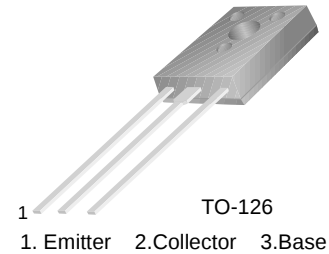


# KSC2688

KSC2688

Color TV Chroma Output & Video Output



## NPN Epitaxial Silicon Transistor

**Absolute Maximum Ratings**  $T_C=25^{\circ}\text{C}$  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                               | 5          | V                  |
| $I_C$     | Collector Current                                  | 200        | mA                 |
| $P_C$     | Collector Dissipation ( $T_a=25^{\circ}\text{C}$ ) | 1.25       | W                  |
| $P_C$     | Collector Dissipation ( $T_C=25^{\circ}\text{C}$ ) | 10         | 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         |
|---------------|----------------------------------------|-----------------------------------------------|------|------|------|---------------|
| $BV_{CBO}$    | Collector-Base Breakdown Voltage       | $I_C=0.1\text{mA}, I_E=0$                     | 300  |      |      | V             |
| $BV_{CEO}$    | Collector-Emitter Breakdown Voltage    | $I_C=5\text{mA}, I_B=0, R_{BE}=\infty$        | 300  |      |      | V             |
| $BV_{EBO}$    | Emitter-Base Breakdown Voltage         | $I_E=0.1\text{mA}, I_C=0$                     | 5    |      |      | V             |
| $I_{CBO}$     | Collector Cut-off Current              | $V_{CB}=200\text{V}, I_E=0$                   |      |      | 100  | $\mu\text{A}$ |
| $I_{EBO}$     | Emitter Cut-off Current                | $V_{EB}=4\text{V}, I_C=0$                     |      |      | 100  | $\mu\text{A}$ |
| $h_{FE}$      | * DC Current Gain                      | $V_{CE}=10\text{V}, I_C=10\text{mA}$          | 40   |      | 250  |               |
| $V_{CE(sat)}$ | * Collector-Emitter Saturation Voltage | $I_C=50\text{mA}, I_B=5\text{mA}$             |      |      | 1.5  | V             |
| $f_T$         | Current Gain Bandwidth Product         | $V_{CE}=30\text{V}, I_E=-10\text{mA}$         | 50   | 80   |      | MHz           |
| $C_{re}$      | Feed Back Capacitance                  | $V_{CB}=30\text{V}, I_E=0$<br>$f=1\text{MHz}$ |      |      | 3    | pF            |

\* Pulse Test:  $PW \leq 350\mu\text{s}$ , Duty Cycle  $\leq 2\%$

## $h_{FE}$ Classification

| Classification | R       | O        | Y         | G         |
|----------------|---------|----------|-----------|-----------|
| $h_{FE}$       | 40 ~ 80 | 60 ~ 120 | 100 ~ 200 | 160 ~ 250 |

## Typical Characteristics

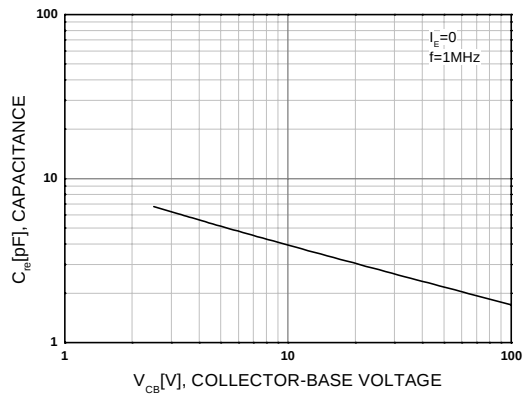


Figure 1. Feedback Capacitance

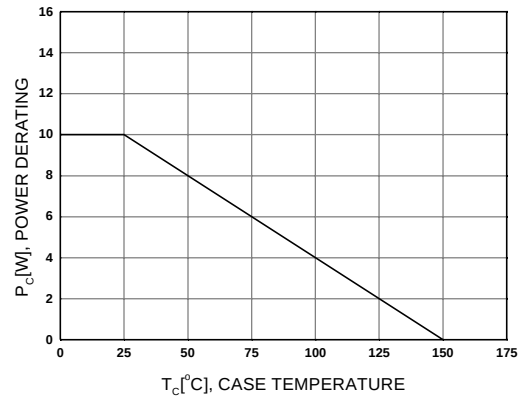


Figure 2. Power Derating

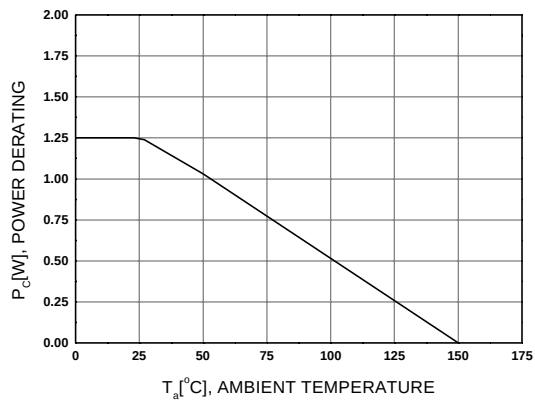


Figure 3. Power Derating

Technical drawing of a 10-pin D-sub connector, showing front, side, and detail views with dimensions in millimeters.

**Front View Dimensions:**

- Top flange height:  $3.90 \pm 0.10$
- Pin diameter:  $\varnothing 3.20 \pm 0.10$
- Pin center to top flange:  $8.00 \pm 0.30$
- Pin center to bottom flange:  $14.20 \text{ MAX}$
- Pin center to bottom flange (detail):  $13.06 \pm 0.30$

**Side View Dimensions:**

- Total height:  $16.10 \pm 0.20$
- Top section height:  $11.00 \pm 0.20$
- Pin diameter:  $1.75 \pm 0.20$
- Pin center to left edge:  $(1.00)$
- Pin center to right edge:  $(0.50)$
- Pin diameter:  $0.50^{+0.10}_{-0.05}$

**Detail View Dimensions:**

- Pin diameter:  $2.28 \text{ TYP}$  [ $2.28 \pm 0.20$ ]
- Pin length:  $13.06 \pm 0.30$
- Pin label: #1

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