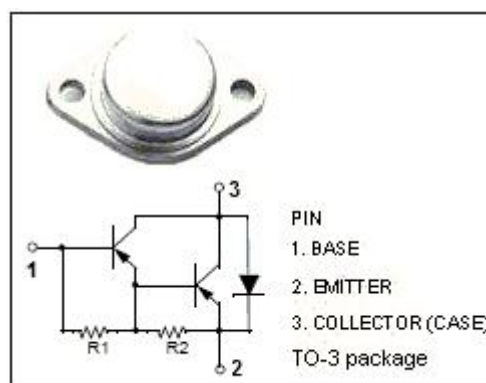


**DESCRIPTION**

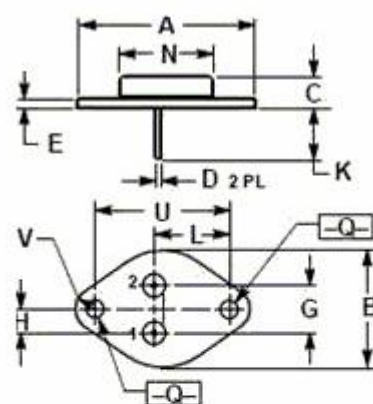
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = -120V(\text{Min.})$
- High DC Current Gain-  
:  $h_{FE} = 1000(\text{Min.}) @ I_C = -20A$
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = -3.0V(\text{Max.}) @ I_C = -20A$
- Complement to the NPN MJ11016

**APPLICATIONS**

- Designed for use as output devices in complementary general purpose amplifier applications.

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

| SYMBOL       | PARAMETER                                                 | VALUE    | UNIT               |
|--------------|-----------------------------------------------------------|----------|--------------------|
| $V_{CBO}$    | Collector-Base Voltage                                    | -120     | V                  |
| $V_{CEO}$    | Collector-Emitter Voltage                                 | -120     | V                  |
| $V_{EBO}$    | Emitter-Base Voltage                                      | -5       | V                  |
| $I_C$        | Collector Current-Continuous                              | -30      | A                  |
| $I_B$        | Base Current-Continuous                                   | -1       | A                  |
| $P_C$        | Collector Power Dissipation<br>@ $T_C = 25^\circ\text{C}$ | 200      | W                  |
| $T_j$        | Junction Temperature                                      | 200      | $^\circ\text{C}$   |
| $T_{stg}$    | Storage Temperature Range                                 | -55~+200 | $^\circ\text{C}$   |
| SYMBOL       | PARAMETER                                                 | MAX      | UNIT               |
| $R_{th j-c}$ | Thermal Resistance, Junction to Case                      | 0.87     | $^\circ\text{C/W}$ |



| DIM | mm    |       |
|-----|-------|-------|
|     | MIN   | MAX   |
| A   |       | 39.00 |
| B   | 25.30 | 26.67 |
| C   | 7.80  | 8.50  |
| D   | 0.90  | 1.10  |
| E   | 1.40  | 1.60  |
| G   |       | 10.92 |
| H   |       | 5.46  |
| K   | 11.30 | 13.50 |
| L   | 16.75 | 17.05 |
| N   | 19.40 | 19.62 |
| Q   | 4.00  | 4.20  |
| U   | 30.00 | 30.20 |
| V   | 4.30  | 4.50  |

## 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  | $I_C = -50\text{mA}; I_B = 0$                                                                   | -120 |      |              | V    |
| $V_{CE(sat)-1}$ | Collector-Emitter Saturation Voltage | $I_C = -20\text{A}; I_B = -0.2\text{A}$                                                         |      |      | -3.0         | V    |
| $V_{CE(sat)-2}$ | Collector-Emitter Saturation Voltage | $I_C = -30\text{A}; I_B = -0.3\text{A}$                                                         |      |      | -4.0         | V    |
| $V_{BE(sat)-1}$ | Base-Emitter Saturation Voltage      | $I_C = -20\text{A}; I_B = -0.2\text{A}$                                                         |      |      | -3.5         | V    |
| $V_{BE(sat)-2}$ | Base-Emitter Saturation Voltage      | $I_C = -30\text{A}; I_B = -0.3\text{A}$                                                         |      |      | -5.0         | V    |
| $I_{CBO}$       | Collector Cutoff Current             | $V_{CB} = -120\text{V}; I_E = 0$<br>$V_{CB} = -120\text{V}; I_E = 0; T_C = 150^{\circ}\text{C}$ |      |      | -1.0<br>-5.0 | mA   |
| $I_{CEO}$       | Collector Cutoff Current             | $V_{CE} = -120\text{V}; I_B = 0$                                                                |      |      | -1.0         | mA   |
| $I_{EBO}$       | Emitter Cutoff Current               | $V_{EB} = -5\text{V}; I_C = 0$                                                                  |      |      | -5.0         | mA   |
| $h_{FE-1}$      | DC Current Gain                      | $I_C = -20\text{A}, V_{CE} = -5\text{V}$                                                        | 1000 |      |              |      |
| $h_{FE-2}$      | DC Current Gain                      | $I_C = -30\text{A}, V_{CE} = -5\text{V}$                                                        | 200  |      |              |      |