

**KSC1395****NPN EPITAXIAL SILICON TRANSISTOR**

T-31-17

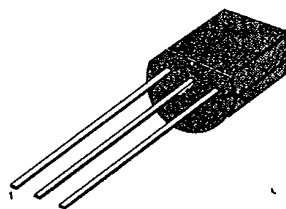
**TV VHF TUNER OSCILLATOR**

- High Current-Gain Bandwidth Product  $f_T = 800\text{MHz}$  (Min)
- Output Capacitance  $C_{ob} = 1.5\text{pF}$  (Max)

**ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )**

| Characteristic            | Symbol    | Rating    | Unit             |
|---------------------------|-----------|-----------|------------------|
| Collector-Base Voltage    | $V_{CBO}$ | 30        | V                |
| Collector-Emitter Voltage | $V_{CEO}$ | 15        | V                |
| Emitter-Base Voltage      | $V_{EBO}$ | 4         | V                |
| Collector Current         | $I_C$     | 20        | mA               |
| Collector Dissipation     | $P_C$     | 250       | mW               |
| Junction Temperature      | $T_J$     | 150       | $^\circ\text{C}$ |
| Storage Temperature       | $T_{stg}$ | -55 ~ 150 | $^\circ\text{C}$ |

TO-92



1. Emitter 2. Base 3. Collector

**ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )**

| Characteristic                       | Symbol        | Test Conditions                                 | Min | Typ  | Max | Unit          |
|--------------------------------------|---------------|-------------------------------------------------|-----|------|-----|---------------|
| Collector-Base Breakdown Voltage     | $BV_{CBO}$    | $I_C = 10\mu\text{A}, I_E = 0$                  | 30  |      |     | V             |
| Collector-Emitter Breakdown Voltage  | $BV_{CEO}$    | $I_C = 5\text{mA}, I_B = 0$                     | 15  |      |     | V             |
| Emitter-Base Breakdown Voltage       | $BV_{EBO}$    | $I_E = -10\mu\text{A}, I_C = 0$                 | 4   |      |     | V             |
| Collector Cut-off Current            | $I_{CBO}$     | $V_{CB} = 12\text{V}, I_E = 0$                  |     |      | 0.1 | $\mu\text{A}$ |
| Emitter Cut-off Current              | $I_{EBO}$     | $V_{EB} = 3\text{V}, I_C = 0$                   |     |      | 0.1 | V             |
| DC Current Gain                      | $h_{FE}$      | $V_{CE} = 10\text{V}, I_C = 5\text{mA}$         | 40  |      | 240 |               |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 10\text{mA}, I_B = 1\text{mA}$           |     |      | 0.5 | V             |
| Current-Gain-Bandwidth Product       | $f_T$         | $V_{CE} = 10\text{V}, I_C = 5\text{mA}$         | 600 | 1100 |     | MHz           |
| Output Capacitance                   | $C_{ob}$      | $V_{CB} = 10\text{V}, f = 1\text{MHz}, I_E = 0$ |     |      | 1.5 | pF            |

 **$h_{FE}$  CLASSIFICATION**

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

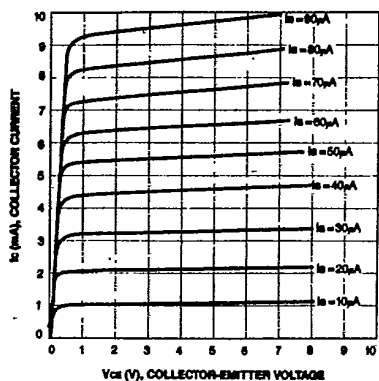


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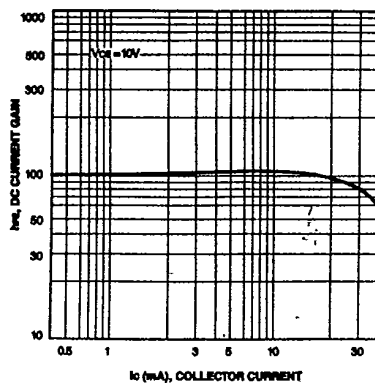
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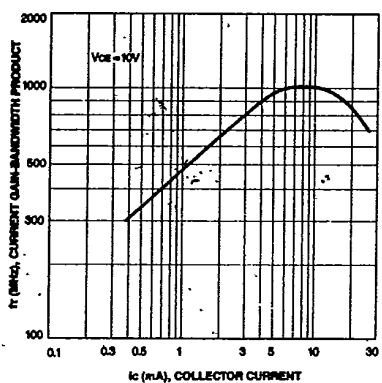
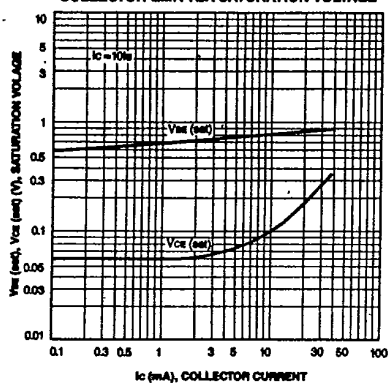
STATIC CHARACTERISTIC



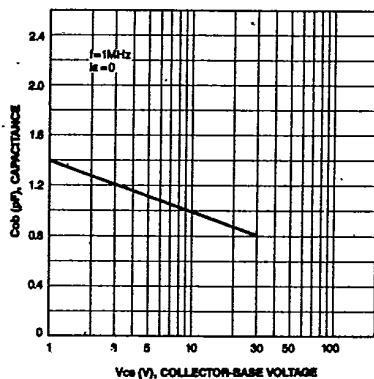
DC CURRENT GAIN



CURRENT GAIN-BANDWIDTH PRODUCT

BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE

COLLECTOR OUTPUT CAPACITANCE



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