

**KSA1175****PNP EPITAXIAL SILICON TRANSISTOR**

T-29-17

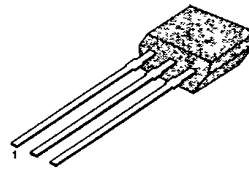
**LOW FREQUENCY AMPLIFIER**

- Complement to KSC2785
- Collector-Base Voltage  $V_{CBO} = -60V$

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

| Characteristic            | Symbol    | Rating    | Unit       |
|---------------------------|-----------|-----------|------------|
| Collector-Base Voltage    | $V_{CBO}$ | -60       | V          |
| Collector-Emitter Voltage | $V_{CEO}$ | -50       | V          |
| Emitter-Base Voltage      | $V_{EBO}$ | -5        | V          |
| Collector Current         | $I_C$     | -150      | mA         |
| Collector Dissipation     | $P_C$     | 250       | mW         |
| Junction Temperature      | $T_j$     | 150       | $^\circ C$ |
| Storage Temperature       | $T_{stg}$ | -55 ~ 150 | $^\circ C$ |

TO-92S



1. Emitter 2. Collector 3. Base

3

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

| Characteristic                       | Symbol        | Test Condition   | Min   | Typ   | Max   | Unit    |
|--------------------------------------|---------------|--|-------|-------|-------|---------|
| Collector-Base Breakdown Voltage     | $BV_{CBO}$    | $I_C = -100\mu A, I_E = 0$   | -60   |       |       | V       |
| Collector-Emitter Breakdown Voltage  | $BV_{CEO}$    | $I_C = -10mA, I_B = 0$   | -50   |       |       | V       |
| Emitter-Base Breakdown Voltage       | $BV_{EBO}$    | $I_E = -10\mu A, I_C = 0$  | -5    |       |       | V       |
| Collector Cut-off Current            | $I_{CBO}$     | $V_{CB} = -60V, I_E = 0$   |       |       | -0.1  | $\mu A$ |
| Emitter Cut-off Current              | $I_{EBO}$     | $V_{EB} = -5V, I_C = 0$  |       |       | -0.1  | $\mu A$ |
| DC Current Gain                      | $h_{FE}$      | $V_{CE} = -6V, I_C = -1mA$   | 40    |       | 700   |         |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = -100mA, I_B = -10mA$  |       | -0.18 | -0.3  | V       |
| Base-Emitter On Voltage              | $V_{BE(on)}$  | $V_{CE} = -6V, I_C = -1mA$   | -0.50 | -0.62 | -0.80 | V       |
| Current-Gain-Bandwidth Product       | $f_T$         | $V_{CE} = -6V, I_C = -10mA$  | 50    | 180   |       | MHz     |
| Output Capacitance                   | $C_{ob}$      | $V_{CB} = -10V, I_E = 0$   |       | 2.8   |       | pF      |
| Noise Figure                         | NF            | $V_{CE} = -6V, I_C = -0.3mA$<br>$f = 1MHz$<br>$f = 100Hz, R_s = 10K\Omega$ |       | 6.0   | 20    | dB      |

 **$h_{FE}$  CLASSIFICATION**

| Classification | R     | O      | Y       | G       | L       |
|----------------|-------|--------|---------|---------|---------|
| $h_{FE}$       | 40-80 | 70-140 | 120-240 | 200-400 | 350-700 |

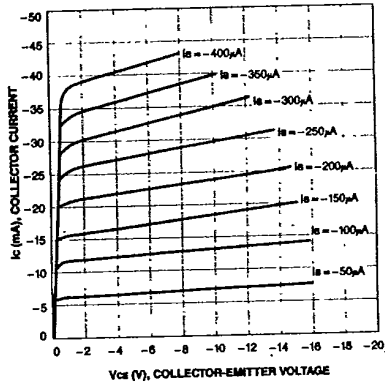


**KSA1175**

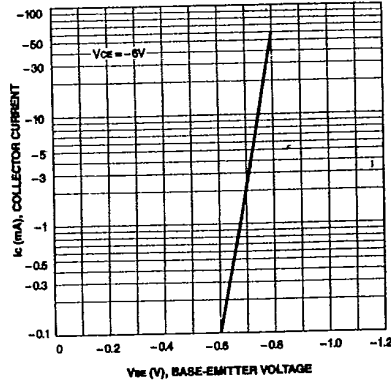
**PNP EPITAXIAL SILICON TRANSISTOR**

T-29-17

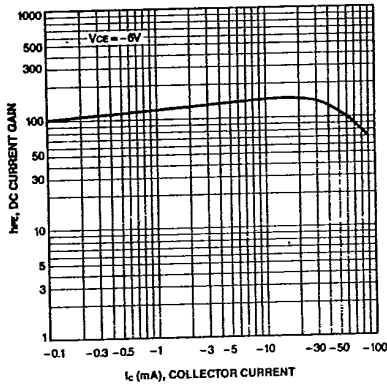
**STATIC CHARACTERISTIC**



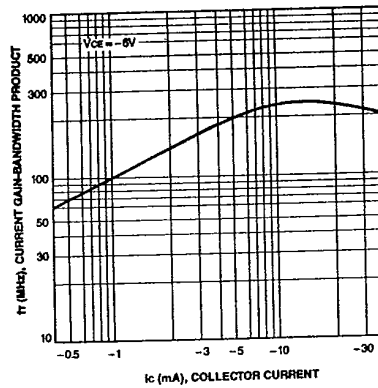
**BASE-EMITTER ON VOLTAGE**



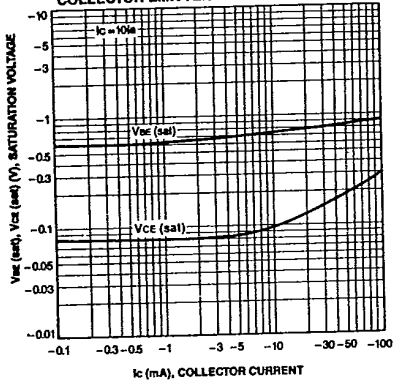
**DC CURRENT GAIN**



**CURRENT GAIN-BANDWIDTH PRODUCT**



**BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE**



**COLLECTOR OUTPUT CAPACITANCE**

