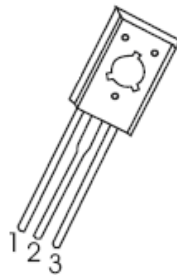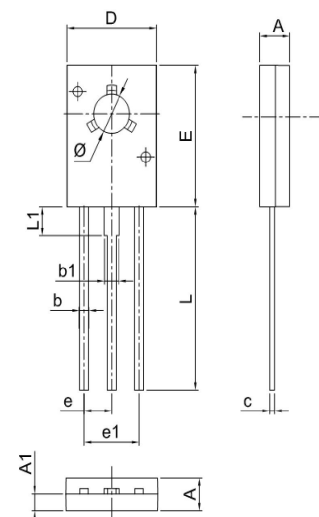## Applications

• Low Power Audio Amplifier
• Low Current High Speed Switching

Features

• High current output up to -3A
• Low saturation voltage
• Complement to MJE182

TO-126

1. EMITTER

2. COLLECTOR

3 . BASE

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.40	2.80	0.094	0.110
A1	1.00	1.40	0.039	0.055
b	0.66	0.86	0.026	0.034
b1	1.17	1.37	0.046	0.054
c	0.40	0.60	0.016	0.024
D	7.30	7.70	0.287	0.303
E	10.60	11.00	0.417	0.433
e	2.25	2.33	0.089	0.092
e1	4.50	4.66	0.177	0.183
L	14.00	15.00	0.551	0.591
L1	1.90	2.50	0.075	0.098
Φ	3.10	3.30	0.122	0.130

Absolute Maximum Rating (T_C=25℃ unless otherwise noted)

Parameter		Symbol	Value	Unit
Collector-Base Voltage		BV_{CBO}	-100	V
Collector-Emitter Voltage		BV_{CEO}	-80	V
Emitter-Base Voltage		BV_{EBO}	-7	V
Collector Current (DC)		I_C	-3	A
Collector Current (Pulse)		I_{CP}	-6	A
Power Dissipation	T_A=25℃	P_C	1.5	W
	T_C=25℃		12.5	
Junction Temperature		T_j	150	℃
Storage Temperature		T_{stg}	-55～150	℃

MJE172

Electrical Characteristics (T$_C$=25℃ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BV$_{CBO}$	I$_C$ = -100μA，I$_E$ = 0	-100			V
Collector-emitter breakdown voltage	BV$_{CEO}$	I$_C$ = -1mA，I$_B$ = 0	-80			V
Emitter-base breakdown voltage	BV$_{EBO}$	I$_E$ = -100μA，I$_C$ = 0	-7			V
Collector cut-off current	I$_{CBO}$	V$_{CB}$ =-100V，I$_B$ = 0			-0.1	μA
Emitter cut-off current	I$_{EBO}$	V$_{EB}$ = 7V，I$_C$ = 0			0.1	μA
DC current gain*	h$_{FE}$	V$_{CE}$=-1V，I$_C$= -100mA V$_{CE}$=-1V，I$_C$= -500mA V$_{CE}$=-1V，I$_C$= -1.5A	50 30 12		250	
Collector-emitter saturation voltage*	V$_{CE(sat)}$	I$_C$ = -500mA，I$_B$ = -50mA I$_C$ = -1.5A，I$_B$ = -150mA I$_C$ = -3A，I$_B$ = -600mA			-0.3 -0.9 -1.7	V
Base-emitter saturation voltage*	V$_{BE(sat)}$	I$_C$ = -1.5A，I$_B$ = -150mA I$_C$ = -3A，I$_B$ = -600mA			-1.5 -2.0	V
Base-emitter on voltage*	V$_{BE(on)}$	V$_{CE}$=-1V，I$_C$= -500mA			-1.2	V
Transition frequency	f$_T$	V$_{CE}$ = -10V，I$_B$ = -100mA	50			MHz
Output Capacitance	C$_{ob}$	V$_{CB}$ = -10V,I$_E$ = 0,f=1MHz			50	pF

