

**isc Silicon NPN Power Transistor**

**2SC3047**

**DESCRIPTION**

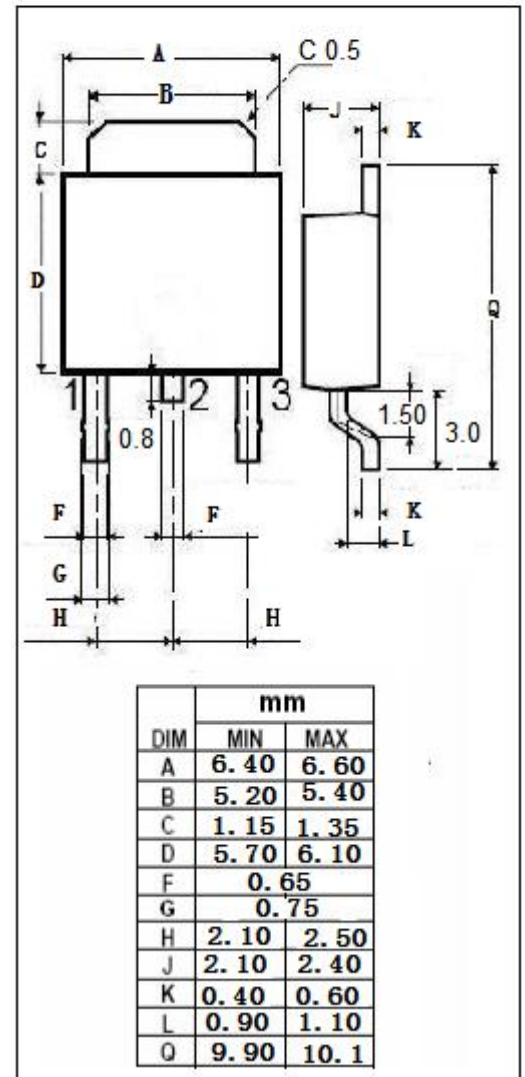
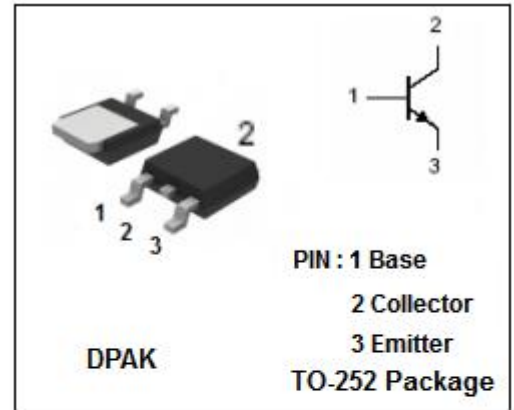
- With TO-252(DPAK) packaging
- Excellent linearity of  $h_{FE}$
- Low collector-to-emitter saturation voltage
- Fast switching speed
- Complementary to 2SA1244
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

**APPLICATIONS**

- Relay drivers, high-speed inverters , converters and Other general high current switching applications

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

| SYMBOL    | PARAMETER                                       | VALUE   | UNIT        |
|-----------|---|---------|-------------|
| $V_{CBO}$ | Collector-Base Voltage                          | 60      | V           |
| $V_{CEO}$ | Collector-Emitter Voltage                       | 50      | V           |
| $V_{EBO}$ | Emitter-Base Voltage                            | 5       | V           |
| $I_C$     | Collector Current-Continuous                    | 5       | A           |
| $I_B$     | Base Current-Continuous                         | 1       | A           |
| $P_C$     | Collector Power Dissipation                     | 1       | W           |
|           | Collector Power Dissipation @ $T_c=25^{\circ}C$ | 20      |             |
| $T_J$     | Junction Temperature                            | 150     | $^{\circ}C$ |
| $T_{stg}$ | Storage Temperature Range                       | -55~150 | $^{\circ}C$ |



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**ELECTRICAL CHARACTERISTICS**

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

| SYMBOL               | PARAMETER                            | CONDITIONS                                 | MIN | TYP. | MAX | UNIT |
|----------------------|--------------------------------------|--|-----|------|-----|------|
| BV <sub>CEO</sub>    | Collector-Emitter Breakdown Voltage  | I <sub>c</sub> =10mA; I <sub>B</sub> =0    | 50  |      |     | V    |
| V <sub>CE(sat)</sub> | Collector-Emitter Saturation Voltage | I <sub>c</sub> =3A; I <sub>B</sub> =0.15A  |     | 200  | 400 | mV   |
| V <sub>BE(sat)</sub> | Base-Emitter Saturation Voltage      | I <sub>c</sub> =3A; I <sub>B</sub> =0.15A  |     | 0.9  | 1.2 | V    |
| I <sub>CB0</sub>     | Collector Cutoff Current             | V <sub>CB</sub> = 40V; I <sub>E</sub> = 0  |     |      | 1.0 | μ A  |
| I <sub>EB0</sub>     | Emitter Cutoff Current               | V <sub>EB</sub> = 5V; I <sub>c</sub> =0    |     |      | 1.0 | μ A  |
| h <sub>FE-1</sub>    | DC Current Gain                      | I <sub>c</sub> = 1A ; V <sub>CE</sub> = 1V | 70  |      | 240 |      |
| h <sub>FE-2</sub>    | DC Current Gain                      | I <sub>c</sub> = 3A ; V <sub>CE</sub> = 1V | 30  |      |     |      |

**◆ h<sub>FE-1</sub> Classifications**

| O      | Y       |
|--------|---------|
| 70-140 | 120-240 |