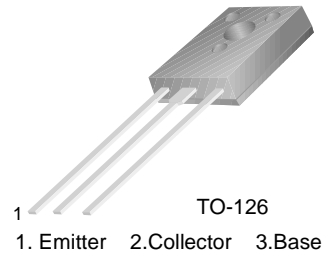


MJE700/701/702/703

Monolithic Construction With Built-in Base-Emitter Resistors

- High DC Current Gain : $h_{FE} = 750$ (Min.) @ $I_C = -1.5$ and -2.0 A DC
- Complement to MJE800/801/802/803

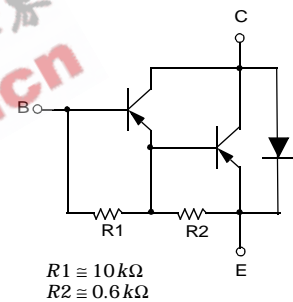


PNP Epitaxial Silicon Darlington Transistor

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector- Base Voltage : MJE700/701	- 60	V
	: MJE702/703	- 80	V
V_{CEO}	Collector-Emitter Voltage : MJE700/701	- 60	V
	: MJE702/703	- 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	$I_C = -10\text{mA}, I_B = 0$	-60		V
	: MJE700/701 : MJE702/703		-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	μA
	: MJE700/701 : MJE702/703			-100	μA
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	μA
				-500	μA
I_{EBO}	Emitter Cut-off Current	$V_{BE} = -5\text{V}, I_C = 0$		-2	mA
h_{FE}	DC Current Gain	$V_{CE} = -3\text{V}, I_C = -1.5\text{A}$ $V_{CE} = -3\text{V}, I_C = -2\text{A}$ $V_{CE} = -3\text{V}, I_C = -4\text{A}$	750		
			750		
			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	$V_{CE} = -3\text{V}, I_C = -1.5\text{A}$ $V_{CE} = -3\text{V}, I_C = -2\text{A}$ $V_{CE} = -3\text{V}, I_C = -4\text{A}$		-1.2	V
				-2.5	V
				-3	V

