

SAMSUNG SEMICONDUCTOR INC

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KSC2787

NPN EPITAXIAL SILICON TRANSISTOR

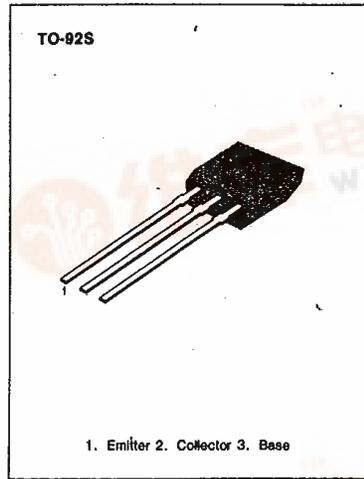
T-31-17

FM/AM RF AMP, MIX, CONV, OSC, IF

- Collector-Base Voltage $V_{CE0} = 30V$
- High Current Gain Bandwidth Product $f_T = 300MHz$ (Typ)
- Low Collector Capacitance $C_{ob} : 2.0PF$ (Typ)

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ C$)

| Characteristic | Symbol | Rating | Unit |
|---------------------------|-----------|-----------|------------|
| Collector-Base Voltage | V_{CBO} | 50 | V |
| Collector-Emitter Voltage | V_{CEO} | 30 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Collector Current | I_C | 50 | mA |
| Collector Dissipation | P_C | 250 | mW |
| Junction Temperature | T_J | 150 | $^\circ C$ |
| Storage Temperature | T_{stg} | -55 ~ 150 | $^\circ C$ |



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ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

| Characteristic | Symbol | Test Condition | Min | Typ | Max | Unit |
|--------------------------------------|---------------|---------------------------|-----|------|------|---------|
| Collector-Base Breakdown Voltage | BV_{CBO} | $I_C = 10\mu A, I_E = 0$ | 50 | | | V |
| Collector-Emitter Breakdown Voltage | BV_{CEO} | $I_C = 5mA, I_B = 0$ | 30 | | | V |
| Emitter-Base Breakdown Voltage | BV_{EBO} | $I_E = -10\mu A, I_C = 0$ | 5 | | | V |
| Collector Cut-off Current | I_{CBO} | $V_{CB} = 50V, I_E = 0$ | | | 0.1 | μA |
| Emitter Cut-off Current | I_{EBO} | $V_{EB} = 5V, I_C = 0$ | | | 0.1 | μA |
| DC Current Gain | h_{FE} | $V_{CE} = 6V, I_C = 1mA$ | 40 | | 240 | |
| Base-Emitter On Voltage | $V_{BE(on)}$ | $V_{CE} = 6V, I_C = 1mA$ | | 0.67 | 0.75 | V |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 10mA, I_B = 1mA$ | | 0.08 | 0.3 | V |
| Current Gain-Bandwidth Product | f_T | $V_{CE} = 6V, I_C = 1mA$ | 150 | 300 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB} = 6V, f = 1MHz$ | | 2.0 | 2.5 | PF |

h_{FE} CLASSIFICATION

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



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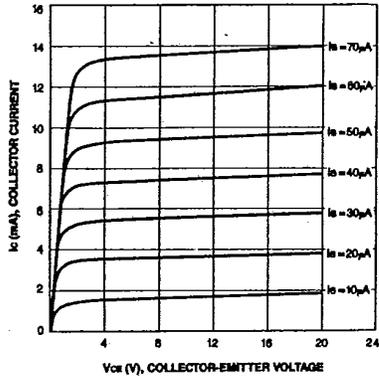


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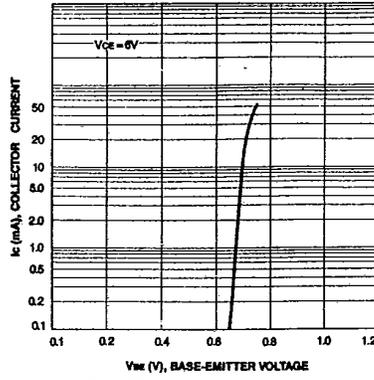
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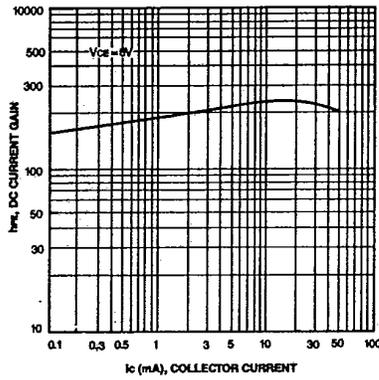
STATIC CHARACTERISTIC



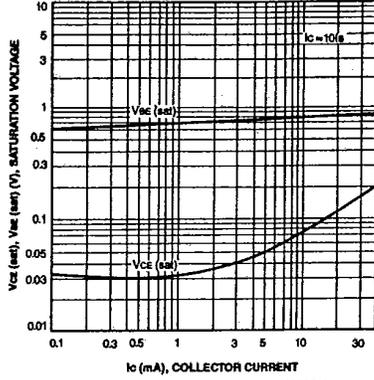
BASE-EMITTER ON VOLTAGE



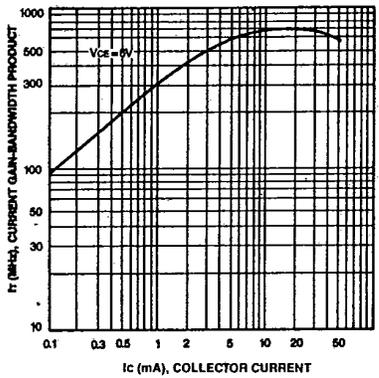
DC CURRENT GAIN



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



CURRENT GAIN-BANDWIDTH PRODUCT



COLLECTOR INPUT CAPACITANCE
COLLECTOR OUTPUT CAPACITANCE

