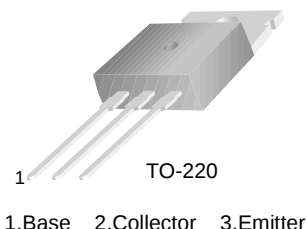


# KSC1507

KSC1507

## Color TV Chroma Output

- High Collector-Emitter Voltage :  $V_{CEO}=300V$
- Current Gain Bandwidth Product :  $f_T=40MHz$  (Min.)



## NPN Epitaxial Silicon Transistor

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

| Symbol    | Parameter                                  | Value      | Units      |
|-----------|--------------------------------------------|------------|------------|
| $V_{CBO}$ | Collector-Base Voltage                     | 300        | V          |
| $V_{CEO}$ | Collector-Emitter Voltage                  | 300        | V          |
| $V_{EBO}$ | Emitter-Base Voltage                       | 7          | V          |
| $I_C$     | Collector Current                          | 0.2        | mA         |
| $P_C$     | Collector Dissipation ( $T_C=25^\circ C$ ) | 15         | W          |
| $T_J$     | Junction Temperature                       | 150        | $^\circ C$ |
| $T_{STG}$ | Storage Temperature                        | - 55 ~ 150 | $^\circ C$ |

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

| Symbol        | Parameter                            | Test Condition                    | Min. | Typ. | Max. | Units   |
|---------------|--------------------------------------|-----------------------------------|------|------|------|---------|
| $BV_{CBO}$    | Collector-Base Breakdown Voltage     | $I_C = 100\mu A, I_E = 0$         | 300  |      |      | V       |
| $BV_{CEO}$    | Collector-Emitter Breakdown Voltage  | $I_C = 10mA, I_B = 0$             | 300  |      |      | V       |
| $BV_{EBO}$    | Emitter-Base Breakdown Voltage       | $I_E = -10\mu A, I_C = 0$         | 7    |      |      | V       |
| $I_{CBO}$     | Collector Cut-off Current            | $V_{CB} = 200V, I_E = 0$          |      |      | 100  | $\mu A$ |
| $h_{FE}$      | DC Current Gain                      | $V_{CE} = 10V, I_C = 10mA$        | 40   |      | 240  |         |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = 50mA, I_B = 5mA$           |      |      | 2.0  | V       |
| $f_T$         | Current Gain Bandwidth Product       | $V_{CE} = 30V, I_C = 10mA$        | 40   | 80   |      | MHz     |
| $C_{ob}$      | Output Capacitance                   | $V_{CB} = 50V, I_E = 0, f = 1MHz$ |      | 4    |      | pF      |

