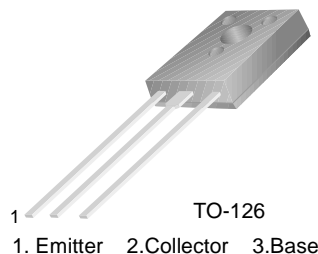


## MJE800/801/802/803

### 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 MJE700/701/702/703

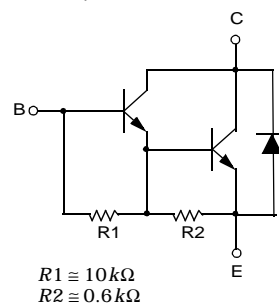


### NPN Epitaxial Silicon Darlington Transistor

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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector- Base Voltage	: MJE800/801	60 V
		: MJE802/803	80 V
$V_{CEO}$	Collector-Emitter Voltage	: MJE800/801	60 V
		: MJE802/803	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 ( $T_C = 25^\circ\text{C}$ )	40	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^\circ\text{C}$

Equivalent Circuit



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

Symbol	Parameter	Test Condition	Min.	Max.	Units
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 50\text{mA}$ , $I_B = 0$	60		V
			80		V
$I_{CEO}$	Collector Cut-off Current	$V_{CE} = 60\text{V}$ , $I_B = 0$ $V_{CE} = 80\text{V}$ , $I_B = 0$		100	$\mu\text{A}$
				100	$\mu\text{A}$
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = \text{Rated } BV_{CEO}$ , $I_E = 0$ $V_{CB} = \text{Rated } BV_{CEO}$ , $I_E = 0$ $T_C = 100^\circ\text{C}$		100	$\mu\text{A}$
				500	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{BE} = 5\text{V}$ , $I_C = 0$		2	mA
$h_{FE}$	DC Current Gain	: MJE800/802	750		
		: MJE801/803	750		
		: ALL DEVICES	100		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 1.5\text{A}$ , $I_B = 30\text{mA}$ $I_C = 2\text{A}$ , $I_B = 40\text{mA}$ $I_C = 4\text{A}$ , $I_B = 40\text{mA}$		2.5	V
				2.8	V
				3	V
$V_{BE(on)}$	Base-Emitter ON Voltage	$V_{CE} = 3\text{V}$ , $I_C = 1.5\text{A}$ $V_{CE} = 3\text{V}$ , $I_C = 2\text{A}$ $V_{CE} = 3\text{V}$ , $I_C = 4\text{A}$		2.5	V
				2.5	V
				3	V

