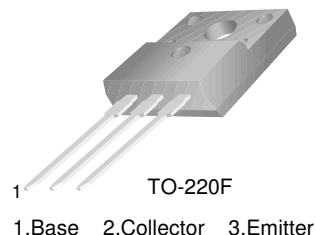


# KSB1017

KSB1017

## Power Amplifier Applications

- Complement to KSD1408



## PNP Silicon Epitaxial Transistor

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

| Symbol    | Parameter                                        | Value      | Units            |
|-----------|--------------------------------------------------|------------|------------------|
| $V_{CBO}$ | 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 ( $T_C=25^\circ\text{C}$ ) | 25         | W                |
| $T_J$     | Junction Temperature                             | 150        | $^\circ\text{C}$ |
| $T_{STG}$ | Storage Temperature                              | - 55 ~ 150 | $^\circ\text{C}$ |

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

| Symbol                 | Parameter                            | Test Condition                                                                                 | Min.     | Typ. | Max.  | Units         |
|------------------------|--------------------------------------|------------------------------------------------------------------------------------------------|----------|------|-------|---------------|
| $BV_{CEO}$             | Collector-Emitter Breakdown Voltage  | $I_C = - 50\text{mA}$ , $I_B = 0$                                                              | -80      |      |       | V             |
| $I_{CBO}$              | 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 | $\mu\text{A}$ |
| $h_{FE1}$<br>$h_{FE2}$ | 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 |      | 240   |               |
| $V_{CE(sat)}$          | Collector-Emitter Saturation Voltage | $I_C = - 3\text{A}$ , $I_B = - 0.3\text{A}$                                                    |          | - 1  | - 1.7 | 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       | $V_{CE} = - 5\text{V}$ , $I_C = - 0.5\text{A}$                                                 |          | 9    |       | MHz           |
| $C_{ob}$               | Output Capacitance                   | $V_{CB} = - 10\text{V}$ , $f = 1\text{MHz}$                                                    |          | 130  |       | pF            |

### $h_{FE}$ Classification

| Classification | R       | O        | Y         |
|----------------|---------|----------|-----------|
| $h_{FE1}$      | 40 ~ 80 | 70 ~ 140 | 120 ~ 240 |