## $h_{FE}$ Classification

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

## Typical Characteristics

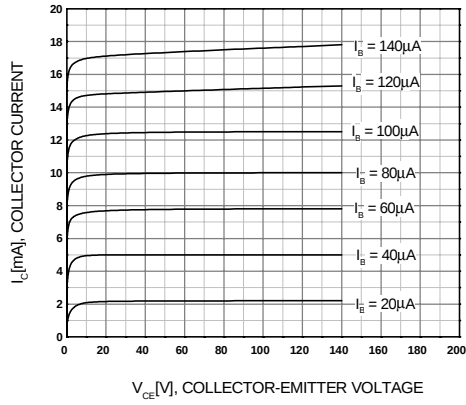


Figure 1. Static Characteristic

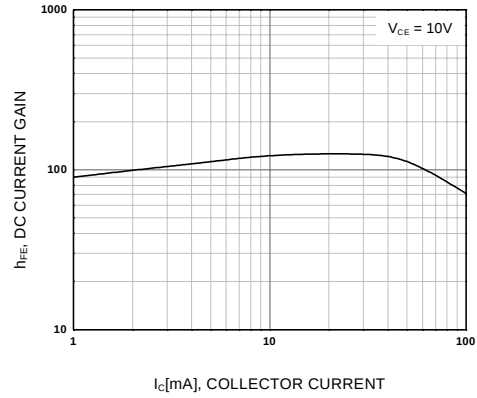


Figure 2. DC current Gain

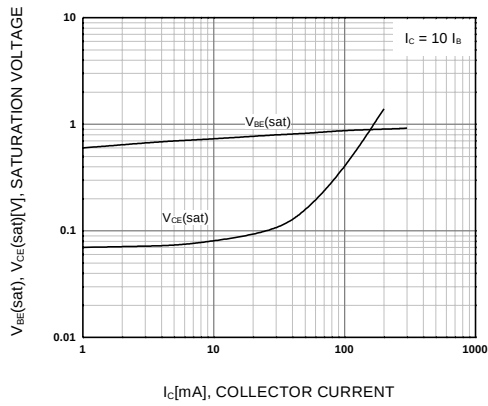


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

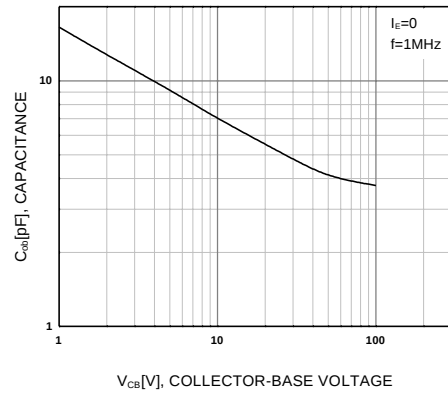


Figure 4. Collector Output Capacitance

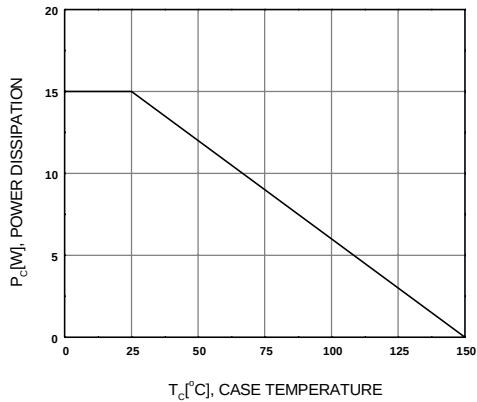
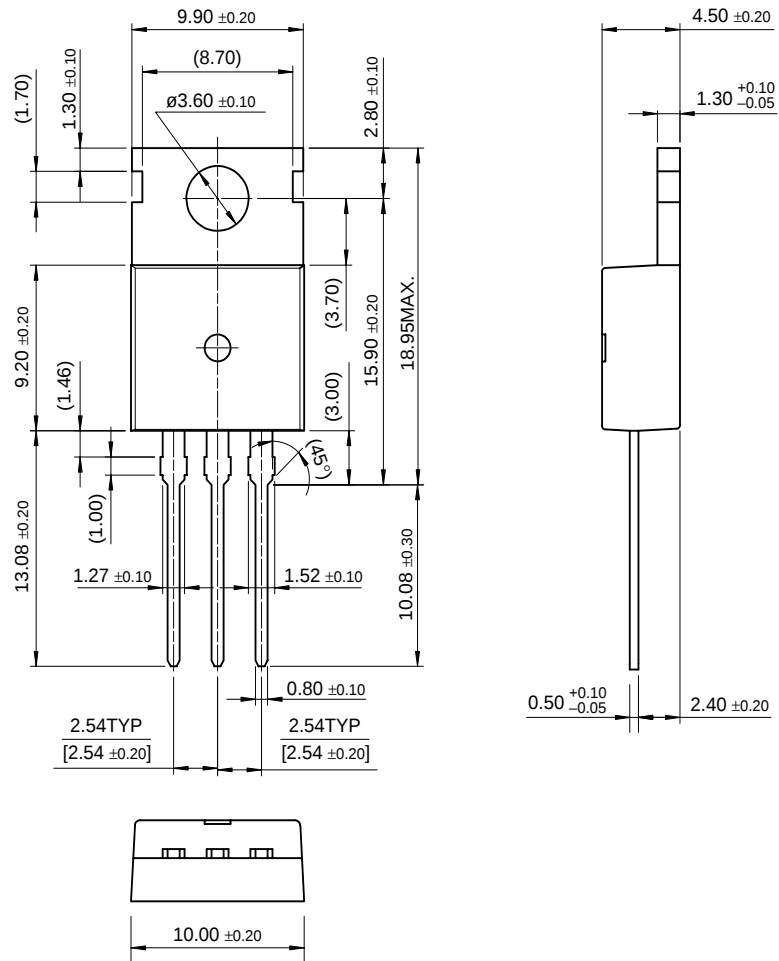


Figure 5. Power Derating

# Package Dimensions

## TO-220



Dimensions in Millimeters

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| ActiveArray <sup>™</sup>                         | FACT Quiet series <sup>™</sup>  | ISOPLANAR <sup>™</sup>         | POP <sup>™</sup>                | Stealth <sup>™</sup>        |
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| CoolFET <sup>™</sup>                             | FAST <sup>™</sup>               | MicroFET <sup>™</sup>          | PowerTrench <sup>®</sup>        | SuperSOT <sup>™</sup> -6    |
| CROSSVOLT <sup>™</sup>                           | FRFET <sup>™</sup>              | MicroPak <sup>™</sup>          | QFET <sup>™</sup>               | SuperSOT <sup>™</sup> -8    |
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