## Typical Characteristics

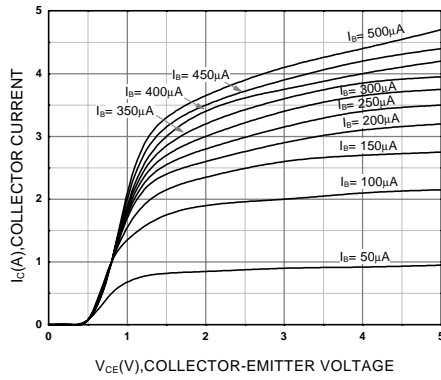


Figure 1. Static Characteristic

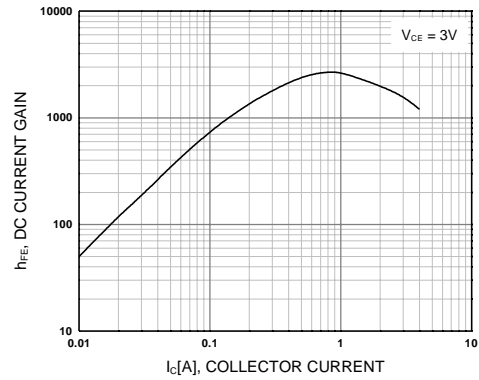


Figure 2. DC current Gain

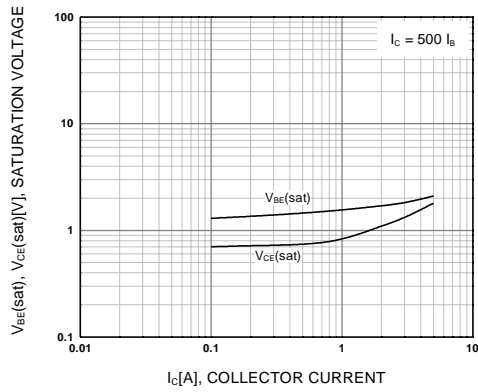


Figure 3. Collector-Emitter Saturation Voltage  
Base-Emitter Saturation Voltage

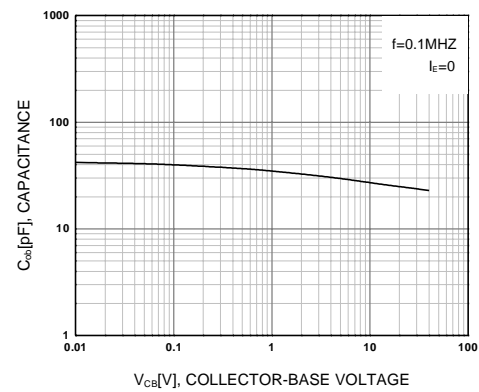


Figure 4. Collector Output Capacitance

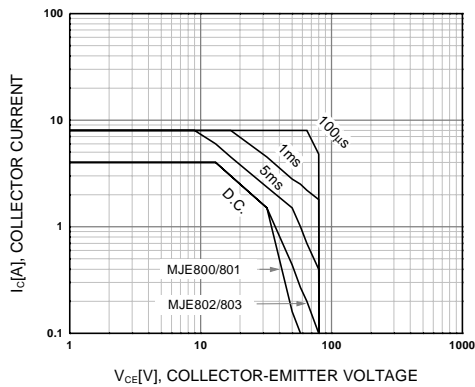


Figure 5. Safe Operating Area

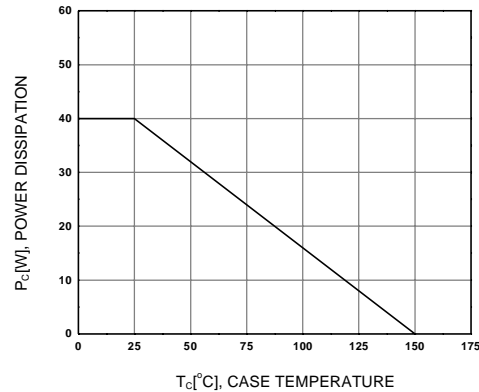
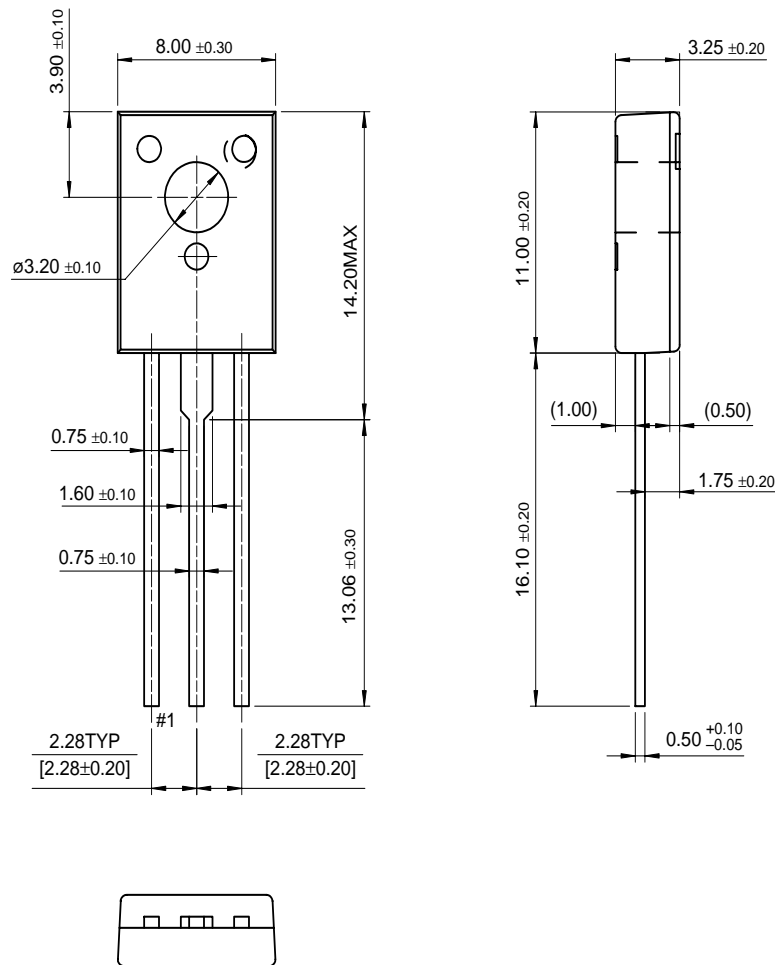


Figure 6. Power Derating

# Package Dimensions

## TO-126



Dimensions in Millimeters

MJE800/801/802/803

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