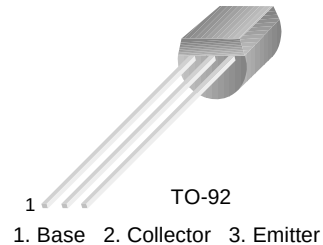


# KSE13001

KSE13001

## Color TV Chroma Output

- Collector-Base Voltage :  $V_{CBO}=400V$
- Current Gain Bandwidth Product :  $f_T=50MHz$  (TYP.)



## NPN Epitaxial Silicon Transistor

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

| Symbol    | Parameter                   | Ratings    | Units      |
|-----------|-----------------------------|------------|------------|
| $V_{CBO}$ | Collector-Base Voltage      | 400        | V          |
| $V_{CEO}$ | Collector-Emitter Voltage   | 400        | V          |
| $V_{EBO}$ | Emitter-Base Voltage        | 7          | V          |
| $I_C$     | Collector Current           | 100        | mA         |
| $P_C$     | Collector Power Dissipation | 600        | mW         |
| $T_J$     | Junction Temperature        | 150        | $^\circ C$ |
| $T_{STG}$ | Storage Temperature         | -55 ~ +150 | $^\circ C$ |

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

| Symbol        | Parameter                            | Test Condition              | Min. | Typ. | Max. | Units   |
|---------------|--------------------------------------|-----------------------------|------|------|------|---------|
| $BV_{CBO}$    | Collector-Base Breakdown Voltage     | $I_C=100\mu A, I_E=0$       | 400  |      |      | V       |
| $BV_{CEO}$    | Collector-Emitter Breakdown Voltage  | $I_C=5mA, I_B=0$            | 400  |      |      | V       |
| $BV_{EBO}$    | Emitter-Base Breakdown Voltage       | $I_E=100\mu A, I_C=0$       | 7    |      |      | V       |
| $I_{CBO}$     | Collector Cut-off Current            | $V_{CB}=200V, I_E=0$        |      |      | 0.1  | $\mu A$ |
| $h_{FE}$      | DC Current Gain                      | $V_{CE}=10V, I_C=20mA$      | 40   |      | 80   |         |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=10mA, I_B=1mA$         |      |      | 0.5  | V       |
| $f_T$         | Current Gain Bandwidth Product       | $V_{CE}=30V, I_C=10mA$      |      | 50   |      | MHz     |
| $C_{ob}$      | Output Capacitance                   | $V_{CB}=10V, I_E=0, f=1MHz$ |      | 4    |      | pF      |

## $h_{FE}$ Classification

| Classification | R       | O       |
|----------------|---------|---------|
| $h_{FE}$       | 40 ~ 65 | 55 ~ 80 |

