

isc Silicon NPN Power Transistor

2SD1266

**DESCRIPTION**

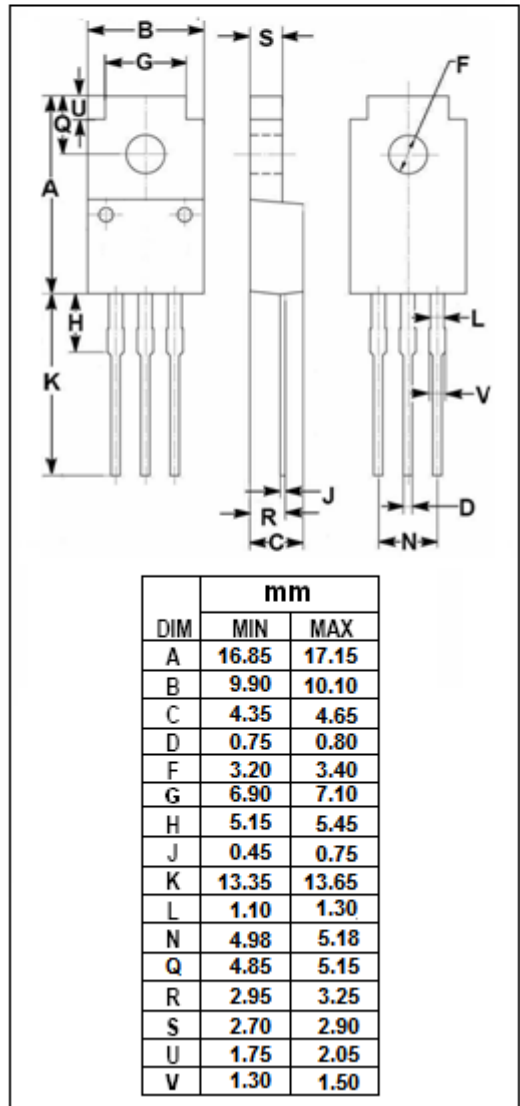
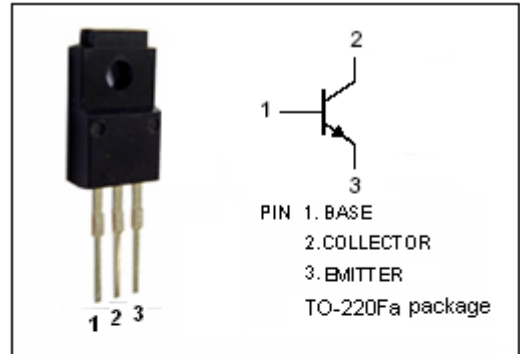
- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = 1.2V(\text{Max}) @ I_C = 3A$
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 60V (\text{Min})$
- Good Linearity of  $h_{FE}$
- Complement to Type 2SB941

**APPLICATIONS**

- Designed for power amplification.

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

| SYMBOL    | PARAMETER   | VALUE   | UNIT             |
|-----------|---|---------|------------------|
| $V_{CBO}$ | Collector-Base Voltage                                  | 60      | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                               | 60      | V                |
| $V_{EBO}$ | Emitter-Base Voltage                                    | 6       | V                |
| $I_C$     | Collector Current-Continuous                            | 3       | A                |
| $I_{CM}$  | Collector Current-Peak                                  | 5       | A                |
| $P_C$     | Collector Power Dissipation<br>@ $T_c=25^\circ\text{C}$ | 35      | W                |
|           | Collector Power Dissipation<br>@ $T_a=25^\circ\text{C}$ | 2       |                  |
| $T_J$     | Junction Temperature                                    | 150     | $^\circ\text{C}$ |
| $T_{stg}$ | Storage Temperature Range                               | -55~150 | $^\circ\text{C}$ |



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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  | $I_C=30\text{mA}; I_B=0$                             | 60  |      |     | V    |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=3\text{A}; I_B=0.375\text{A}$                   |     |      | 1.2 | V    |
| $V_{BE(on)}$  | Base-Emitter On Voltage              | $I_C=3\text{A}; V_{CE}=4\text{V}$                    |     |      | 1.8 | V    |
| $I_{CES}$     | Collector Cutoff Current             | $V_{CE}=60\text{V}; V_{BE}=0$                        |     |      | 0.2 | mA   |
| $I_{CEO}$     | Collector Cutoff Current             | $V_{CE}=30\text{V}; I_B=0$                           |     |      | 0.3 | mA   |
| $I_{EBO}$     | Emitter Cutoff Current               | $V_{EB}=6\text{V}; I_C=0$                            |     |      | 1.0 | mA   |
| $h_{FE-1}$    | DC Current Gain                      | $I_C=1\text{A}; V_{CE}=4\text{V}$                    | 70  |      | 250 |      |
| $h_{FE-2}$    | DC Current Gain                      | $I_C=3\text{A}; V_{CE}=4\text{V}$                    | 10  |      |     |      |
| $f_T$         | Current-Gain—Bandwidth Product       | $I_C=0.5\text{A}; V_{CE}=10\text{V}; f=10\text{MHz}$ |     | 30   |     | MHz  |

## Switching times

|           |              |  |  |     |  |               |
|-----------|--------------|--|--|-----|--|---------------|
| $t_{on}$  | Turn-on Time | $I_C=1\text{A}; I_{B1}=-I_{B2}=0.1\text{A}; V_{CC}=50\text{V}$ |  | 0.5 |  | $\mu\text{s}$ |
| $t_{stg}$ | Storage Time |  |  | 2.5 |  | $\mu\text{s}$ |
| $t_f$     | Fall Time    |  |  | 0.4 |  | $\mu\text{s}$ |

◆  $h_{FE-1}$  classifications

| Q      | P       |
|--------|---------|
| 70-150 | 120-250 |