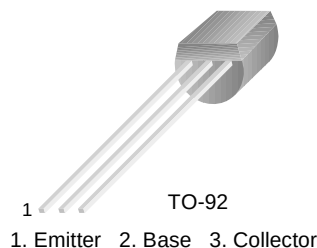


## KSP05/06

### Amplifier Transistor

- Collector-Emitter Voltage:  $V_{CEO}$  = KSP05: 60V  
KSP06: 80V
- Collector Dissipation:  $P_C$  (max)=625mW
- Complement to KSP55/56



### NPN Epitaxial Silicon Transistor

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

| Symbol    | Parameter                   | Value   | Units            |
|-----------|-----------------------------|---------|------------------|
| $V_{CBO}$ | Collector Base Voltage      |         |                  |
|           | : KSP05                     | 60      | V                |
|           | : KSP06                     | 80      | V                |
| $V_{CEO}$ | Collector-Emitter Voltage   |         |                  |
|           | : KSP05                     | 60      | V                |
|           | : KSP06                     | 80      | V                |
| $V_{EBO}$ | Emitter-Base Voltage        | 4       | V                |
| $I_C$     | Collector Current           | 500     | mA               |
| $P_C$     | Collector Power Dissipation | 625     | mW               |
| $T_J$     | Junction Temperature        | 150     | $^\circ\text{C}$ |
| $T_{STG}$ | Storage Temperature         | -55~150 | $^\circ\text{C}$ |

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

| Symbol               | Parameter                            | Test Condition                                                              | Min.     | Max. | Units         |
|----------------------|--------------------------------------|-----------------------------------------------------------------------------|----------|------|---------------|
| $BV_{CEO}$           | Collector-Emitter Breakdown Voltage  | $I_C=1\text{mA}, I_B=0$                                                     |          |      |               |
|                      | : KSP05                              |                                                                             | 60       |      | V             |
|                      | : KSP06                              |                                                                             | 80       |      | V             |
| $BV_{EBO}$           | Emitter-Base Breakdown Voltage       | $I_E=100\mu\text{A}, I_C=0$                                                 | 4        |      | V             |
| $I_{CBO}$            | Collector Cut-off Current            |                                                                             |          |      |               |
|                      | : KSP05                              | $V_{CB}=60\text{V}, I_E=0$                                                  |          | 0.1  | $\mu\text{A}$ |
|                      | : KSP06                              | $V_{CB}=80\text{V}, I_E=0$                                                  |          | 0.1  | $\mu\text{A}$ |
| $I_{CEO}$            | Collector Cut-off Current            | $V_{CE}=60\text{V}, I_B=0$                                                  |          | 0.1  | $\mu\text{A}$ |
| $h_{FE}$             | DC Current Gain                      | $V_{CE}=1\text{V}, I_C=10\text{mA}$<br>$V_{CE}=1\text{V}, I_C=100\text{mA}$ | 50<br>50 |      |               |
| $V_{CE}(\text{sat})$ | Collector-Emitter Saturation Voltage | $I_C=100\text{mA}, I_B=10\text{mA}$                                         |          | 0.25 | V             |
| $V_{BE}(\text{on})$  | Base-Emitter On Voltage              | $V_{CE}=1\text{V}, I_C=100\text{mA}$                                        |          | 1.2  | V             |
| $f_T$                | Current Gain Bandwidth Product       | $V_{CE}=2\text{V}, I_C=10\text{mA}$<br>$f=100\text{MHz}$                    | 100      |      | MHz           |