# Typical Characteristics

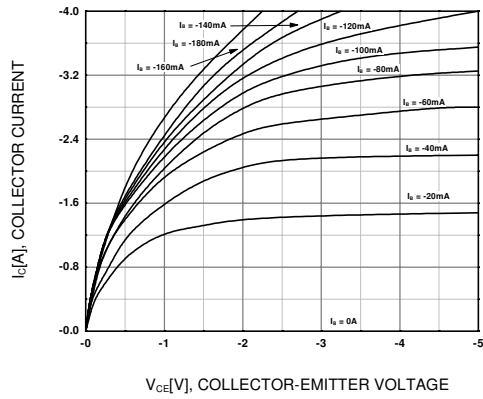


Figure 1. Static Characteristic

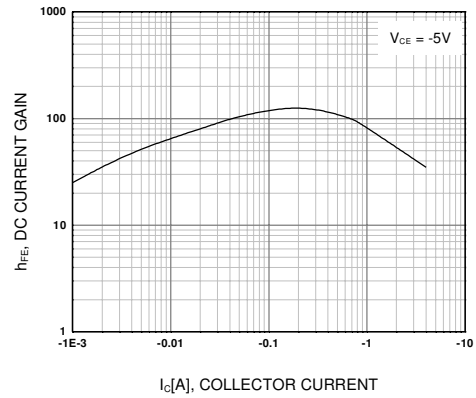


Figure 2. DC current Gain

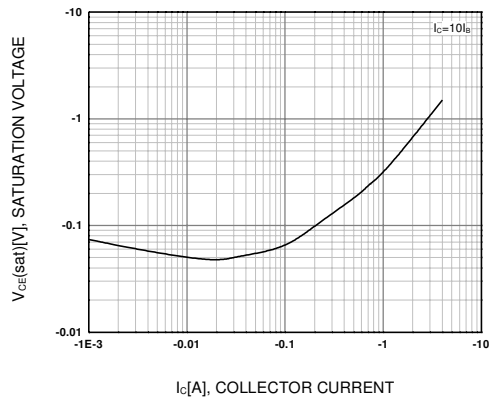


Figure 3. Collector-Emitter Saturation Voltage

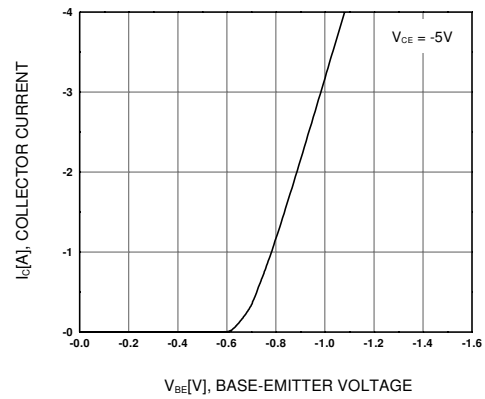


Figure 4. Base-Emitter On Voltage

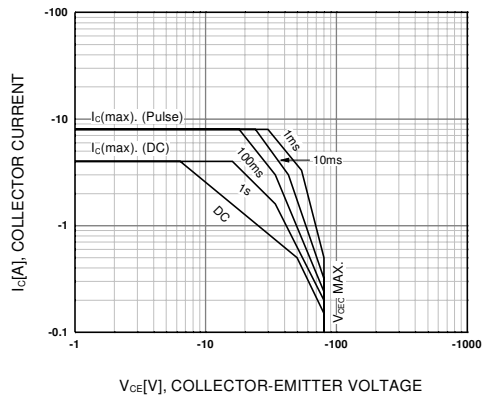


Figure 5. Safe Operating Area

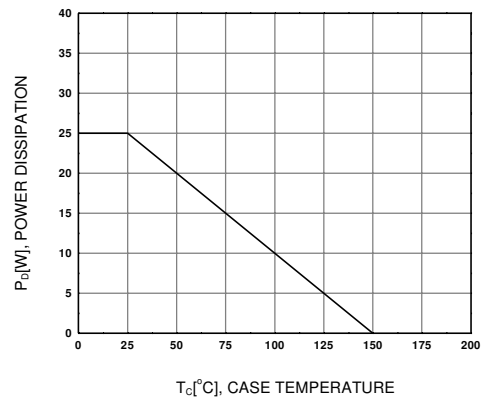
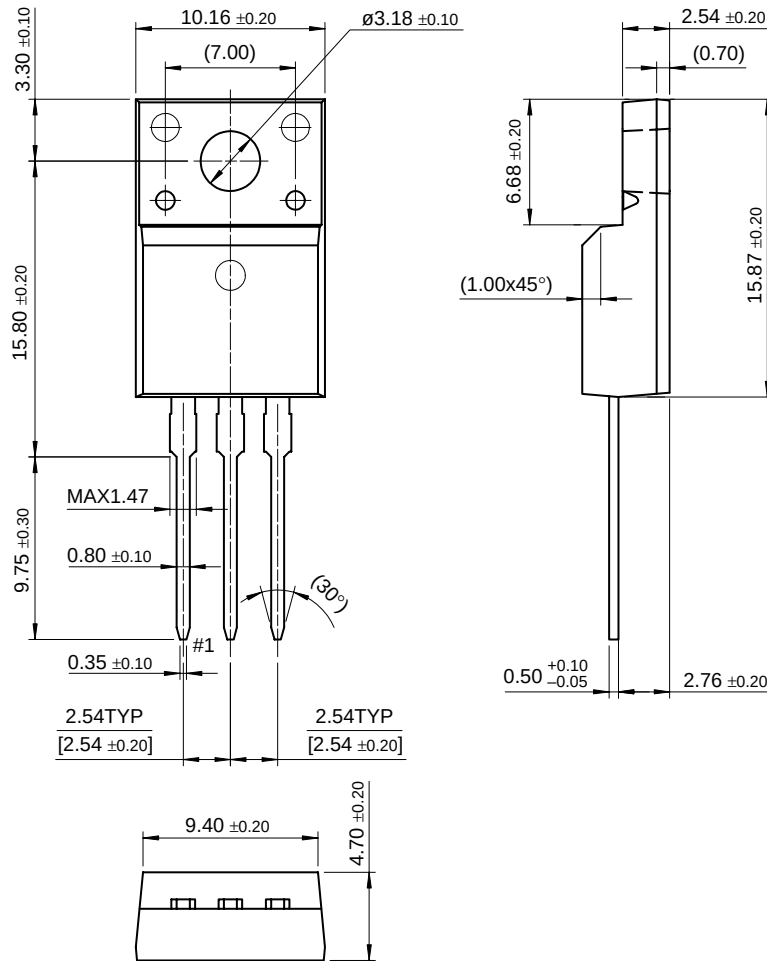


Figure 6. Power Derating

# Package Dimensions

## TO-220F



Dimensions in Millimeters

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