

# MJE210

## Feature

- Low Collector-Emitter Saturation Voltage
- High Current Gain Bandwidth Product :  $f_T=65\text{MHz}@I_C=-100\text{mA}$  (Min.)
- Complement to MJE200



## PNP Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	- 40	V
$V_{CEO}$	Collector-Emitter Voltage	- 25	V
$V_{EBO}$	Emitter-Base Voltage	- 8	V
$I_C$	Collector Current	- 5	A
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	15	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 65 ~ 150	$^\circ\text{C}$

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

Symbol	Parameter	Test Condition	Min.	Max.	Units
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -10\text{mA}, I_B = 0$	-25		V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -40\text{V}, I_E = 0$ $V_{CB} = -40\text{V}, I_E = 0 @ T_J = 125^\circ\text{C}$		-100 -100	nA $\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{BE} = -8\text{V}, I_C = 0$		-100	nA
$h_{FE1}$ $h_{FE2}$ $h_{FE3}$	DC Current Gain	$V_{CE} = -1\text{V}, I_C = -500\text{mA}$ $V_{CE} = -1\text{V}, I_C = -2\text{A}$ $V_{CE} = -2\text{V}, I_C = -5\text{A}$	70 45 10	180	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -500\text{mA}, I_B = -50\text{mA}$ $I_C = -2\text{A}, I_B = -200\text{mA}$ $I_C = -5\text{A}, I_B = -1\text{A}$		-0.3 -0.75 -1.8	V V V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -5\text{A}, I_B = -1\text{A}$		-2.5	V
$V_{BE(on)}$	Base-Emitter ON Voltage	$V_{CE} = -1\text{V}, I_C = -2\text{A}$		-1.6	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -10\text{V}, I_C = -100\text{mA}$	65		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$		120	pF

# Typical Characteristics

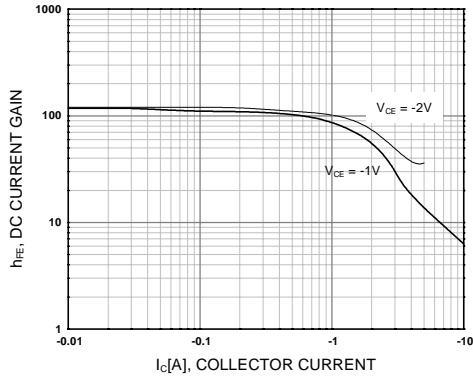


Figure 1. DC current Gain

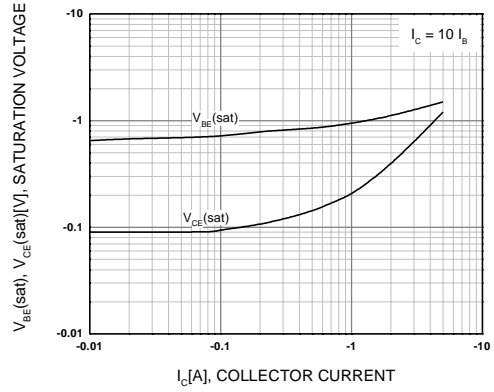


Figure 2. Collector-Emitter Saturation Voltage  
Base-Emitter Saturation Voltage

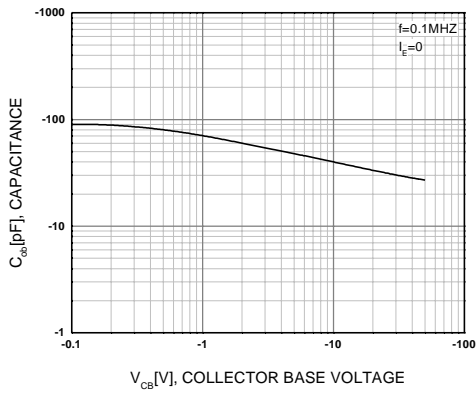


Figure 3. Collector Output Capacitance

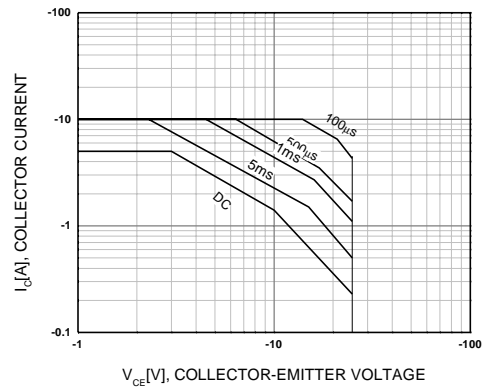


Figure 4. Safe Operating Area

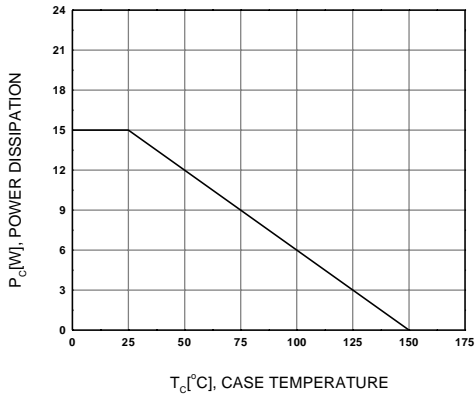


Figure 5. Power Derating

# Package Dimensions

## TO-126



Dimensions in Millimeters

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