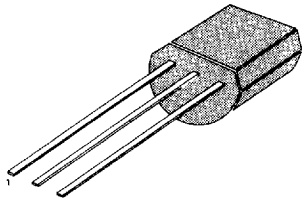
## LOW FREQUENCY AMPLIFIER
## MEDIUM SPEED SWITCHING

- Complement to KSC1008
- Collector-Base Voltage $V_{CBO} = -80V$
- Collector Dissipation $P_C = 800mW$

TO-92



1. Emitter 2. Base 3. Collector

## ABSOLUTE MAXIMUM RATINGS ($T_a = 25°C$)

| Characteristic | Symbol | Rating | Unit |
|---|---|---|---|
| Collector-Base Voltage | $V_{CBO}$ | −80 | V |
| Collector-Emitter Voltage | $V_{CEO}$ | −60 | V |
| Emitter-Base Voltage | $V_{EBO}$ | −8 | V |
| Collector Current | $I_C$ | −700 | mA |
| Collector Dissipation | $P_C$ | 800 | mW |
| Junction Temperature | Tj | 150 | °C |
| Storage Temperature | Tstg | −55 ~ 150 | °C |

## ELECTRICAL CHARACTERISTICS ($T_a = 25°C$)

| Characteristic | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector-Base Breakdown Voltage | $BV_{CBO}$ | $I_C = -100\mu A$, $I_E = 0$ | −80 | | | V |
| Collector-Emitter Breakdown Voltage | $BV_{CEO}$ | $I_C = -10mA$, $I_B = 0$ | −60 | | | V |
| Emitter-Base Breakdown Voltage | $BV_{EBO}$ | $I_E = -100\mu A$, $I_C = 0$ | −8 | | | V |
| Collector Cut-off Current | $I_{CBO}$ | $V_{CB} = -60V$, $I_E = 0$ | | | −0.1 | μA |
| Emitter Cut-off Current | $I_{EBO}$ | $V_{EB} = -5V$, $I_C = 0$ | | | −0.1 | μA |
| DC Current Gain | $h_{FE}$ | $V_{CE} = -2V$, $I_C = -50mA$* | 40 | | 240 | |
| Collector-Emitter Saturation Voltage | $V_{CE}(sat)$ | $I_C = -500mA$, $I_B - 50mA$* | | −0.3 | −0.7 | V |
| Base-Emitter Saturation Voltage | $V_{BE}(sat)$ | $I_C = -500mA$, $I_C = -50mA$ | | −0.9 | 1.1 | V |
| Current-Gain-Bandwidth Product | $f_T$ | $V_{CE} = -10V$, $I_C = -50mA$ | | 50 | | MHz |
| Output Capacitance | Cob | $V_{CB} = -10V$, $I_E = 0$ f = 1MHz | | 13 | | pF |

* Pulse Test: PW ≤ 350μs, duty cycle ≤ 2%

## $h_{FE}$ CLASSIFICATION

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



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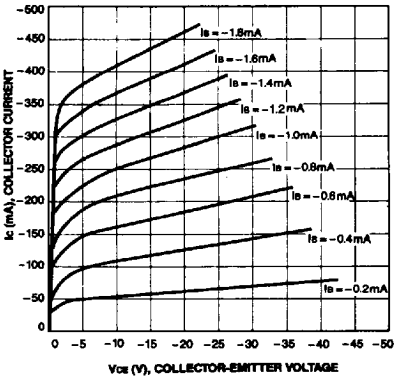
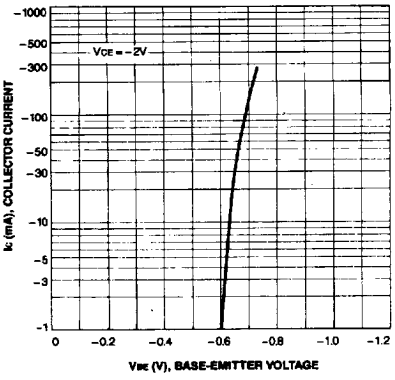
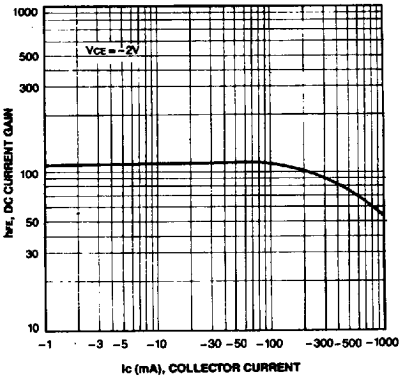
STATIC CHARACTERISTIC



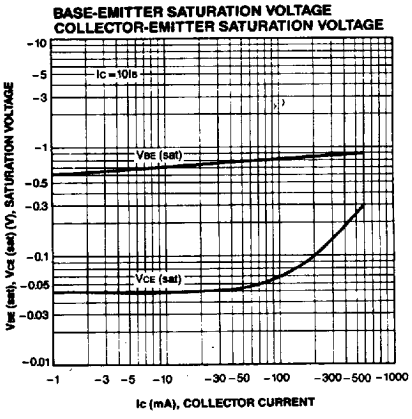

BASE-EMITTER ON VOLTAGE



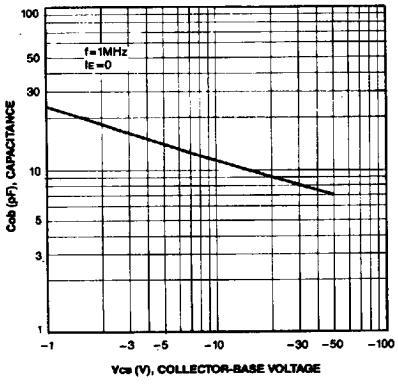

DC CURRENT GAIN




BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE




COLLECTOR OUTPUT CAPACITANCE



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