

isc Silicon PNP Darlington Power Transistor
2SB1034
DESCRIPTION

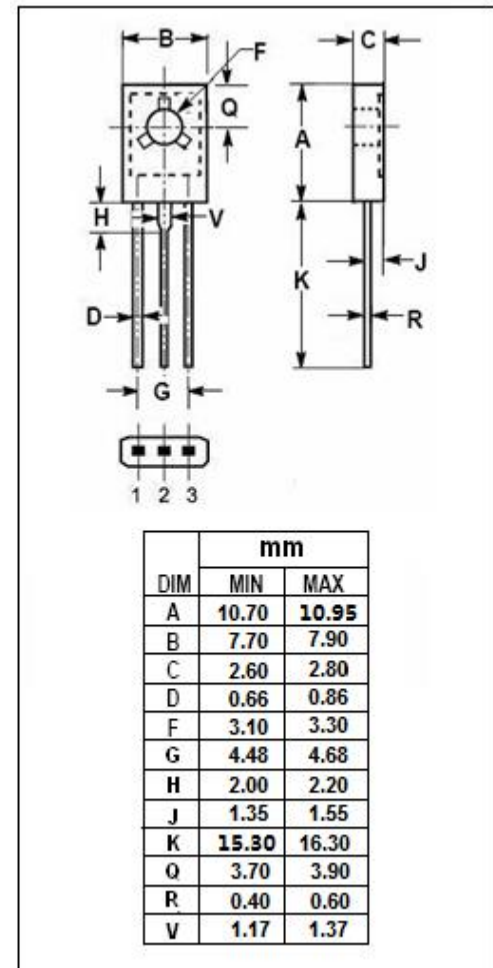
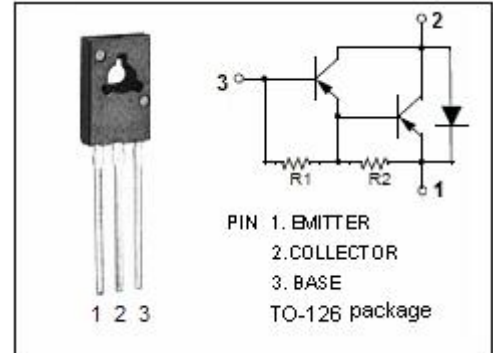
- High DC Current Gain-
: $h_{FE} = 2000(\text{Min}) @ I_C = -1\text{A}$
- Collector-Emitter Sustaining Voltage-
: $V_{CEO(\text{SUS})} = -80\text{V}(\text{Min})$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(\text{sat})} = -1.5\text{V}(\text{Max}) @ I_C = -1\text{A}$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for general purpose amplifier and low speed switching applications.

ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

| SYMBOL | PARAMETER | VALUE | UNIT |
|------------------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | -80 | V |
| V_{CEO} | Collector-Emitter Voltage | -80 | V |
| V_{EBO} | Emitter-Base Voltage | -8 | V |
| I_C | Collector Current-Continuous | -2 | A |
| I_B | Base Current | -0.5 | A |
| P_C | Collector Power Dissipation $T_c=25^\circ\text{C}$ | 15 | W |
| T_j | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -55~150 | $^\circ\text{C}$ |



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ELECTRICAL CHARACTERISTICS
T_c=25°C unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|-----------------------|--------------------------------------|---|------|------|------|------|
| V _{CEO(SUS)} | Collector-Emitter Sustaining Voltage | I _C = -10mA, I _B = 0 | -80 | | | V |
| V _{CE(sat)} | Collector-Emitter Saturation Voltage | I _C = -1A, I _B = -1mA | | | -1.5 | V |
| V _{BE(sat)} | Base-Emitter Saturation Voltage | I _C = -1A, I _B = -1mA | | | -2.0 | V |
| I _{CBO} | Collector Cutoff Current | V _{CB} = -80V, I _E = 0 | | | -10 | uA |
| I _{EBO} | Emitter Cutoff Current | V _{EB} = -8V; I _C = 0 | | | -4.0 | mA |
| h _{FE} | DC Current Gain | I _C = -1A; V _{CE} = -2V | 2000 | | | |
| f _T | Current-Gain—Bandwidth Product | I _C = -500mA; V _{CE} = -2V | | 50 | | MHz |
| C _{OB} | Output Capacitance | I _E = 0; V _{CB} = -10V, f= 1MHz | | 30 | | pF |

Switching Times

| | | | | | | |
|------------------|---------------|---|--|-----|--|-----|
| t _{on} | Turn-on Time | I _C = -1A, I _{B1} = -I _{B2} = -1mA; | | 0.4 | | μ s |
| t _s | Storage Time | | | 2.0 | | μ s |
| t _{off} | Turn-off Time | | | 0.4 | | μ s |

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