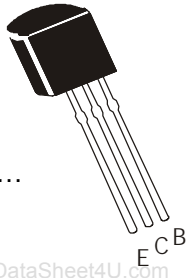


NPN SILICON PLANAR EPITAXIAL TRANSISTOR

CSC1047



**TO-92
Plastic Package**

Suitable for RF Amplifier in FM/AM Radios

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

| DESCRIPTION | SYMBOL | VALUE | UNITS |
|--|------------------|--------------|-------|
| Collector Base Voltage | V _{CBO} | 30 | V |
| Collector Emitter Voltage | V _{CEO} | 20 | V |
| Emitter Base Voltage | V _{EBO} | 3 | V |
| Collector Current | I _C | 15 | mA |
| Power Dissipation @ T _a =25°C | P _C | *400 | mW |
| Junction Temperature | T _j | 150 | °C |
| Storage Temperature Range | T _{stg} | - 55 to +150 | °C |

*P_C=250mW / Potting type: P_C=250mW

ELECTRICAL CHARACTERISTICS (T_a=25°C unless specified otherwise)

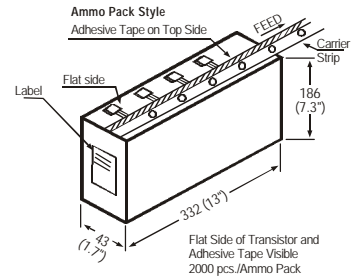
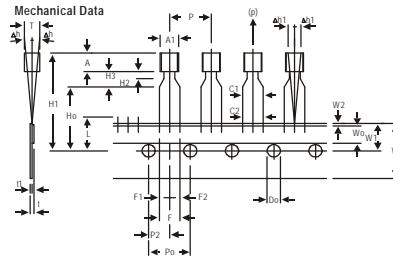
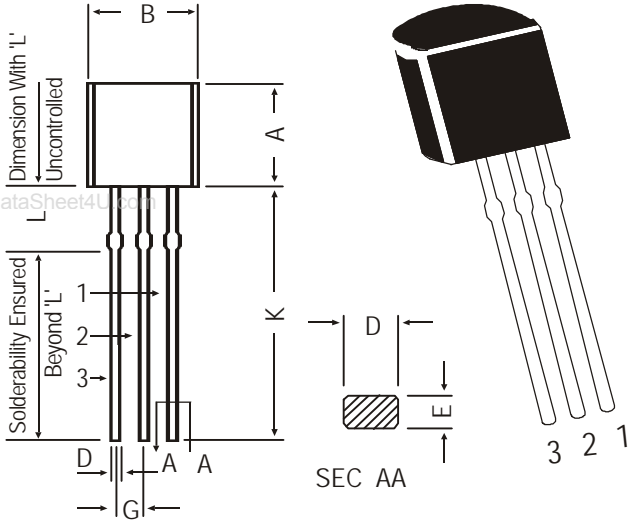
| DESCRIPTION | SYMBOL | TEST CONDITION | MIN | TYP | MAX | UNITS |
|---|---------------------|---|-----|------|-----|-------|
| Collector Base Voltage | V _{CBO} | I _C = 10μA, I _E = 0 | 30 | | | V |
| Emitter Base Voltage | V _{EBO} | I _E = 10μA, I _C = 0 | 3 | | | V |
| DC Current Gain | *h _{FE} | V _{CE} = 6V, - I _C = 1mA | 40 | | 260 | |
| Transition Frequency | f _T | V _{CE} = 6V, - I _C = 1mA | 450 | | | MHz |
| Base Emitter On Voltage | V _{BE(on)} | V _{CE} = 6V, - I _C = 1mA | | 0.72 | | V |
| Common Emitter Reverse-Transfer Capacitance | C _{re} | V _{CB} = 6V, - I _E = 1mA, f=10.7MHz | | | 1 | pF |
| Power Gain | PG | V _{CB} = 6V, - I _E = 1mA, f=100 MHz | 20 | | | dB |
| Noise Figure | NF | V _{CB} = 6V, - I _E = 1mA, f=100 MHz | | | 5 | dB |

