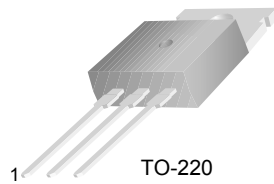


# KSD526

## NPN Epitaxial Silicon Transistor

### Power Amplifier Applications

- Complement to KSB596



TO-220  
1.Base 2.Collector 3.Emitter

### Absolute Maximum Ratings \* $T_a = 25^\circ\text{C}$ unless otherwise noted

| Symbol    | Parameter  | Value   | Units            |
|-----------|--|---------|------------------|
| $V_{CB0}$ | Collector-Base Voltage                           | 80      | V                |
| $V_{CEO}$ | Collector-Emitter Voltage                        | 80      | V                |
| $V_{EBO}$ | Emitter-Base Voltage                             | 5       | V                |
| $I_C$     | Collector Current                                | 4       | A                |
| $I_B$     | Base Current                                     | 0.4     | A                |
| $P_C$     | Collector Dissipation ( $T_C=25^\circ\text{C}$ ) | 30      | W                |
| $T_J$     | Junction Temperature                             | 150     | $^\circ\text{C}$ |
| $T_{STG}$ | Storage Temperature                              | -55~150 | $^\circ\text{C}$ |

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Electrical Characteristics $T_C = 25^\circ\text{C}$ unless otherwise noted

| Symbol        | Parameter                            | Test Condition   | MIN      | MAX  | MAX | Units         |
|---------------|--------------------------------------|--|----------|------|-----|---------------|
| $I_{CBO}$     | Collector Cut-off Current            | $V_{CB} = 80\text{V}, I_E = 0$   |          |      | 30  | $\mu\text{A}$ |
| $I_{EBO}$     | Emitter Cut-off Current              | $V_{EB} = 5\text{V}, I_C = 0$  |          |      | 100 | $\mu\text{A}$ |
| $BV_{CEO}$    | Collector-Emitter Breakdown Voltage  | $I_C = 50\text{mA}, I_B = 0$   | 80       |      |     | V             |
| $BV_{EBO}$    | Emitter-Base Breakdown Voltage       | $I_E = 10\text{mA}, I_C = 0$   | 5        |      |     | V             |
| $h_{FE}$      | DC Current Gain                      | $V_{CE} = 5\text{V}, I_C = 0.5\text{A}$<br>$V_{CE} = 5\text{V}, I_C = 3\text{A}$ | 40<br>15 | 50   | 240 |               |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 3\text{A}, I_B = 0.3\text{A}$   |          | 0.45 | 1.5 | V             |
| $V_{BE(on)}$  | Base-Emitter On Voltage              | $V_{CE} = 5\text{V}, I_C = 3\text{A}$  |          | 1    | 1.5 | V             |
| $f_T$         | Current Gain - Bandwidth Product     | $V_{CE} = 5\text{V}, I_C = 0.5\text{A}$  | 3        | 8    |     | MHz           |
| $C_{cb}$      | Collector Output Capacitance         | $V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$                                  |          | 90   |     | pF            |

### $h_{FE}$ Classification

| Classification | R     | O      | Y       |
|----------------|-------|--------|---------|
| $h_{FE}$       | 40~80 | 70~140 | 120~240 |

