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

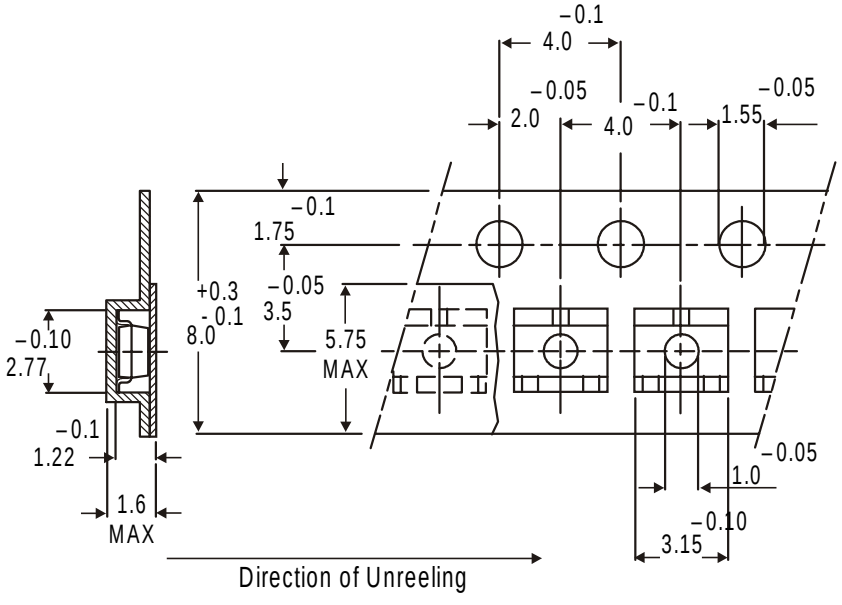



All dimensions in mm
330 / 180 mm Antistatic Coated Plastic Reel

| 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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