

Applications

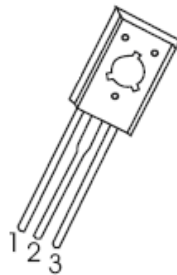
- Low Power Audio Amplifier
- Low Current High Speed Switching

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 ($T_C=25^{\circ}\text{C}$ 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	$T_A=25^{\circ}\text{C}$	P_C	1.5	W
	$T_C=25^{\circ}\text{C}$		12.5	
Junction Temperature		T_j	150	$^{\circ}\text{C}$
Storage Temperature		T_{stg}	-55~150	$^{\circ}\text{C}$

MJE172

Electrical Characteristics (T_C=25°C 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)

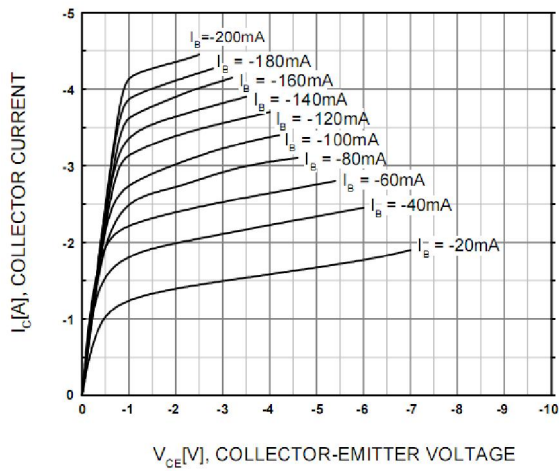


Figure 1. Static Characteristic

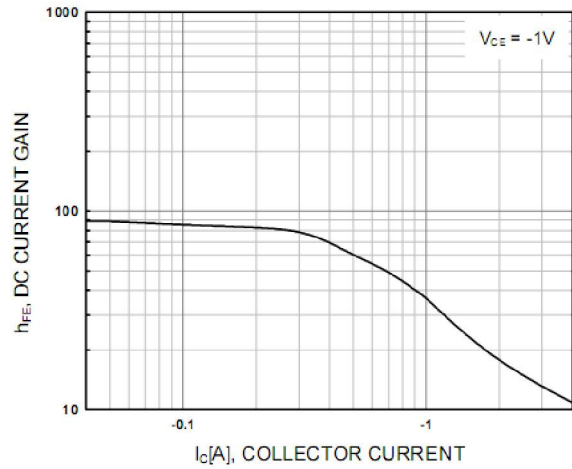


Figure 2. DC current Gain

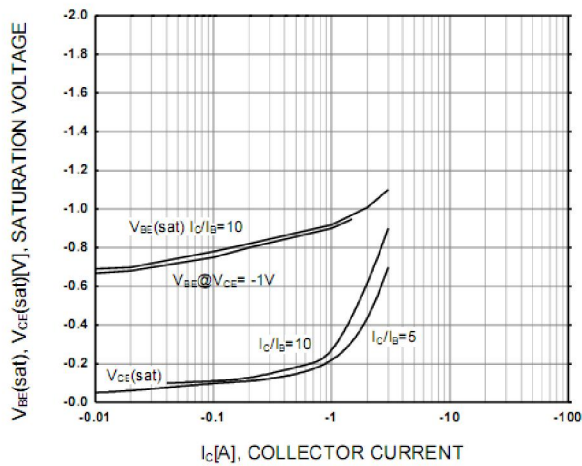


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

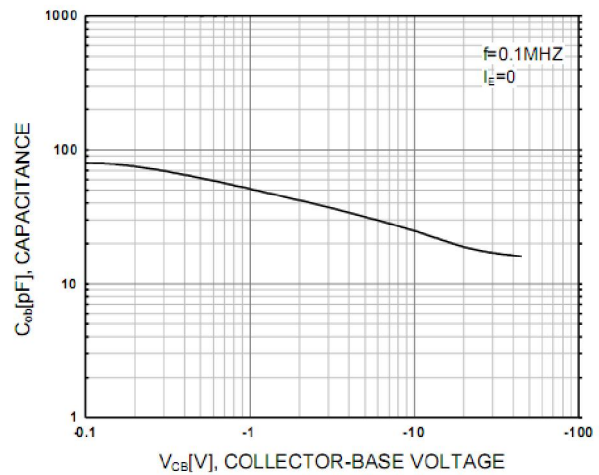


Figure 4. Collector Output Capacitance

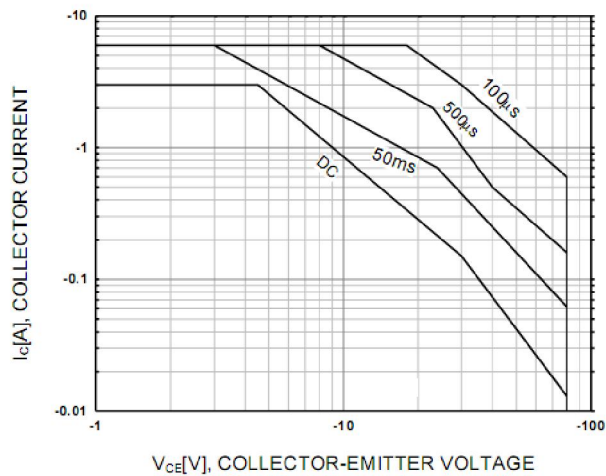


Figure 5. Safe Operating Area

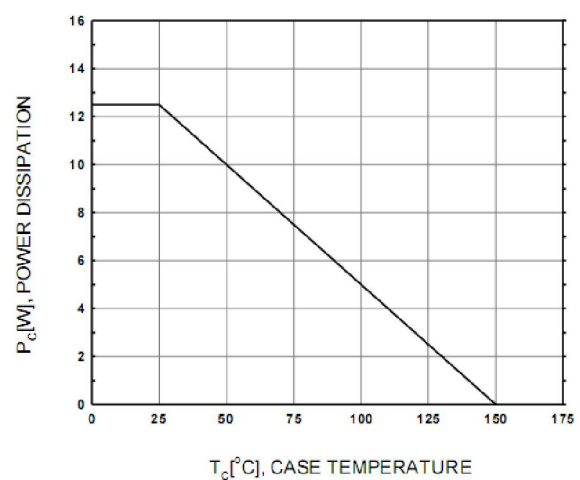


Figure 6. Power Derating