*h_{FE} Classifications

B : 40 - 110 C : 65 - 160 D : 100 - 260

TO- 92 Plastic Package

TO-92 Transistors on Tape and Ammo Pack



All dimensions in mm

| ITEM | SYMBOL | SPECIFICATION | | | REMARKS |
|--------------------------------------|---------|---------------|-------|------|----------------|
| | | MIN. | NOM. | MAX. | |
| BODY WIDTH | A1 | 4.0 | | 4.8 | |
| BODY HEIGHT | A | 4.8 | | 5.2 | |
| BODY THICKNESS | T | 3.9 | | 4.2 | |
| PITCH OF COMPONENT | P | | 12.7 | | ± 1.0 |
| FEED HOLE PITCH | Po | | 12.7 | | ± 0.3 |
| FEED HOLE CENTRE TO COMPONENT CENTRE | | | | | |
| DISTANCE BETWEEN OUTER LEADS | F | | 5.08 | | +0.6 -0.2 |
| COMPONENT ALIGNMENT SIDE VIEW | Δh | 0 | 1.0 | | AT TOP OF BODY |
| COMPONENT ALIGNMENT FRONT VIEW | Δh1 | 0 | 1.3 | | AT TOP OF BODY |
| TAPE WIDTH | W | | 18 | | ± 0.5 |
| HOLD-DOWN TAPE WIDTH | W0 | | 6 | | ± 0.2 |
| HOLE POSITION | W1 | | 9 | | +0.7 -0.5 |
| HOLD-DOWN TAPE POSITION | W2 | | 0.5 | | ± 0.2 |
| LEAD WIRE CLINCH HEIGHT | Ho | | 16 | | ± 0.5 |
| COMPONENT HEIGHT | H1 | | 23.25 | | |
| LENGTH OF SNIPPED LEADS | L | | 11.0 | | |
| FEED HOLE DIAMETER | Do | | 4 | | ± 0.2 |
| TOTAL TAPE THICKNESS | t | | 1.2 | | t1 0.3-0.6 |
| LEAD - TO - LEAD DISTANCE | F1, F2 | | 2.54 | | +0.4 -0.1 |
| STAND OFF | H2 | 0.45 | | 1.45 | |
| CLINCH HEIGHT | H3 | | | 3.0 | |
| LEAD PARALLELISM | C1 - C2 | | | 0.22 | |
| PULL - OUT FORCE | (P) | | 6N | | |

NOTES

- Maximum alignment deviation between leads will not to be greater than 0.2mm.
- Maximum non-cumulative variation between tape feed holes shall not exceed 1 mm in 20 pitches.
- Holddown tape will not exceed beyond the edge(s) of carrier tape and there shall be no exposure of adhesive.
- There will be no more than three (3) consecutive missing components in a tape.
- A tape trailer, having at least three feed holes are provided after the last component in a tape.
- Splices should not interfere with the sprocket feed holes.

| DIM | MIN. | MAX. |
|-----|-------|-------|
| A | 4.32 | 5.33 |
| B | 4.45 | 5.20 |
| C | 3.18 | 4.19 |
| D | 0.41 | 0.55 |
| E | 0.35 | 0.50 |
| F | 5 DEG | |
| G | 1.14 | 1.40 |
| H | 1.14 | 1.53 |
| K | 12.70 | — |
| L | 1.982 | 2.082 |

All diminsions in mm.

PIN CONFIGURATION

- BASE
- COLLECTOR
- EMITTER

Packing Detail

| PACKAGE | STANDARD PACK | | INNER CARTON BOX | | OUTER CARTON BOX | | |
|------------|---------------|----------------|-------------------|-----|-------------------|-----|----------|
| | Details | Net Weight/Qty | Size | Qty | Size | Qty | Gr Wt |
| TO-92 Bulk | 1K/polybag | 200 gm/1K pcs | 3" x 7.5" x 7.5" | 5K | 17" x 15" x 13.5" | 80K | 23 kgs |
| TO-92 T&A | 2K/ammo box | 645 gm/2K pcs | 12.5" x 8" x 1.8" | 2K | 17" x 15" x 13.5" | 32K | 12.5 kgs |

Disclaimer

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