

## isc Silicon NPN Power Transistor

H1061

## DESCRIPTION

- DC Current Gain-  
:  $h_{FE} = 60-200 @ I_C = 1A$
- Low Collector Saturation Voltage
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

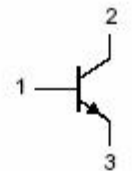
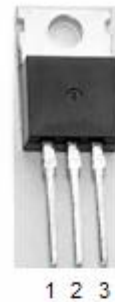
- Designed for low frequency power amplifier applications

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

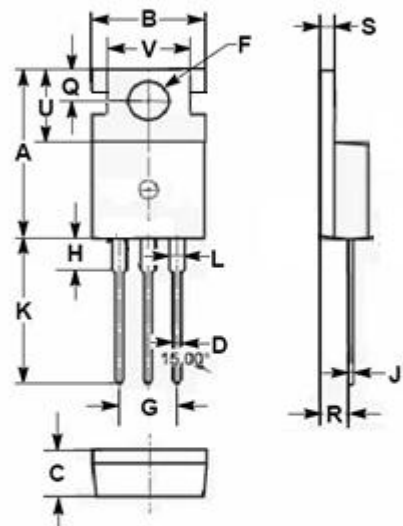
| SYMBOL    | PARAMETER                                                 | VALUE   | UNIT             |
|-----------|-----------------------------------------------------------|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                                    | 100     | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                                 | 80      | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                      | 5       | V                |
| $I_C$     | Collector Current-Continuous                              | 4       | A                |
| $I_{CM}$  | Collector Current-Peak                                    | 8       | A                |
| $P_C$     | Collector Power Dissipation<br>@ $T_C = 25^\circ\text{C}$ | 40      | W                |
| $T_J$     | Junction Temperature                                      | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                                 | -55~150 | $^\circ\text{C}$ |

## THERMAL CHARACTERISTICS

| SYMBOL       | PARAMETER                            | MAX | UNIT               |
|--------------|--------------------------------------|-----|--------------------|
| $R_{th j-c}$ | Thermal Resistance, Junction to Case | 5.0 | $^\circ\text{C/W}$ |



PIN 1. BASE  
2. COLLECTOR  
3. EMITTER  
TO-220C package



| DIM | mm    |       |
|-----|-------|-------|
|     | MIN   | MAX   |
| A   | 15.50 | 15.90 |
| B   | 9.80  | 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   | 12.80 | 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

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

| SYMBOL        | PARAMETER                            | CONDITIONS                                         | MIN | TYP. | MAX | UNIT |
|---------------|--------------------------------------|----------------------------------------------------|-----|------|-----|------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage  | $I_C=50\text{mA}; I_B=0$                           | 80  |      |     | V    |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage       | $I_E=1\text{mA}; I_C=0$                            | 5   |      |     | V    |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=2\text{A}; I_B=0.2\text{A}$                   |     |      | 1.0 | V    |
| $V_{BE(on)}$  | Base-Emitter On Voltage              | $I_C=1.0\text{A}; V_{CE}=4\text{V}$                |     |      | 1.5 | V    |
| $I_{CBO}$     | Collector Cutoff Current             | $V_{CB}=80\text{V}; I_E=0$                         |     |      | 0.1 | mA   |
| $I_{EBO}$     | Emitter Cutoff Current               | $V_{EB}=4\text{V}; I_C=0$                          |     |      | 0.1 | mA   |
| $h_{FE-1}$    | DC Current Gain                      | $I_C=1\text{A}; V_{CE}=4\text{V}$                  | 60  |      | 200 |      |
| $h_{FE-2}$    | DC Current Gain                      | $I_C=0.1\text{A}; V_{CE}=4\text{V}$                | 35  |      |     |      |
| $C_{OB}$      | Output Capacitance                   | $I_E=0; V_{CB}=20\text{V}; f_{test}=1.0\text{MHz}$ |     | 40   |     | pF   |
| $f_T$         | Current-Gain—Bandwidth Product       | $I_C=0.5\text{A}; V_{CE}=5\text{V}$                |     | 10   |     | MHz  |

◆  $h_{FE-1}$  Classifications

| B      | C       |
|--------|---------|
| 60-120 | 100-200 |

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