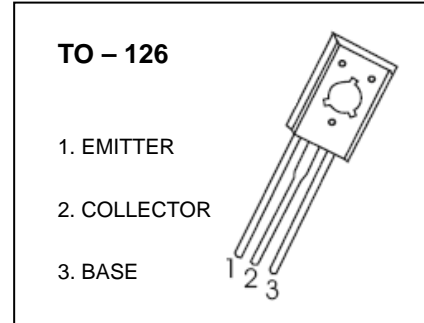


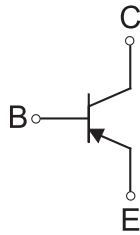
## MJE172 TRANSISTOR (PNP)

### FEATURES

- Low Power Audio Amplifier
- Low Current, High Speed Switching Applications



### Equivalent Circuit



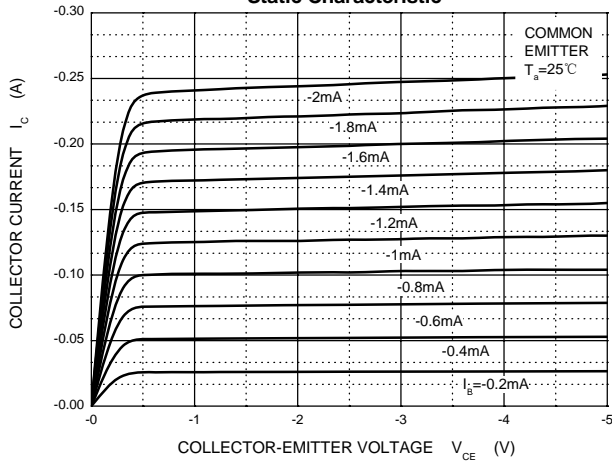
### MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	-100	V
$V_{CEO}$	Collector-Emitter Voltage	-80	V
$V_{EBO}$	Emitter-Base Voltage	-7	V
$I_C$	Collector Current	-3	A
$P_C$	Collector Power Dissipation	1.5	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	83	$^{\circ}\text{C/W}$
$T_J, T_{stg}$	Operation Junction and Storage Temperature Range	-55~+150	$^{\circ}\text{C}$

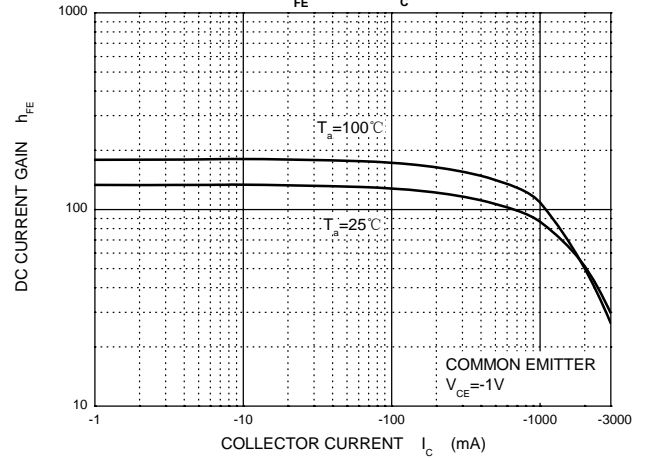
$T_a=25^{\circ}\text{C}$  unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-1\text{mA}, I_E=0$	-100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-10\text{mA}, I_B=0$	-80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-1\text{mA}, I_C=0$	-7			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-100\text{V}, I_E=0$			-0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-7\text{V}, I_C=0$			-0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE}=-1\text{V}, I_C=-100\text{mA}$	50		250	
	$h_{FE(2)}$	$V_{CE}=-1\text{V}, I_C=-500\text{mA}$	30			
	$h_{FE(3)}$	$V_{CE}=-1\text{V}, I_C=-1.5\text{A}$	12			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-500\text{mA}, I_B=-50\text{mA}$			-0.3	V
		$I_C=-3\text{A}, I_B=-600\text{mA}$			-1.7	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-1.5\text{A}, I_B=-150\text{mA}$			-1.5	V
		$I_C=-3\text{A}, I_B=-600\text{mA}$			-2	V
Base-emitter voltage	$V_{BE}$	$V_{CE}=-1\text{V}, I_C=-500\text{mA}$			-1.2	V
Collector output capacitance	$C_{ob}$	$V_{CB}=-10\text{V}, I_E=0, f=10\text{MHz}$			50	pF
Transition frequency	$f_T$	$V_{CE}=-10\text{V}, I_C=-100\text{mA}, f=10\text{MHz}$	50			MHz

