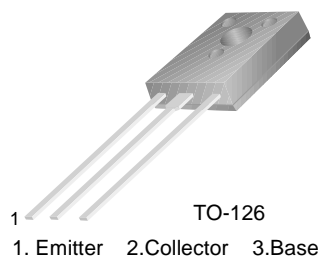


MJE800/801/802/803

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

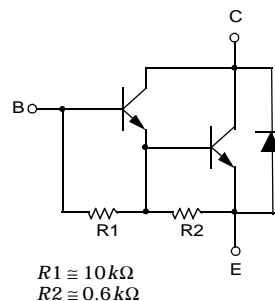


NPN Epitaxial Silicon Darlington Transistor

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	
		: MJE800/801	80		V	
		: MJE802/803				
I_{CEO}	Collector Cut-off Current	$V_{CE} = 60\text{ V}, I_B = 0$		100	μA	
		$V_{CE} = 80\text{ V}, I_B = 0$		100	μA	
		: MJE802/803				
I_{CBO}	Collector Cut-off Current	$V_{CB} = \text{Rated } BV_{CEO}, I_E = 0$		100	μA	
		$V_{CB} = \text{Rated } BV_{CEO}, I_E = 0$		500	μA	
		$T_C = 100^\circ\text{C}$				
I_{EBO}	Emitter Cut-off Current	$V_{BE} = 5\text{ V}, I_C = 0$		2	mA	
h_{FE}	DC Current Gain	: MJE800/802	$V_{CE} = 3\text{ V}, I_C = 1.5\text{ A}$	750		
		: MJE801/803	$V_{CE} = 3\text{ V}, I_C = 2\text{ A}$	750		
		: ALL DEVICES	$V_{CE} = 3\text{ V}, I_C = 4\text{ A}$	100		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	: MJE800/802	$I_C = 1.5\text{ A}, I_B = 30\text{ mA}$		2.5	V
		: MJE801/803	$I_C = 2\text{ A}, I_B = 40\text{ mA}$		2.8	V
		: ALL DEVICES	$I_C = 4\text{ A}, I_B = 40\text{ mA}$		3	V
$V_{BE(on)}$	Base-Emitter ON Voltage	: MJE800/802	$V_{CE} = 3\text{ V}, I_C = 1.5\text{ A}$		2.5	V
		: MJE801/803	$V_{CE} = 3\text{ V}, I_C = 2\text{ A}$		2.5	V
		: ALL DEVICES	$V_{CE} = 3\text{ V}, I_C = 4\text{ A}$		3	V

Typical Characteristics

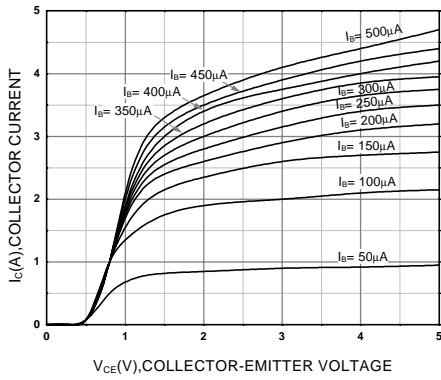


Figure 1. Static Characteristic

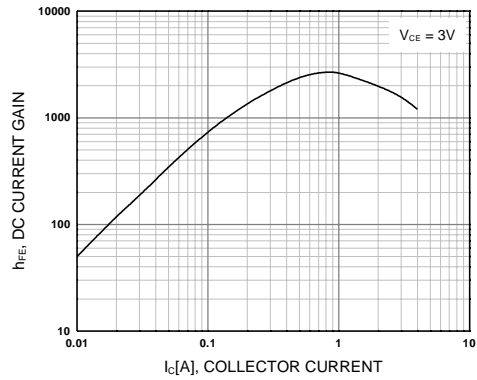


Figure 2. DC current Gain

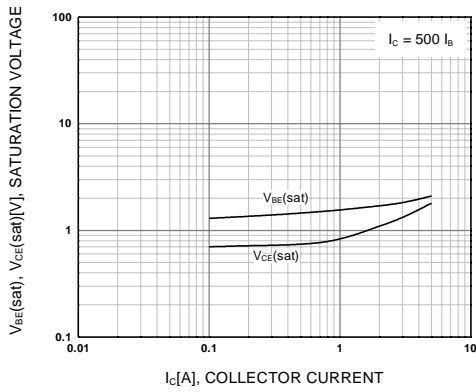


Figure 3. Collector-Emitter Saturation Voltage
Base-Emitter Saturation Voltage

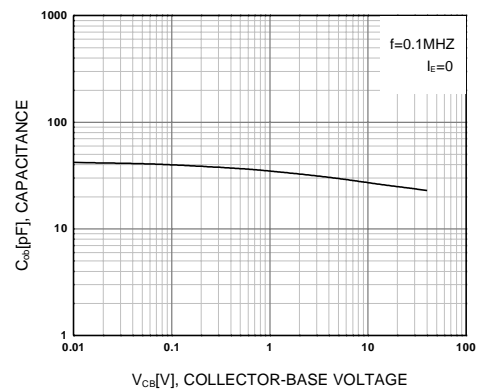


Figure 4. Collector Output Capacitance

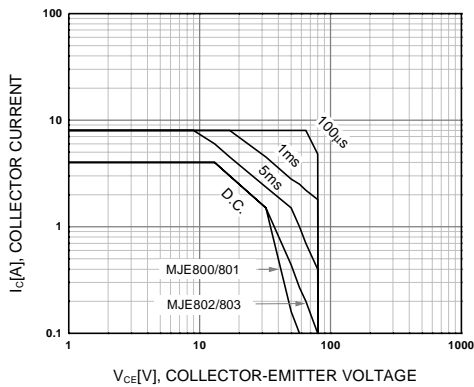


Figure 5. Safe Operating Area

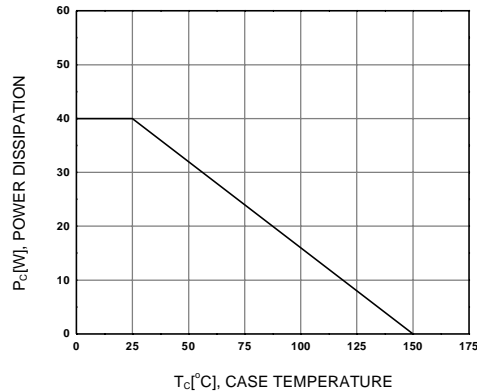


Figure 6. Power Derating

Package Dimensions

TO-126



MJE800/801/802/803

Dimensions in Millimeters

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EnSigna™	OPTOLOGIC™	SMART START™	
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