

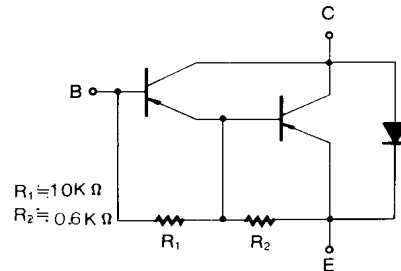
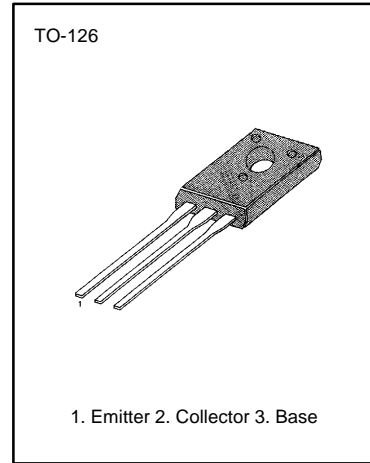
# NPN EPITAXIAL KSE800/801/803 SILICON DARLINGTON TRANSISTOR

**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	$\mu A$
: KSE800/801		$V_{CE} = 80V, I_B = 0$		100	$\mu A$
: KSE802/803		$V_{CB} = \text{Rated } BV_{CEO}, I_E = 0$		100	$\mu A$
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = \text{Rated } BV_{CEO}, I_E = 0$		500	$\mu A$
		$T_C = 100^\circ C$			
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					

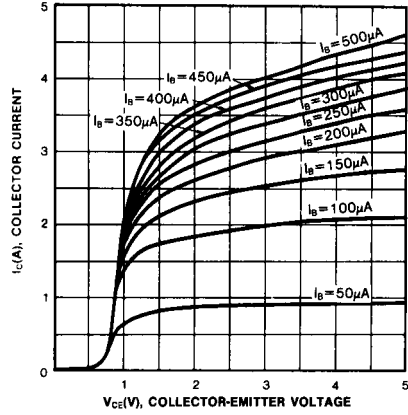
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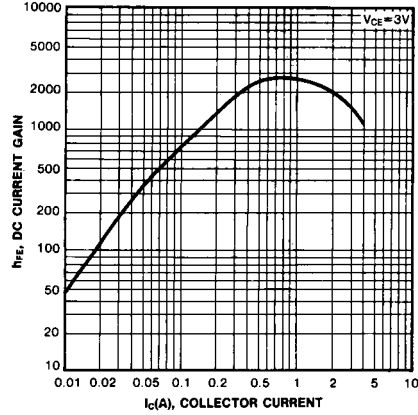
Rev. B

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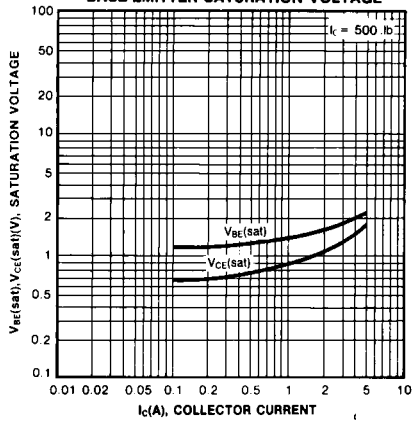
**STATIC CHARACTERISTIC**



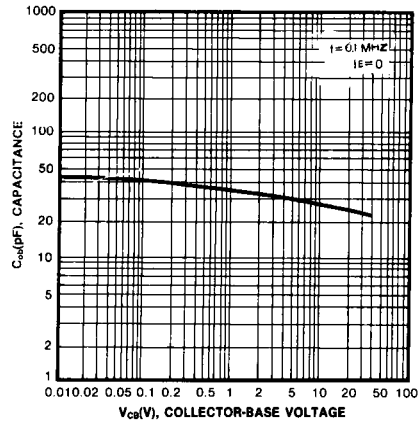
**DC CURRENT GAIN**



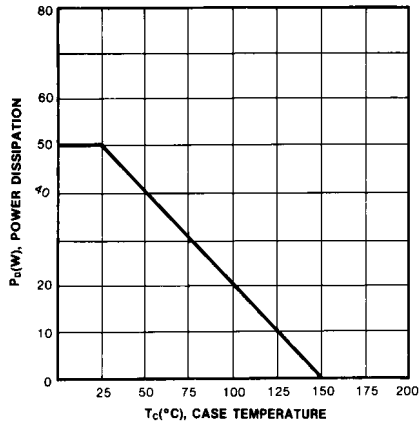
**COLLECTOR-EMITTER SATURATION VOLTAGE  
BASE-EMITTER SATURATION VOLTAGE**



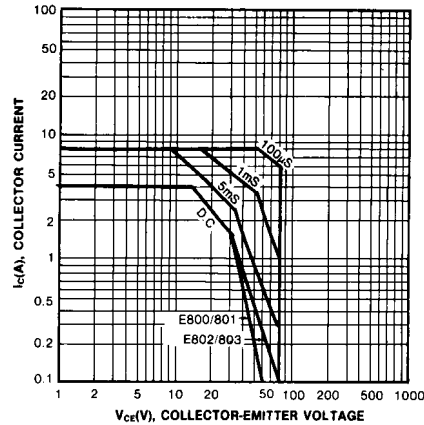
**COLLECTOR OUTPUT CAPACITANCE**



**POWER DERATING**



**SAFE OPERATING AREA**



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