# Typical Characteristics

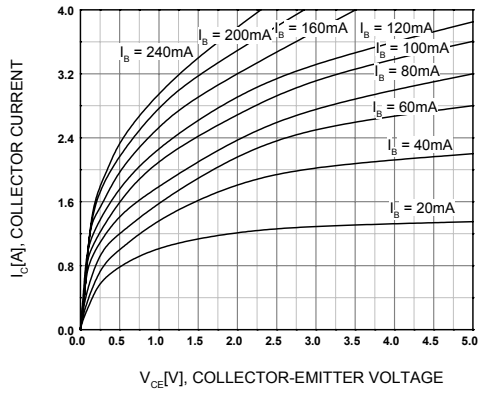


Figure 1. Static Characteristic

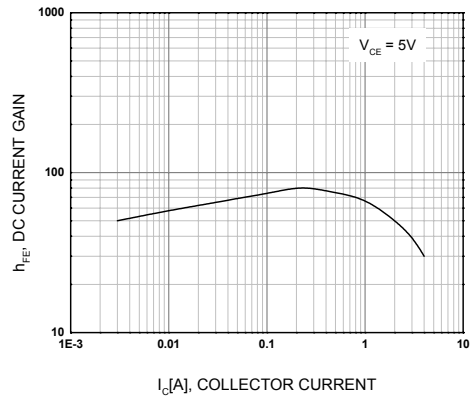


Figure 2. DC current Gain

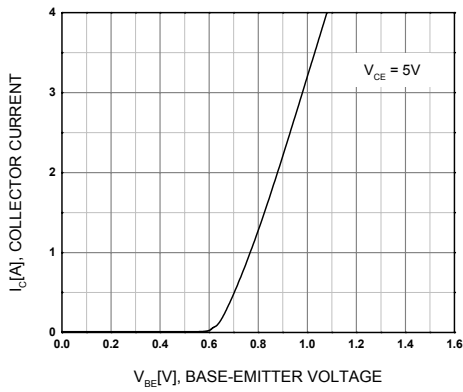


Figure 3. Base-Emitter On Voltage

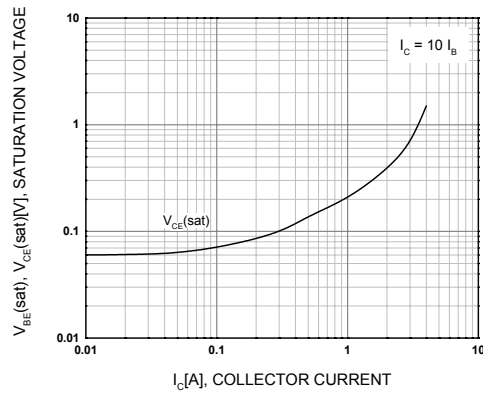


Figure 4. Collector-Emitter Saturation Voltage

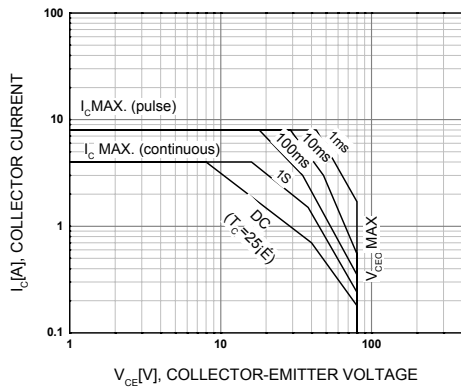


Figure 5. Safe Operating Area

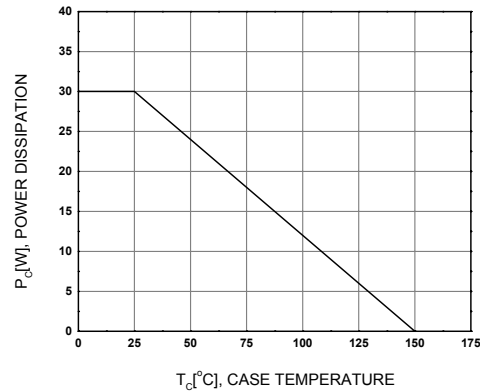
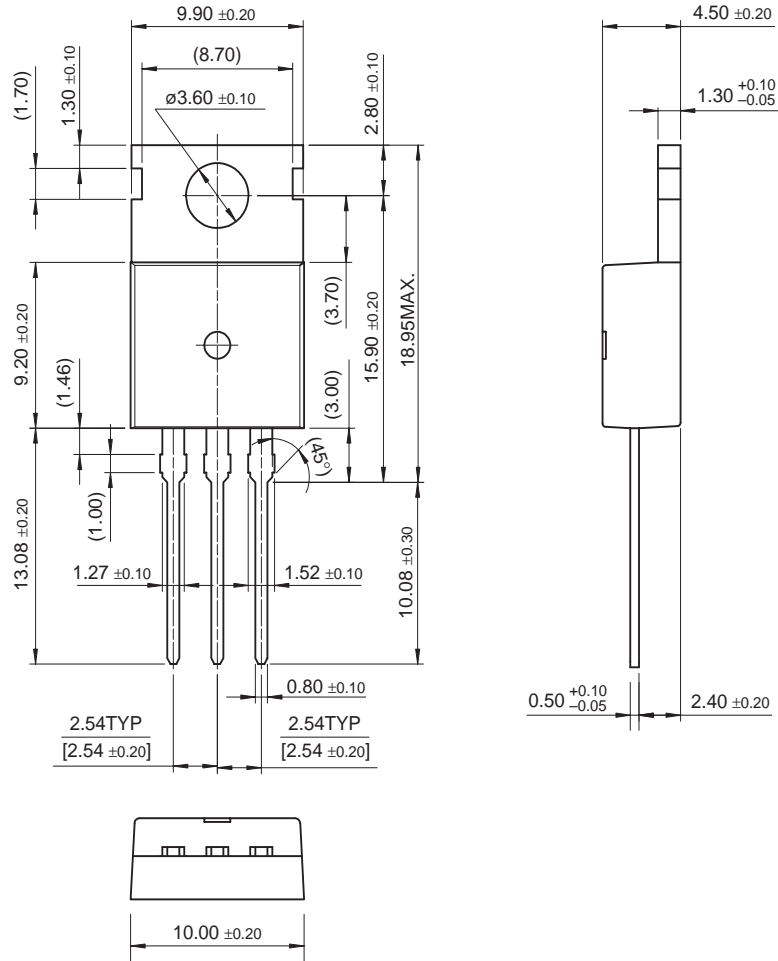


Figure 6. Power Derating

# Package Dimensions

## TO-220



Dimensions in Millimeters

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| ActiveArray™                         | FASTr™              | LittleFET™    | PowerTrench®        | SuperSOT™-8     |
| Bottomless™                          | FPS™                | MICROCOUPLER™ | QFET®               | SyncFET™        |
| Build it Now™                        | FRFET™              | MicroFET™     | QS™                 | TCM™            |
| CoolFET™                             | GlobalOptoisolator™ | MicroPak™     | QT Optoelectronics™ | TinyLogic®      |
| CROSSVOLT™                           | GTO™                | MICROWIRE™    | Quiet Series™       | TINYOPTO™       |
| DOME™                                | HiSeC™              | MSX™          | RapidConfigure™     | TruTranslation™ |
| EcoSPARK™                            | I <sup>2</sup> C™   | MSXPro™       | RapidConnect™       | UHC™            |
| E <sup>2</sup> C MOS™                | i-Lo™               | OCX™          | μSerDes™            | UltraFET®       |
| EnSigna™                             | ImpliedDisconnect™  | OCXPro™       | ScalarPump™         | UniFET™         |
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