

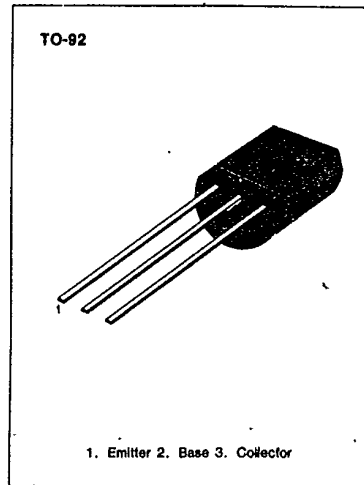
## KSC1506 NPN NPN EPITAXIAL SILICON TRANSISTOR

### HIGH VOLTAGE TRANSISTOR

- High Collector-Emitter Voltage  $V_{CE0} = 300V$
- Current Gain Bandwidth Product  $f_T = 40MHz$  (Min)

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

| Characteristic            | Symbol    | Rating    | Unit       |
|---------------------------|-----------|-----------|------------|
| Collector-Base Voltage    | $V_{CBO}$ | 300       | V          |
| Collector-Emitter Voltage | $V_{CEO}$ | 300       | V          |
| Emitter-Base Voltage      | $V_{EBO}$ | 7         | V          |
| Collector Current         | $I_C$     | 100       | mA         |
| Collector Dissipation     | $P_C$     | 700       | mW         |
| Junction Temperature      | $T_J$     | 150       | $^\circ C$ |
| Storage Temperature       | $T_{stg}$ | -55 - 150 | $^\circ C$ |



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

| Characteristic                       | Symbol        | Test Conditions                       | Min | Typ | Max | Unit |
|--------------------------------------|---------------|---------------------------------------|-----|-----|-----|------|
| Collector-Base Breakdown Voltage     | $BV_{CBO}$    | $I_C = 100\mu A, I_E = 0$             | 300 |     |     | V    |
| Collector-Emitter Breakdown Voltage  | $BV_{CEO}$    | $I_C = 10mA, I_B = 0$                 | 300 |     |     | V    |
| Emitter-Base Breakdown Voltage       | $BV_{EBO}$    | $I_E = -10\mu A, I_C = 0$             | 7   |     |     | V    |
| Collector Cutoff Current             | $I_{CBO}$     | $V_{CB} = 200V, I_E = 0$              |     |     | 100 | nA   |
| DC Current Gain                      | $h_{FE}$      | $V_{CE} = 10V, I_C = 10mA$            | 40  |     | 240 |      |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 50mA, I_B = 5mA$               |     |     | 2.0 | V    |
| Current Gain-Bandwidth Product       | $f_T$         | $V_{CE} = 30V, I_C = 10mA$            | 40  | 80  |     | MHz  |
| Output Capacitance                   | $C_{ob}$      | $V_{CB} = 50V, I_E = 0$<br>$f = 1MHz$ |     | 4   |     | pF   |

### $h_{FE}$ CLASSIFICATION

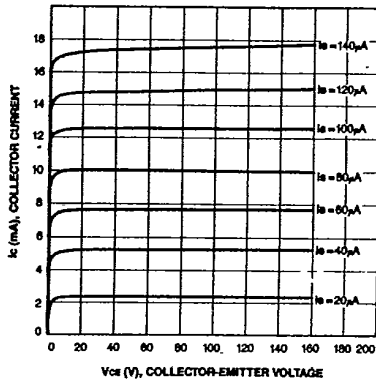
| Classification | R     | O      | Y       |
|----------------|-------|--------|---------|
| $h_{FE}$       | 40-80 | 70-140 | 120-240 |

KSC1506

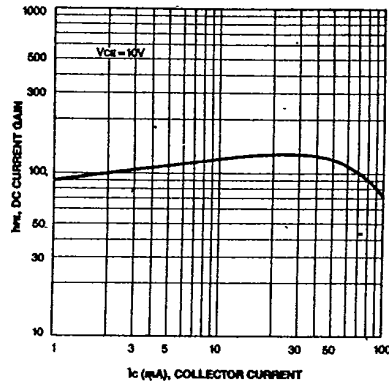
NPN EPITAXIAL SILICON TRANSISTOR

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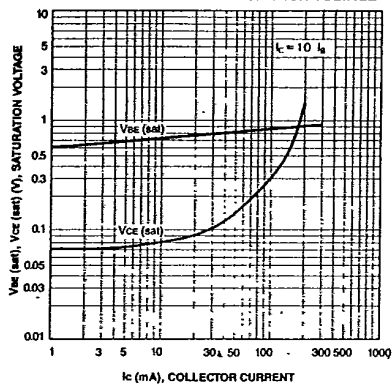
STATIC CHARACTERISTIC



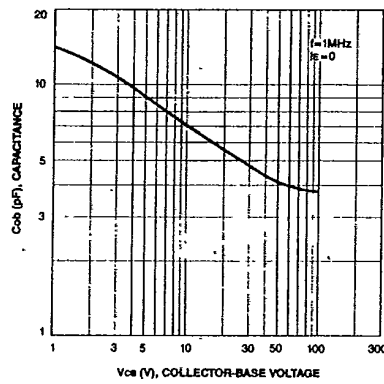
DC CURRENT GAIN



BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE



COLLECTOR OUTPUT CAPACITANCE



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