

SPTECH Silicon PNP Power Transistor

MJE15033G

DESCRIPTION

- Collector-Emitter Sustaining  
Voltage-:  $V_{CEO(SUS)} = -250V(\text{Min})$
- DC current gain -  
:  $h_{FE} = 50 (\text{Min}) @ I_C = -0.5 A$   
:  $h_{FE} = 10 (\text{Min}) @ I_C = -2.0 A$
- Complement to Type MJE15032G

APPLICATIONS

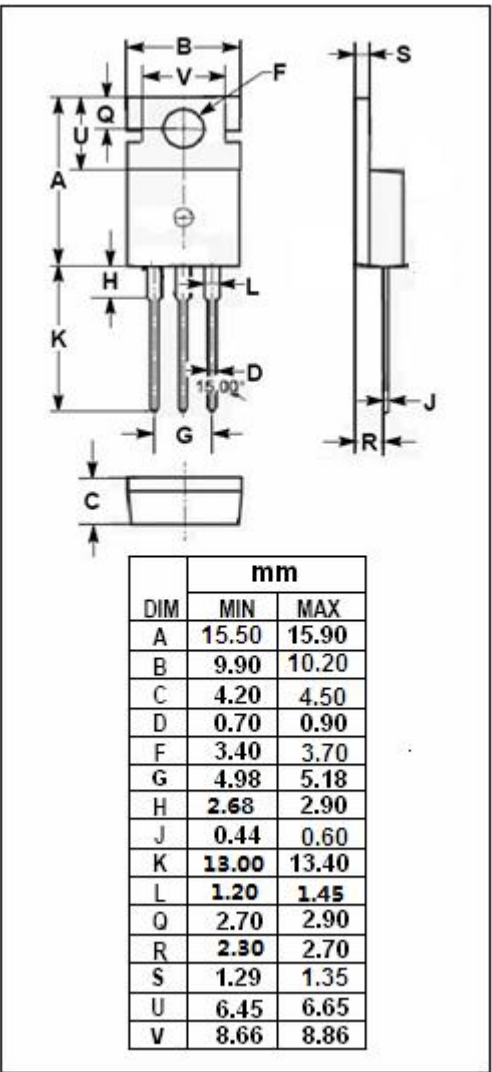
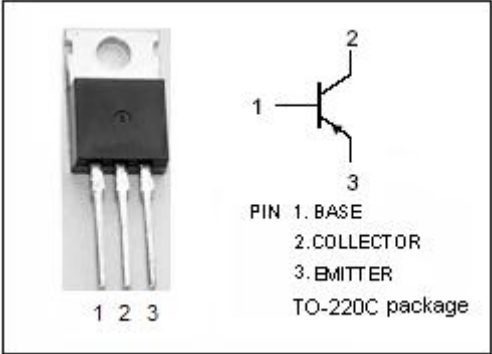
- Designed for use as high-frequency drivers in audio amplifiers.

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

| SYMBOL    | PARAMETER                                               | VALUE   | UNIT             |
|-----------|---------------------------------------------------------|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                                  | -250    | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                               | -250    | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                    | -5      | V                |
| $I_C$     | Collector Current -Continuous                           | -8      | A                |
| $I_{CM}$  | Collector Current-Peak                                  | -16     | A                |
| $I_B$     | Base Current                                            | -2      | A                |
| $P_C$     | Collector Power Dissipation<br>@ $T_a=25^\circ\text{C}$ | 2       | W                |
|           | Collector Power Dissipation<br>@ $T_C=25^\circ\text{C}$ | 50      |                  |
| $T_j$     | Junction Temperature                                    | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature                                     | -65~150 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| SYMBOL        | PARAMETER                               | MAX  | UNIT               |
|---------------|-----------------------------------------|------|--------------------|
| $R_{th\ j-c}$ | Thermal Resistance, Junction to Case    | 2.5  | $^\circ\text{C/W}$ |
| $R_{th\ j-a}$ | Thermal Resistance, Junction to Ambient | 62.5 | $^\circ\text{C/W}$ |



**SPTECH Silicon PNP Power Transistor****MJE15033G****ELECTRICAL CHARACTERISTICS****T<sub>j</sub>=25°C unless otherwise specified**

| SYMBOL                | PARAMETER                            | CONDITIONS                                                                 | MIN  | MAX  | UNIT |
|-----------------------|--------------------------------------|----------------------------------------------------------------------------|------|------|------|
| V <sub>CEO(SUS)</sub> | Collector-Emitter Sustaining Voltage | I <sub>C</sub> = -10mA ; I <sub>B</sub> = 0                                | -250 |      | V    |
| V <sub>CE(sat)</sub>  | Collector-Emitter Saturation Voltage | I <sub>C</sub> = -1A ; I <sub>B</sub> = -0.1A                              |      | -0.5 | V    |
| V <sub>BE(on)</sub>   | Base-Emitter On Voltage              | I <sub>C</sub> = -1A ; V <sub>CE</sub> = -5V                               |      | -1.0 | V    |
| I <sub>CBO</sub>      | Collector Cutoff Current             | V <sub>CB</sub> = -150V; I <sub>E</sub> = 0                                |      | -10  | μ A  |
| I <sub>EBO</sub>      | Emitter Cutoff Current               | V <sub>EB</sub> = -5V; I <sub>C</sub> = 0                                  |      | -10  | μ A  |
| h <sub>FE-1</sub>     | DC Current Gain                      | I <sub>C</sub> = -0.5A ; V <sub>CE</sub> = -5V                             | 50   |      |      |
| h <sub>FE-2</sub>     | DC Current Gain                      | I <sub>C</sub> = -1A ; V <sub>CE</sub> = -5V                               | 50   |      |      |
| h <sub>FE-3</sub>     | DC Current Gain                      | I <sub>C</sub> = -2A ; V <sub>CE</sub> = -5V                               | 10   |      |      |
| f <sub>T</sub>        | Current Gain-Bandwidth Product       | I <sub>C</sub> = -0.5A; V <sub>CE</sub> = -10V; f <sub>test</sub> = 1.0MHz | 20   |      | MHz  |