Typical Characteristics

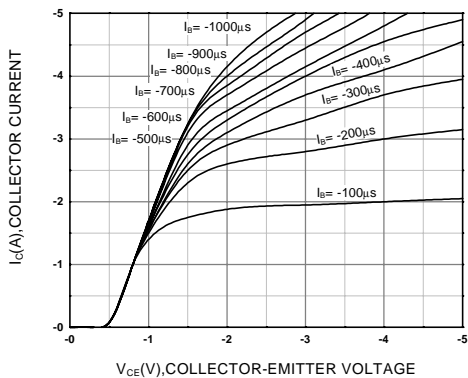


Figure 1. Static Characteristic

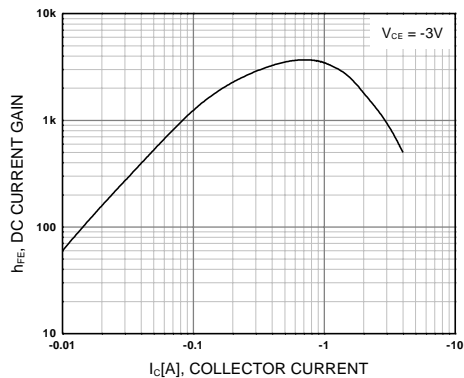


Figure 2. DC current Gain

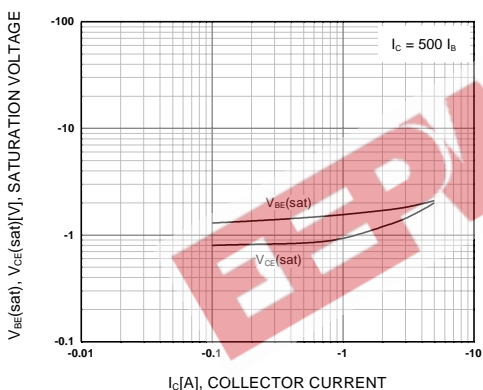


Figure 3. Collector-Emitter Saturation Voltage Base-Emitter Saturation Voltage

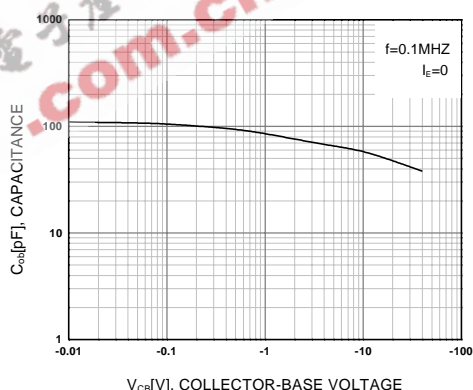


Figure 4. Collector Output Capacitance

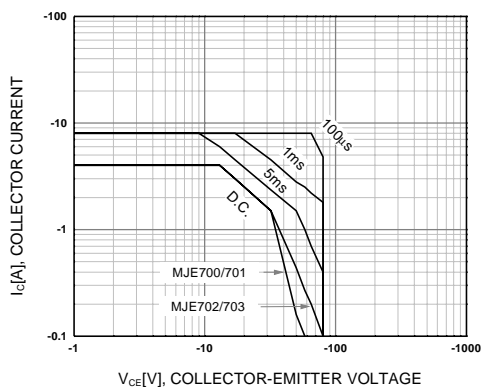


Figure 5. Safe Operating Area

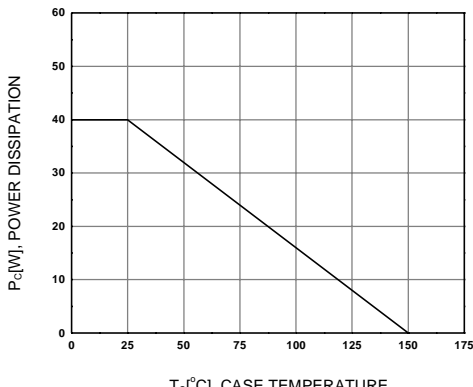
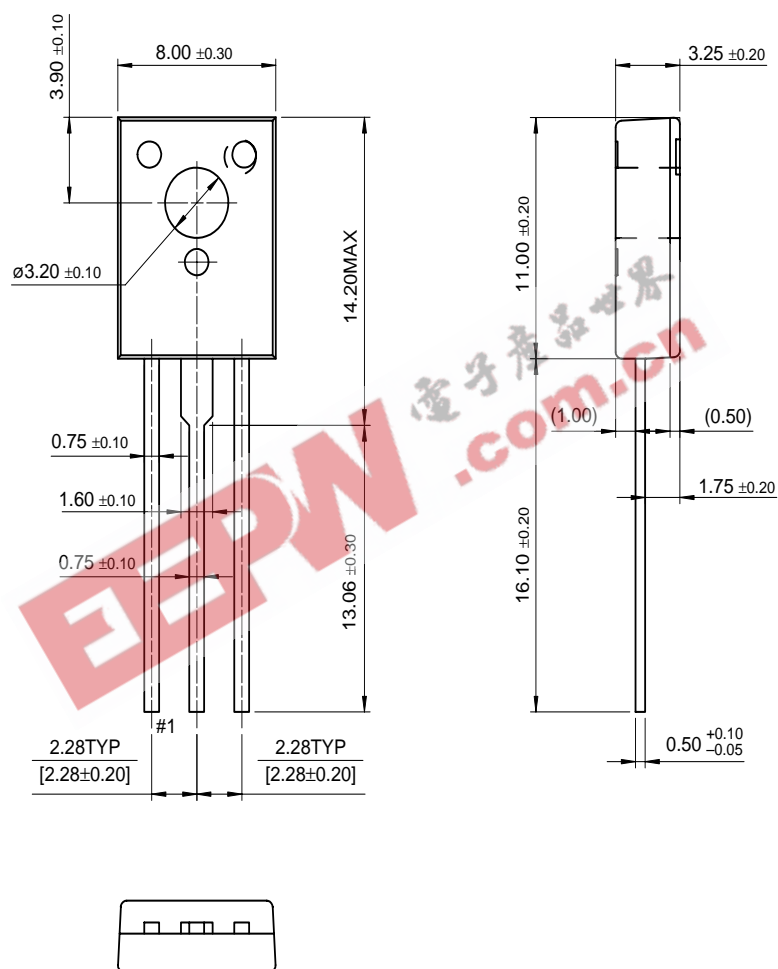


Figure 6. Power Derating

Package Demensions

TO-126



Dimensions in Millimeters

MJE700/701/702/703

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DOME™	ISOPLANAR™	Quiet Series™	
E ² CMOS™	MICROWIRE™	LILENT SWITCHER®	
EnSigna™	OPTOLOGIC™	SMART START™	
FACT™	OPTOPLANAR™	SuperSOT™-3	
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