

isc Silicon PNP Darlington Power Transistor

2SB677

DESCRIPTION

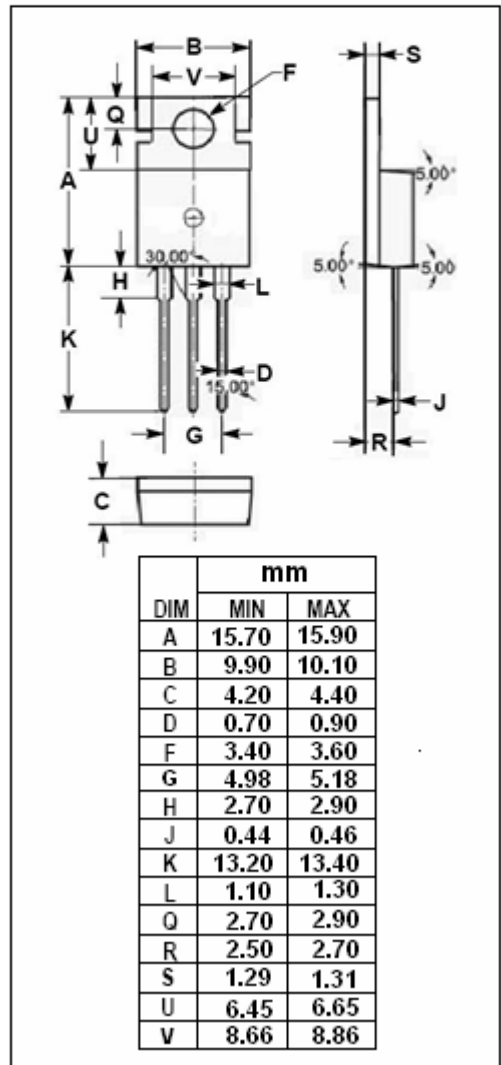
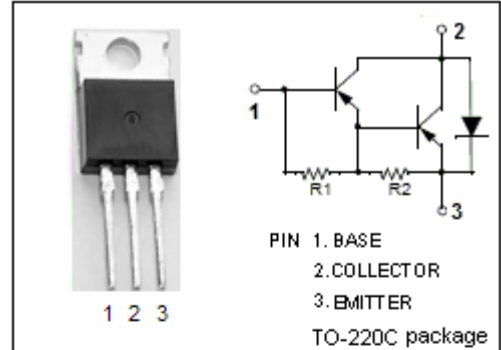
- High DC Current Gain-
: $h_{FE} = 2000(\text{Min}) @ I_C = -1\text{A}$
- Collector-Emitter Breakdown Voltage-
: $V_{(BR)CEO} = -40\text{V}(\text{Min})$
- Low Collector-Emitter Saturation Voltage-
: $V_{CE(\text{sat})} = -1.5\text{V}(\text{Max}) @ I_C = -2\text{A}$

APPLICATIONS

- Switching applications.
- Hammer drive, pulse motor drive applications.
- Power amplifier applications.

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------|
| V_{CBO} | Collector-Base Voltage | -60 | V |
| V_{CEO} | Collector-Emitter Voltage | -40 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current-Continuous | -3 | A |
| P_C | Collector Power Dissipation $T_C=25^\circ\text{C}$ | 25 | W |
| T_j | Junction Temperature | 150 | °C |
| T_{stg} | Storage Temperature Range | -55~150 | °C |



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ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---------------|--------------------------------------|---|------|------|------|---------------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C = -25\text{mA}$, $I_B = 0$ | -40 | | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = -2\text{A}$, $I_B = -4\text{mA}$ | | | -1.5 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C = -2\text{A}$, $I_B = -4\text{mA}$ | | | -2.0 | V |
| I_{CBO} | Collector Cutoff Current | $V_{CB} = -60\text{V}$, $I_E = 0$ | | | -20 | μA |
| I_{EBO} | Emitter Cutoff Current | $V_{EB} = -5\text{V}$, $I_C = 0$ | | | -2.5 | mA |
| h_{FE-1} | DC Current Gain | $I_C = -1\text{A}$; $V_{CE} = -2\text{V}$ | 2000 | | | |
| h_{FE-2} | DC Current Gain | $I_C = -3\text{A}$; $V_{CE} = -2\text{V}$ | 1000 | | | |
| t_{on} | Turn-on Time | $V_{CC} = -30\text{V}$; $I_{B1} = -I_{B2} = -6\text{mA}$, $R_L = 10\Omega$ | | 0.30 | | μs |
| t_{stg} | Storage Time | | | 0.60 | | μs |
| t_f | Fall Time | | | 0.25 | | μs |