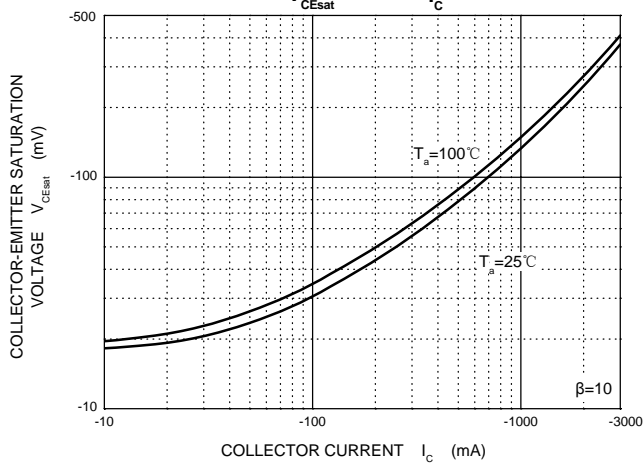
Static Characteristic



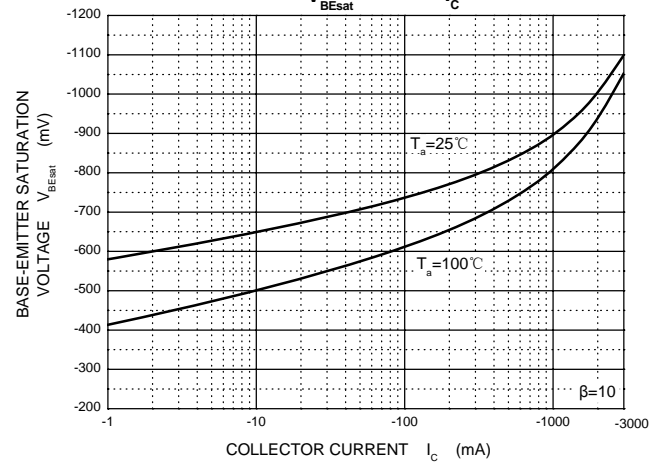
$h_{FE}$  —  $I_c$



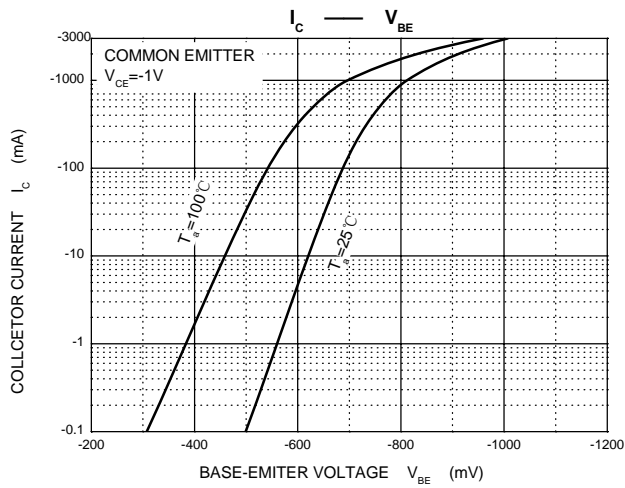
$V_{CEsat}$  —  $I_c$



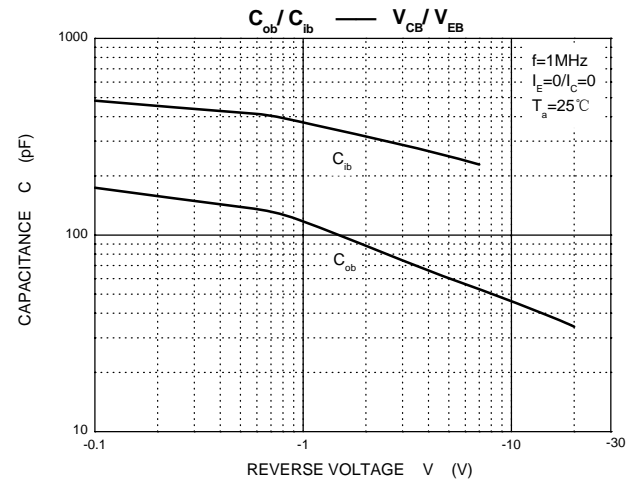
$V_{BEsat}$  —  $I_c$



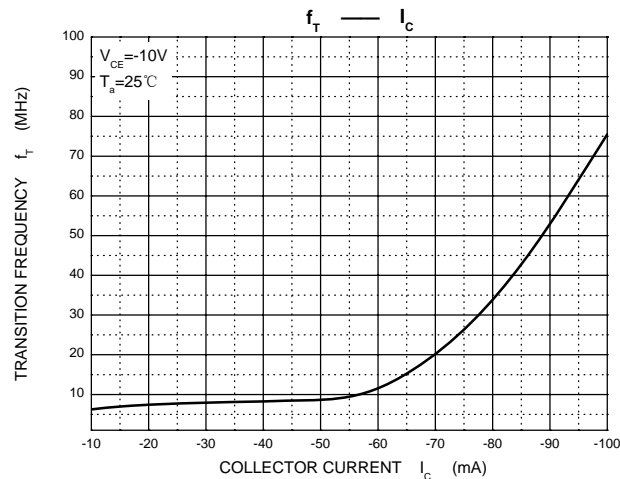
$I_c$  —  $V_{BE}$



$C_{ob}/C_{ib}$  —  $V_{CB}/V_{EB}$



$f_T$  —  $I_c$



$P_c$  —  $T_a$

