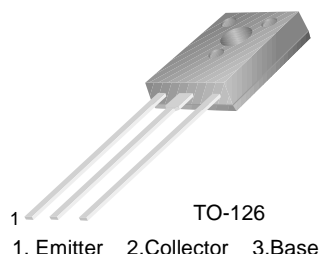


## KSE800/801/802/803

### Monolithic Construction With Built-in Base-Emitter Resistors

- High DC Current Gain :  $h_{FE} = 750$  (Min.) @  $I_C = 1.5$  and  $2.0A$  DC
- Complement to KSE700/701/702/703

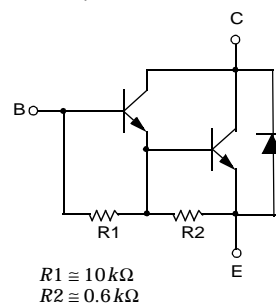


### NPN Epitaxial Silicon Darlington Transistor

#### Absolute Maximum Ratings $T_C = 25^\circ C$ unless otherwise noted

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

Equivalent Circuit



#### Electrical Characteristics $T_C = 25^\circ C$ unless otherwise noted

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

# Typical Characteristics

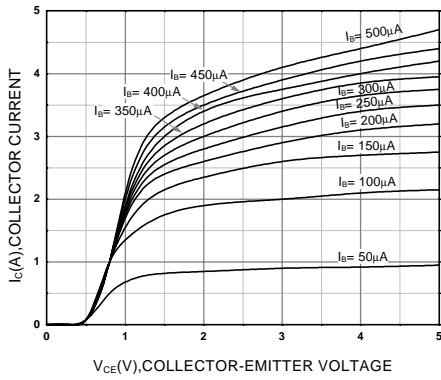


Figure 1. Static Characteristic

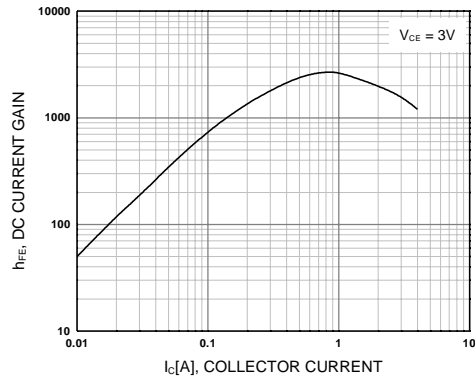


Figure 2. DC current Gain

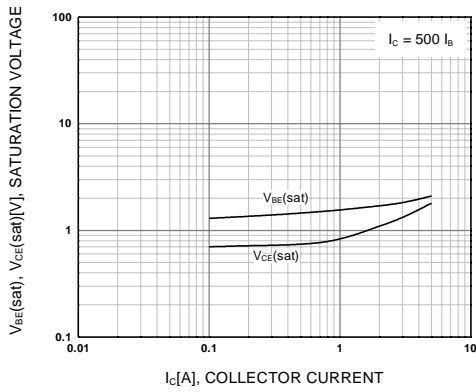


Figure 3. Collector-Emitter Saturation Voltage  
Base-Emitter Saturation Voltage

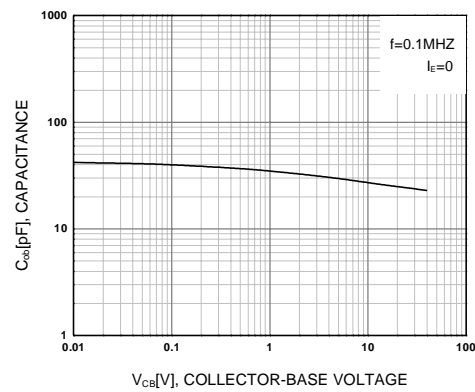


Figure 4. Collector Output Capacitance

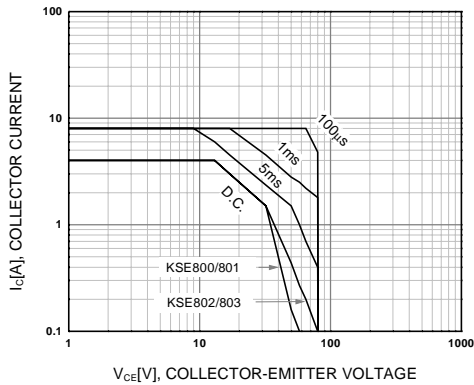


Figure 5. Safe Operating Area

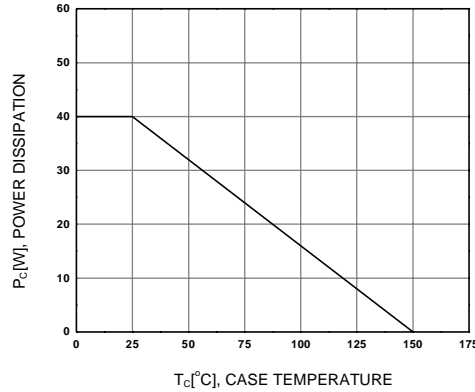


Figure 6. Power Derating

# Package Dimensions

## TO-126



KSE800/801/802/803

Dimensions in Millimeters

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