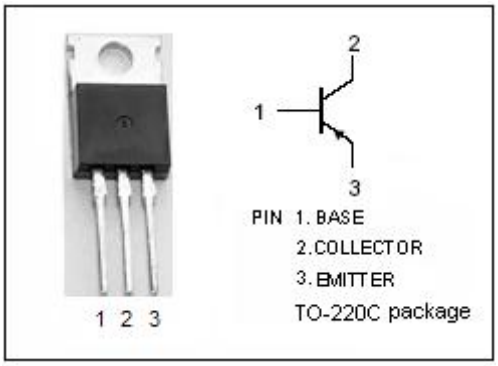
# SPTECH Silicon PNP Power Transistor BD277




## DESCRIPTION

- Wide Area of Safe Operation
- Low Saturation Voltage-
- High Power Dissipation

## APPLICATIONS

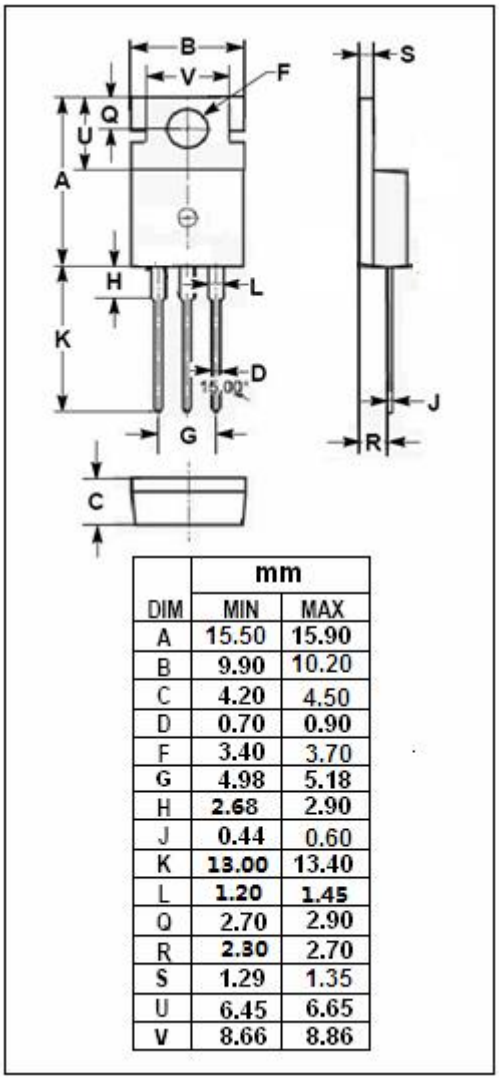
- Designed for use in series regulators and shunt regulators.

## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | -45 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | -45 | V |
| $V_{EBO}$ | Emitter-Base Voltage | -4 | V |
| $I_C$ | Collector Current-Continuous | -7 | A |
| $I_B$ | Base Current | -3 | A |
| $P_C$ | Collector Power Dissipation @ $T_C$=25℃ | 70 | W |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -65~150 | ℃ |

## THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | MAX | UNIT |
|---|---|---|---|
| $R_{th\ j\text{-}c}$ | Thermal Resistance, Junction to Case | 1.78 | ℃/W |
| $R_{th\ j\text{-}a}$ | Thermal Resistance, Junction to Ambient | 70 | ℃/W |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 15.50 | 15.90 |
| B | 9.90 | 10.20 |
| C | 4.20 | 4.50 |
| D | 0.70 | 0.90 |
| F | 3.40 | 3.70 |
| G | 4.98 | 5.18 |
| H | 2.68 | 2.90 |
| J | 0.44 | 0.60 |
| K | 13.00 | 13.40 |
| L | 1.20 | 1.45 |
| Q | 2.70 | 2.90 |
| R | 2.30 | 2.70 |
| S | 1.29 | 1.35 |
| U | 6.45 | 6.65 |
| V | 8.66 | 8.86 |

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## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | MAX | UNIT |
|---|---|---|---|---|---|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$= -30mA ;$I_B$= 0 | -45 | | V |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C$= -1.75A; $I_B$= -0.1A | | -0.5 | V |
| $V_{BE(on)}$ | Base-Emitter On Voltage | $I_C$= -1.75A ; $V_{CE}$= -2V | | -1.2 | V |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= -45V; $I_E$= 0 | | -0.1 | mA |
| | | $V_{CB}$= -40V; $I_E$= 0; $T_C$= 150℃ | | -2.0 | |
| $I_{CEO}$ | Collector Cutoff Current | $V_{CE}$= -30V; $I_B$= 0 | | -1.0 | mA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= -4V; $I_C$= 0 | | -1.0 | mA |
| $h_{FE}$ | DC Current Gain | $I_C$= -1.75A; $V_{CE}$= -2V | 30 | 150 | |
| $f_T$ | Current-Gain—Bandwidth Product | $I_C$= -0.5A; $V_{CE}$= -4V | 10 | | MHz |