

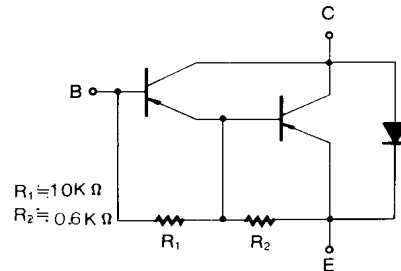
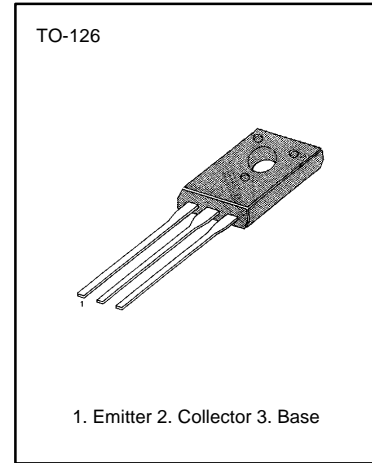
NPN EPITAXIAL KSE800/801/803 SILICON DARLINGTON TRANSISTOR

HIGH DC CURRENT GAIN
MIN $h_{FE} = 750$ @ $I_C = 1.5$ and $2.0A$ DC
MONOLITHIC CONSTRUCTION WITH
BUILT-IN BASE-EMITTER RESISTORS

• Complement to KSE700/701/702/703

ABSOLUTE MAXIMUM RATINGS

| Characteristic | Symbol | Rating | Unit |
|--|-----------|-----------|------------|
| Collector-Base Voltage | V_{CBO} | 60 | V |
| : KSE800/801 | | 80 | V |
| : KSE802/803 | | | |
| Collector-Emitter Voltage | V_{CEO} | 60 | V |
| : KSE800/801 | | 80 | V |
| : KSE802/803 | | | |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Collector Current | I_C | 4 | A |
| Base Current | I_B | 0.1 | A |
| Collector Dissipation ($T_C = 25^\circ C$) | P_C | 40 | W |
| Junction Temperature | T_J | 150 | $^\circ C$ |
| Storage Temperature | T_{STG} | -55 ~ 150 | $^\circ C$ |

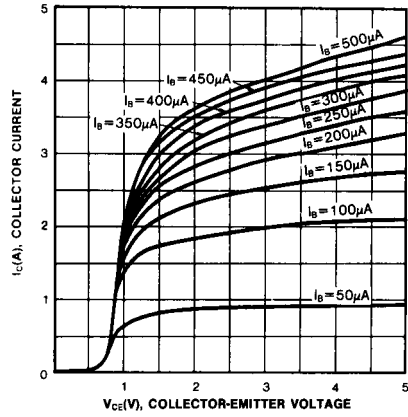


ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ C$)

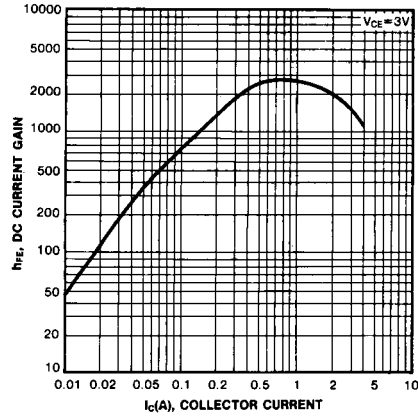
| Characteristic | Symbol | Test Condition | Min | Max | Unit |
|--------------------------------------|---------------|--|-----|-----|---------|
| Collector Emitter Breakdown Voltage | BV_{CEO} | $I_C = 50mA, I_B = 0$ | 60 | | V |
| : KSE800/801 | | | 80 | | V |
| : KSE802/803 | | | | | |
| Collector Cutoff Current | I_{CEO} | $V_{CE} = 60V, I_B = 0$ | | 100 | μA |
| : KSE800/801 | | $V_{CE} = 80V, I_B = 0$ | | 100 | μA |
| : KSE802/803 | | $V_{CB} = \text{Rated } BV_{CEO}, I_E = 0$ | | 100 | μA |
| Collector Cutoff Current | I_{CBO} | $V_{CB} = \text{Rated } BV_{CEO}, I_E = 0$ | | 500 | μA |
| | | $T_C = 100^\circ C$ | | | |
| Emitter Cutoff Current | I_{EBO} | $V_{BE} = 5V, I_C = 0$ | | 2 | mA |
| DC Current Gain : KSE800/802 | h_{FE} | $V_{CE} = 3V, I_C = 1.5A$ | 750 | | |
| : KSE801/803 | | $V_{CE} = 3V, I_C = 2A$ | 750 | | |
| : ALL DEVICES | | $V_{CE} = 3V, I_C = 4A$ | 100 | | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 1.5A, I_B = 30mA$ | | 2.5 | V |
| : KSE800/802 | | $I_C = 2A, I_B = 40mA$ | | 2.8 | V |
| : KSE801/803 | | $I_C = 4A, I_B = 40mA$ | | 3 | V |
| : ALL DEVICES | | | | | |
| Base-Emitter On Voltage | $V_{BE(on)}$ | $V_{CE} = 3V, I_C = 1.5A$ | | 1.2 | V |
| : KSE800/802 | | $V_{CE} = 3V, I_C = 2A$ | | 2.5 | V |
| : KSE801/803 | | $V_{CE} = 3V, I_C = 4A$ | | 3 | V |
| : ALL DEVICES | | | | | |