## Typical Characteristics

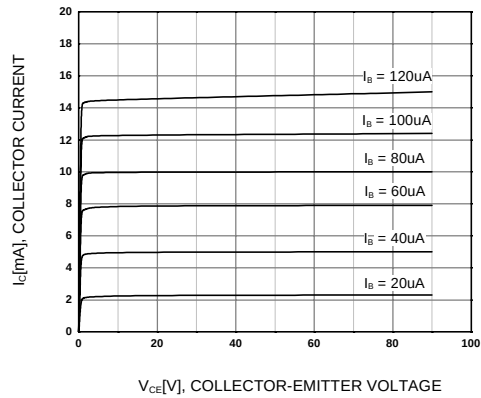


Figure 1. Static Characteristic

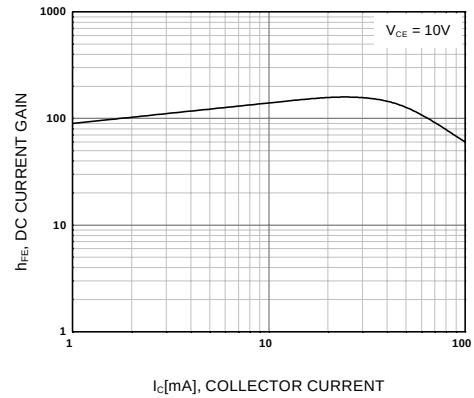


Figure 2. DC current Gain

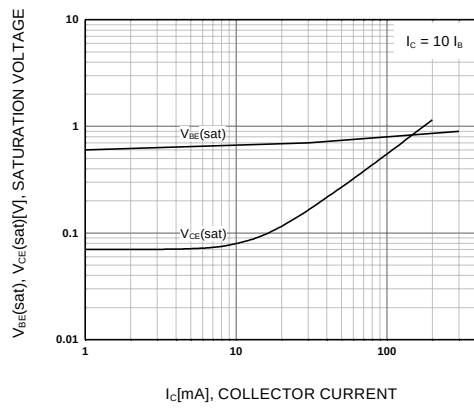


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

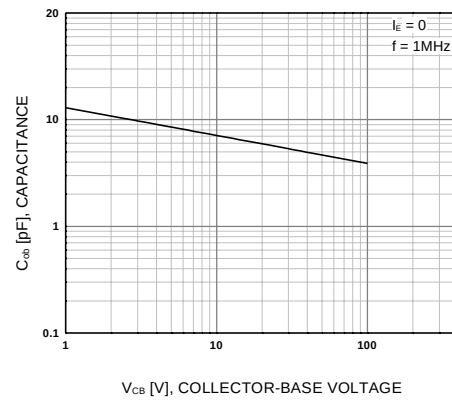
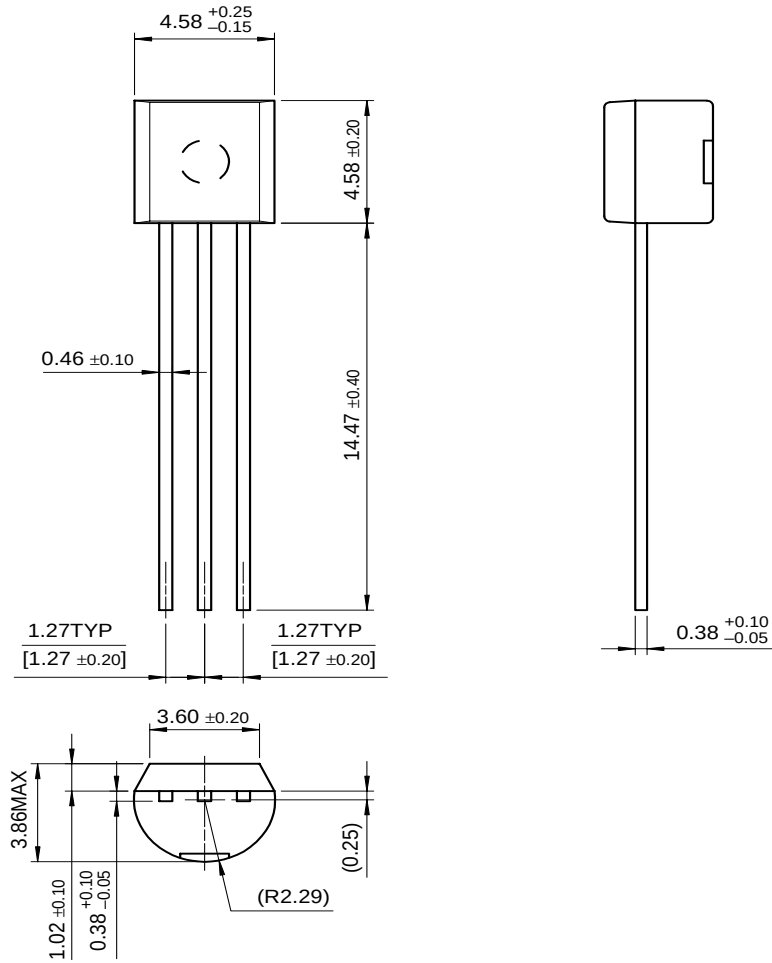


Figure 4. Collector Output Capacitance

# Package Dimensions

## TO-92



Dimensions in Millimeters

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| CoolFET™             | FRFET™              | POP™                | SuperSOT™-3     |
| CROSSVOLT™           | GlobalOptoisolator™ | Power247™           | SuperSOT™-6     |
| DenseTrench™         | GTO™                | PowerTrench®        | SuperSOT™-8     |
| DOME™                | HiSeC™              | QFET™               | SyncFET™        |
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| E <sup>2</sup> CMOS™ | LittleFET™          | QT Optoelectronics™ | TinyLogic™      |
| EnSigna™             | MicroFET™           | Quiet Series™       | UHC™            |
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