

isc Silicon NPN Power Transistor

2SD2065

DESCRIPTION

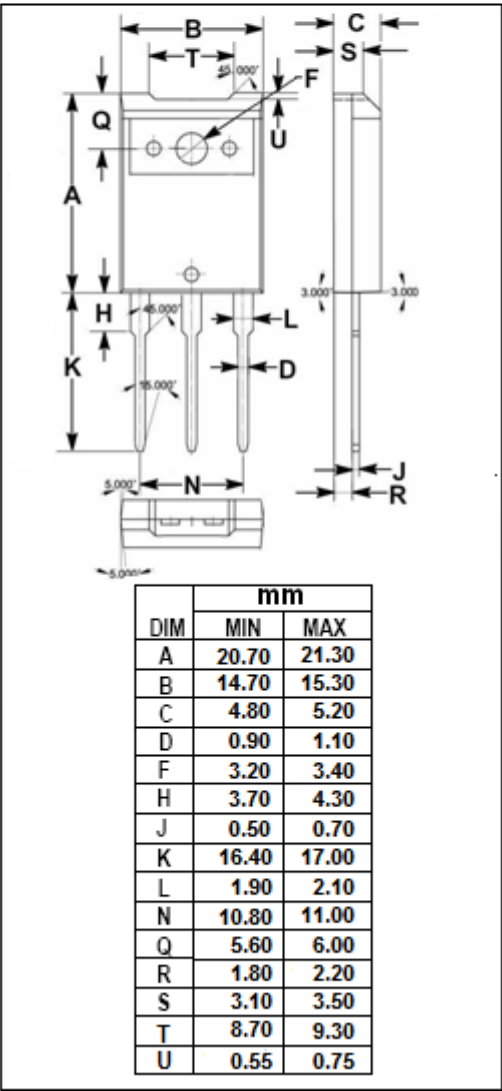
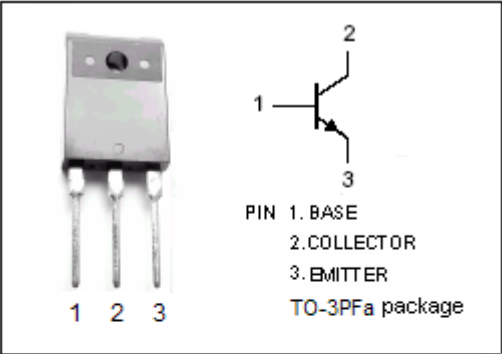
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO}=140V(\text{Min})$
- Good Linearity of  $h_{FE}$
- Wide Area of Safe Operation
- Complement to Type 2SB1372

APPLICATIONS

- Designed for high power amplifications.

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

| 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<br>@ $T_C=25^{\circ}\text{C}$ | 80      | W                  |
|           | Collector Power Dissipation<br>@ $T_a=25^{\circ}\text{C}$ | 3       |                    |
| $T_J$     | Junction Temperature                                      | 150     | $^{\circ}\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                                 | -55~150 | $^{\circ}\text{C}$ |



**isc Silicon NPN Power Transistor****2SD2065****ELECTRICAL CHARACTERISTICS** $T_C=25^{\circ}\text{C}$  unless otherwise specified

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

◆  **$h_{FE-2}$  Classifications**

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