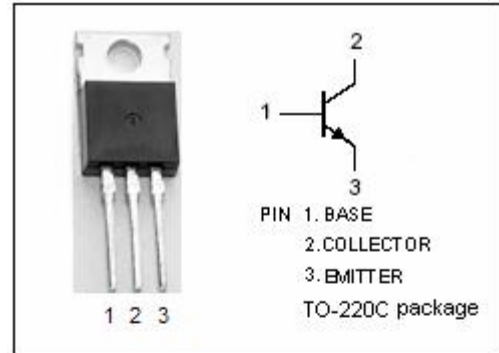


**isc Silicon NPN Power Transistor**

**2SC5027**

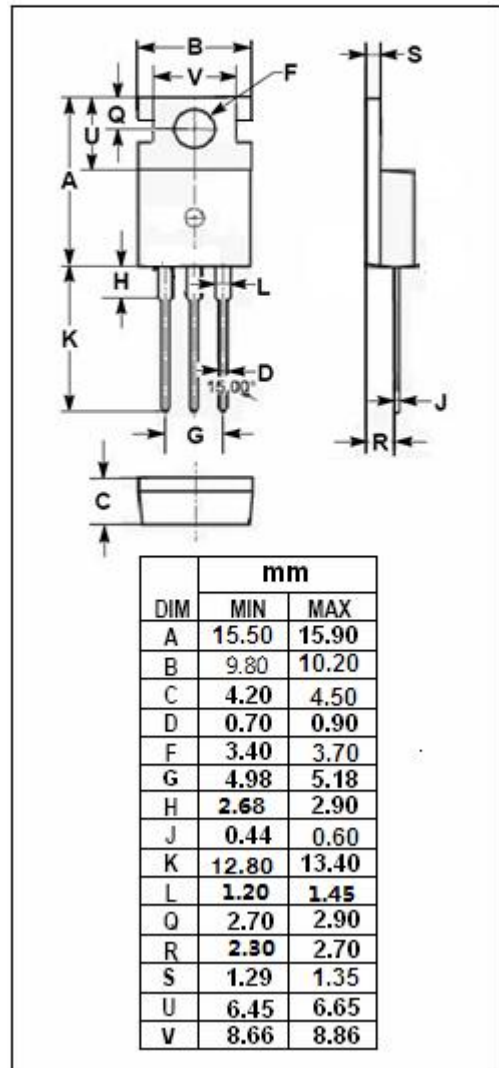
**DESCRIPTION**

- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 800V(\text{Min})$
- High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



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

| SYMBOL    | PARAMETER   | VALUE   | UNIT             |
|-----------|---|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                                    | 1100    | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                                 | 800     | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                      | 7       | V                |
| $I_C$     | Collector Current-Continuous                              | 3       | A                |
| $I_{CM}$  | Collector Current-Peak                                    | 10      | A                |
| $I_B$     | Base Current-Continuous                                   | 1.5     | A                |
| $P_C$     | Collector Power Dissipation<br>@ $T_C = 25^\circ\text{C}$ | 50      | W                |
| $T_J$     | Junction Temperature                                      | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature                                       | -55~150 | $^\circ\text{C}$ |



## isc Silicon NPN Power Transistor

## 2SC5027

## ELECTRICAL CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

| SYMBOL               | PARAMETER                            | CONDITIONS   | MIN  | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|--|------|------|-----|------|
| BV <sub>EBO</sub>    | Emitter -Base Breakdown Voltage      | I <sub>E</sub> = 1mA; I <sub>C</sub> = 0           | 7    |      |     | V    |
| BV <sub>CEO</sub>    | Collector- Emitter Breakdown Voltage | I <sub>C</sub> = 5mA; I <sub>B</sub> = 0           | 800  |      |     | V    |
| BV <sub>CBO</sub>    | Collector- Base Breakdown Voltage    | I <sub>C</sub> = 1mA; I <sub>E</sub> = 0           | 1100 |      |     | V    |
| V <sub>CE(sat)</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> = 1.5A; I <sub>B</sub> = 0.3A       |      |      | 2.0 | V    |
| V <sub>BE(sat)</sub> | Base-Emitter Saturation Voltage      | I <sub>C</sub> = 1.5A; I <sub>B</sub> = 0.3A       |      |      | 1.5 | V    |
| I <sub>CBO</sub>     | Collector Cutoff Current             | V <sub>CB</sub> = 800V; 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>FE1</sub>     | DC Current Gain                      | I <sub>C</sub> = 0.2A; V <sub>CE</sub> = 5V        | 10   |      | 40  |      |
| h <sub>FE2</sub>     | DC Current Gain                      | I <sub>C</sub> = 1A; V <sub>CE</sub> = 5V          | 8    |      |     |      |
| C <sub>OB</sub>      | Output Capacitance                   | I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f= 1MHz |      | 60   |     | pF   |
| f <sub>T</sub>       | Current-Gain—Bandwidth Product       | I <sub>E</sub> = 0.2A; V <sub>CE</sub> = 10V       |      | 12   |     | MHz  |

hFE1 : N: 10 ~ 20 R: 15 ~ 30 O: 20 ~ 40

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