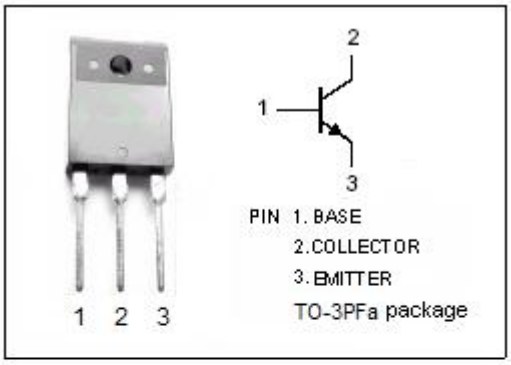
# isc Silicon NPN Power Transistor — 2SD2065




## DESCRIPTION

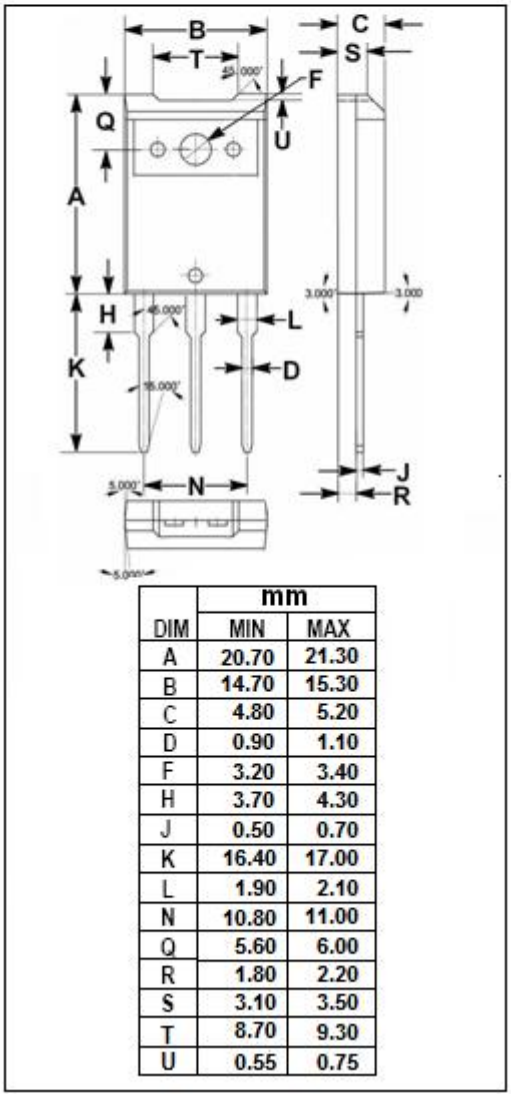
- Collector-Emitter Breakdown Voltage-
  : $V_{(BR)CEO}$= 140V(Min)
- Good Linearity of $h_{FE}$
- Wide Area of Safe Operation
- Complement to Type 2SB1372
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

## APPLICATIONS

- Designed for high power amplifications.

## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 140 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 140 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 5 | V |
| $I_C$ | Collector Current-Continuous | 7 | A |
| $I_{CP}$ | Collector Current-Pulse | 12 | A |
| $P_C$ | Collector Power Dissipation @ $T_C$=25℃ | 80 | W |
| | Collector Power Dissipation @ $T_a$=25℃ | 3 | |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -55~150 | ℃ |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 20.70 | 21.30 |
| B | 14.70 | 15.30 |
| C | 4.80 | 5.20 |
| D | 0.90 | 1.10 |
| F | 3.20 | 3.40 |
| H | 3.70 | 4.30 |
| J | 0.50 | 0.70 |
| K | 16.40 | 17.00 |
| L | 1.90 | 2.10 |
| N | 10.80 | 11.00 |
| Q | 5.60 | 6.00 |
| R | 1.80 | 2.20 |
| S | 3.10 | 3.50 |
| T | 8.70 | 9.30 |
| U | 0.55 | 0.75 |

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## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C$= 5A; $I_B$= 0.5A | | | 2.0 | V |
| $V_{BE(on)}$ | Base -Emitter On Voltage | $I_C$= 5A; $V_{CE}$= 5V | | | 1.8 | V |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= 140V; $I_E$= 0 | | | 50 | μA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= 3V; $I_C$= 0 | | | 50 | μA |
| $h_{FE-1}$ | DC Current Gain | $I_C$= 20mA; $V_{CE}$= 5V | 20 | | | |
| $h_{FE-2}$ | DC Current Gain | $I_C$= 1A; $V_{CE}$= 5V | 60 | | 200 | |
| $h_{FE-3}$ | DC Current Gain | $I_C$= 5A; $V_{CE}$= 5V | 20 | | | |
| $f_T$ | Current-Gain—Bandwidth Product | $I_C$= 0.5A; $V_{CE}$= 5 V; f= 1MHz | | 20 | | MHz |
| $C_{OB}$ | Output Capacitance | $I_E$= 0; $V_{CB}$= 10V; f= 1MHz | | 110 | | pF |

◆ **$h_{FE-2}$Classifications**

| Q | S | P |
|---|---|---|
| 60-120 | 80-160 | 100-200 |