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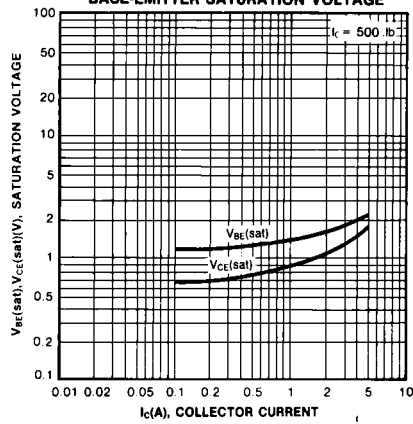
STATIC CHARACTERISTIC



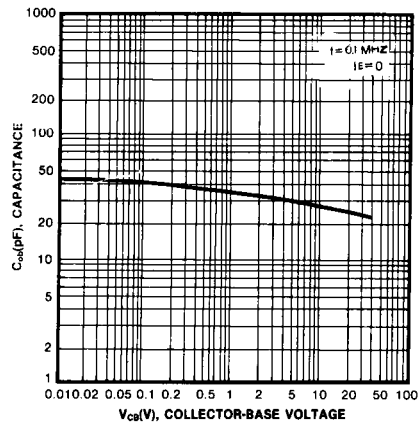
DC CURRENT GAIN



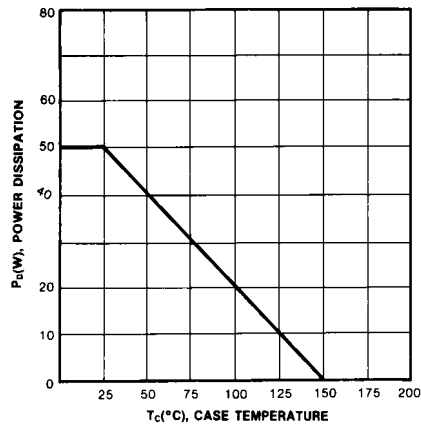
**COLLECTOR-EMITTER SATURATION VOLTAGE
BASE-EMITTER SATURATION VOLTAGE**



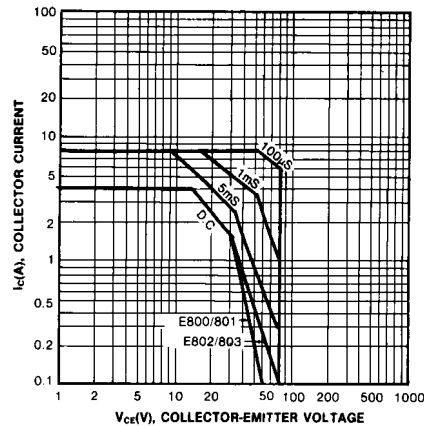
COLLECTOR OUTPUT CAPACITANCE



POWER DERATING



SAFE OPERATING AREA



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|--------------------------|------------------------|---|
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