\* Pulse Test:  $PW \leq 300\mu\text{s}$ , Duty Cycle  $\leq 2\%$

## Typical Characteristics

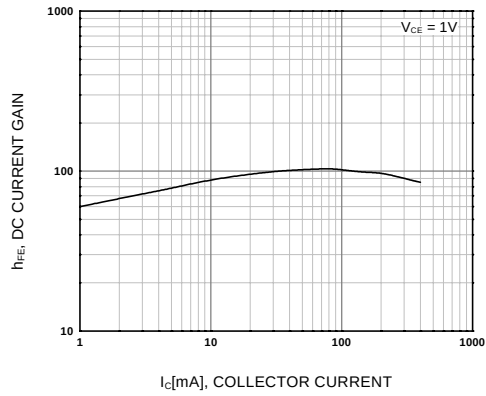


Figure 1. DC current Gain

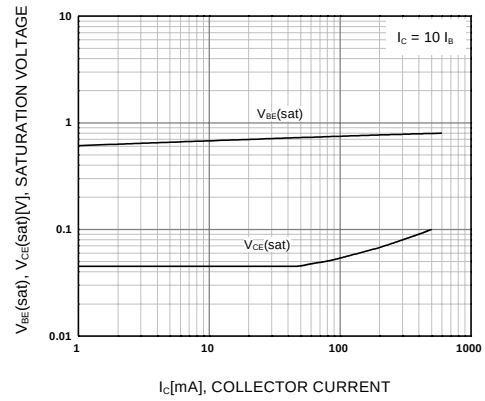


Figure 2. Collector-Emitter Saturation Voltage  
Base-Emitter Saturation Voltage

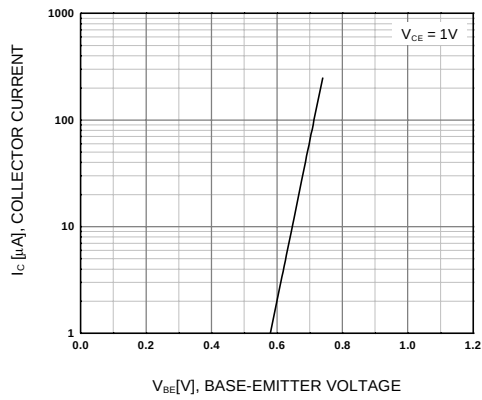


Figure 3. Base-Emitter On Voltage

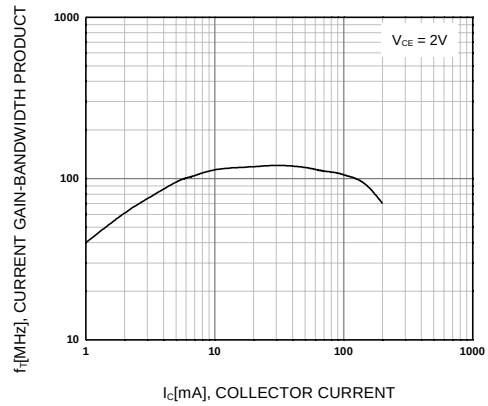
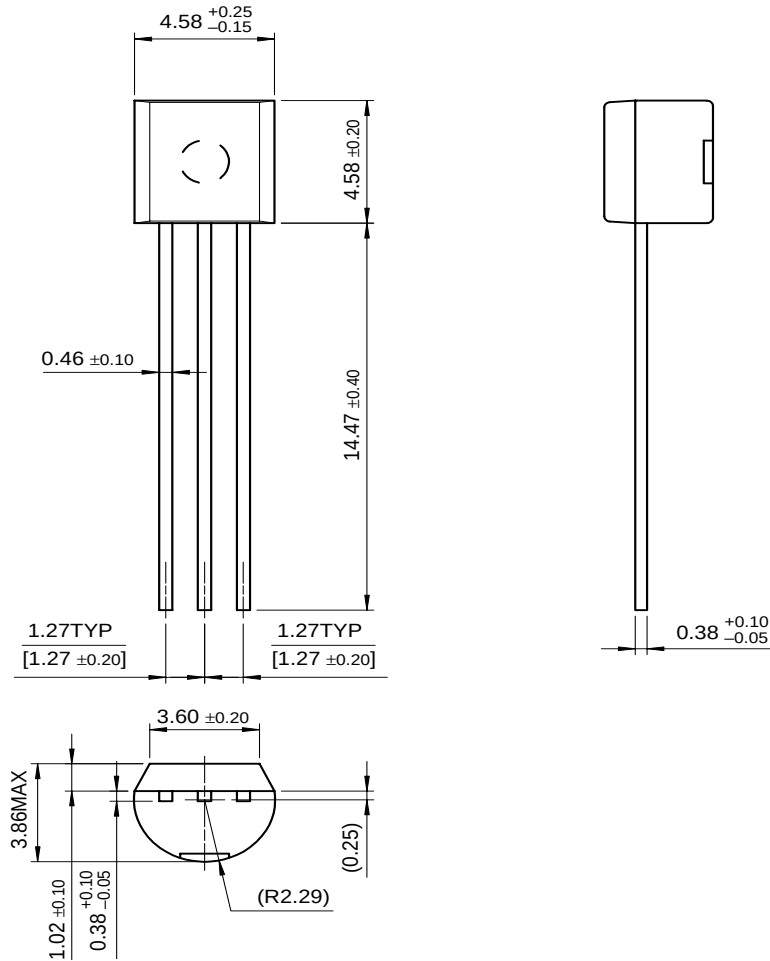


Figure 4. Current Gain Bandwidth Product

# Package Dimensions

## TO-92



Dimensions in Millimeters

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