* Pulse test: PW≤300μs, duty cycle≤2% Pulse

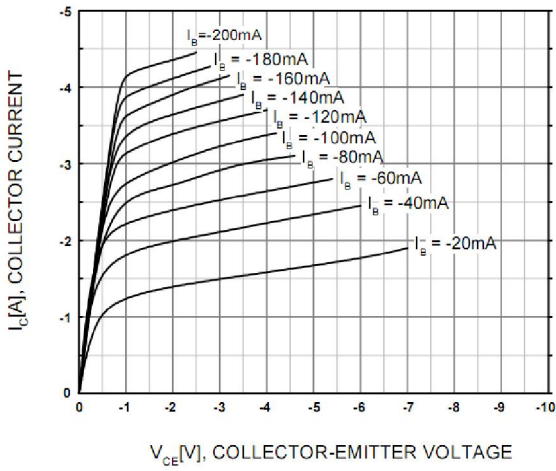# RATING AND CHARACTERISTIC CURVES (MJE172)
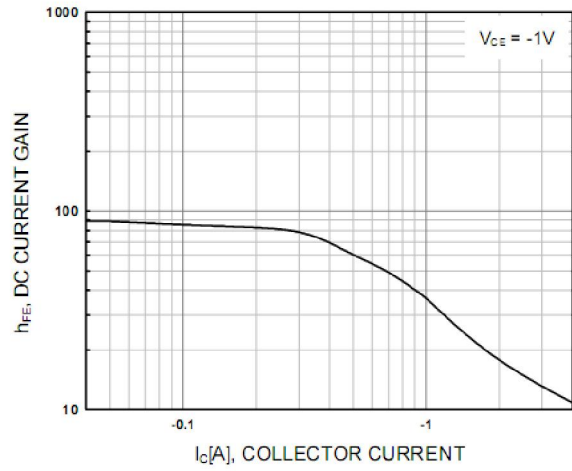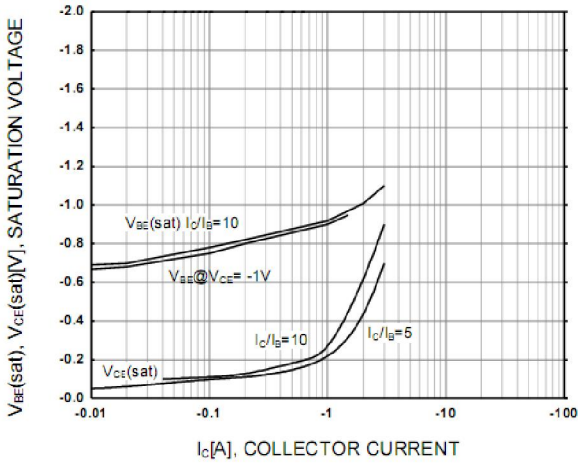
Figure 1. Static Characteristic

Figure 2. DC current Gain

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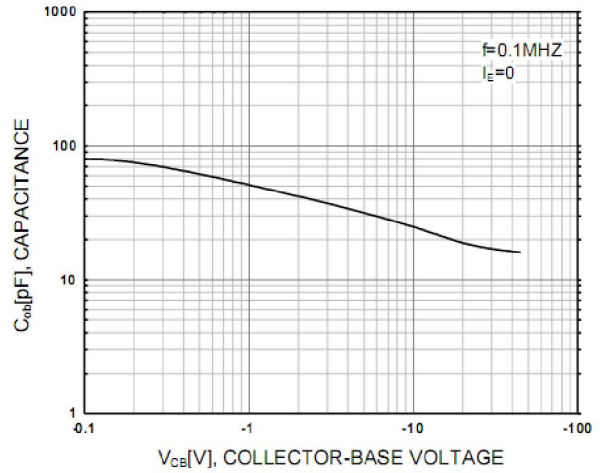**Collector-Emitter Saturation Voltage**

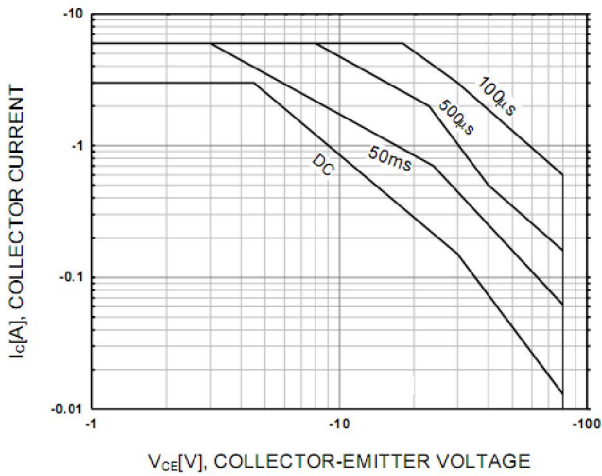**Figure 4. Collector Output Capacitance**
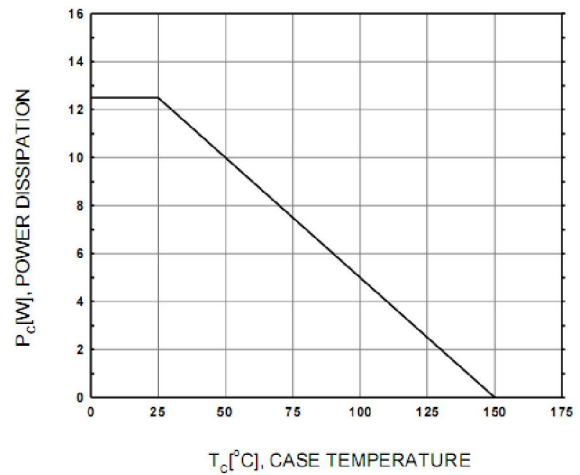
Figure 5. Safe Operating Area

Figure 6. Power Derating

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