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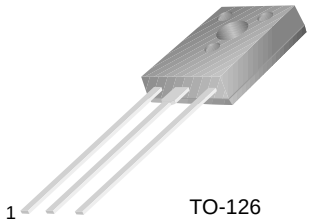
FAIRCHILD
SEMICONDUCTOR®

MJE170/171/172

Low Power Audio Amplifier
Low Current, High Speed Switching Applications



TO-126

1. Emitter 2.Collector 3.Base

PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter		Value	Units
V_{CBO}	Collector-Base Voltage	: MJE170	- 60	V
		: MJE171	- 80	V
		: MJE172	- 100	V
V_{CEO}	Collector-Emitter Voltage	: MJE170	- 40	V
		: MJE171	- 60	V
		: MJE172	- 80	V
V_{EBO}	Emitter-Base Voltage		- 7	V
I_C	Collector Current (DC)		- 3	A
I_{CP}	Collector Current (Pulse)		- 6	A
I_B	Base Current		- 1	A
P_C	Collector Dissipation (T_C=25°C)		12.5	W
	Collector Dissipation (T_a=25°C)		1.5	W
T_J	Junction Temperature		150	°C
T_{STG}	Storage Temperature		- 65 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CEO}	Collector-Emitter Breaksown Voltage				
	: MJE170	I_C = 10mA, I_B = 0	-40		V
	: MJE171		-60		V
	: MJE172		-80		V
I_{CBO}	Collector Cut-off Current : MJE170	V_{CB} = - 60V, I_B = 0		-0.1	μA
	: MJE171	V_{CB} = - 80V, I_E = 0		-0.1	μA
	: MJE172	V_{CB} = - 100V, I_E = 0		-0.1	μA
	: MJE170	V_{CB} = - 60V, I_E = 0, @T_C = 150°C		-0.1	mA
	: MJE171	V_{CB} = - 80V, I_E = 0, @T_C = 150°C		-0.1	mA
	: MJE172	V_{CB} = - 100V, I_E = 0, @T_C = 150°C		-0.1	mA
I_{EBO}	Emitter Cut-off Current	V_{BE} = - 7V, I_C = 0		-0.1	μA
h_{FE}	DC Current Gain	V_{CE} = - 1V, I_C = - 100mA	50	250	
		V_{CE} = - 1V, I_C = - 500mA	30		
		V_{CE} = - 1V, I_C = - 1.5A	12		
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = - 500mA, I_B = - 50mA		-0.3	V
		I_C = - 1.5A, I_B = - 150mA		-0.9	V
		I_C = - 3A, I_B = - 600mA		-1.7	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = - 1.5A, I_B = - 150mA		-1.5	V
		I_C = - 3A, I_B = - 600mA		-2.0	V
V_{BE}(on)	Base-Emitter ON Voltage	V_{CE} = - 1V, I_C = - 500mA		-1.2	V
f_T	Current Gain Bandwidth Product	V_{CE} = - 10V, I_C = - 100mA	50		MHz
C_{ob}	Output Capacitance	V_{CB} = - 10V, I_E = 0, f = 0.1MHz		50	pF

Typical Charactristics

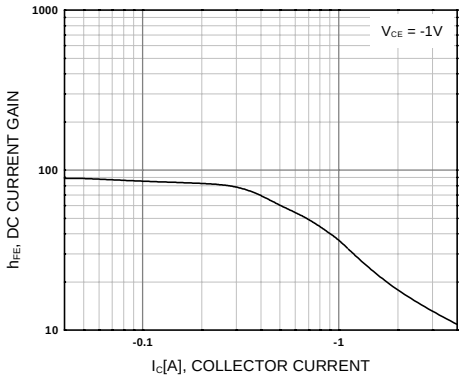


Figure 1. DC current Gain

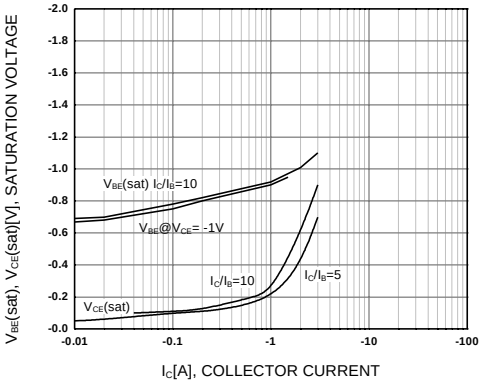


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

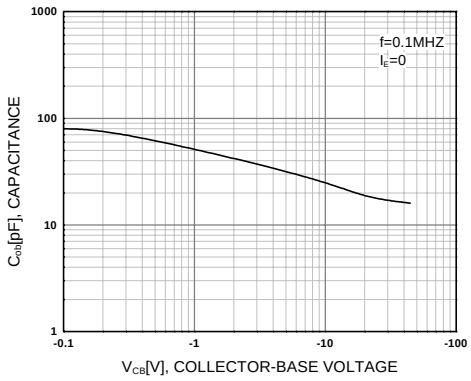


Figure 3. Collector Output Capacitance

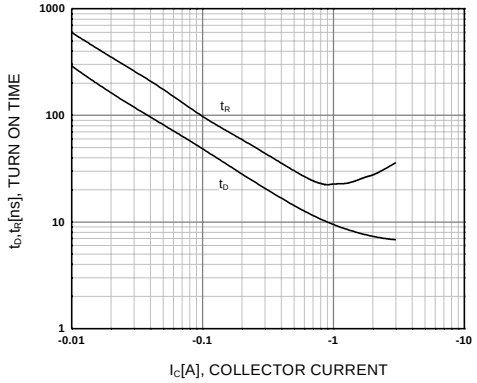


Figure 4. Turn On Time

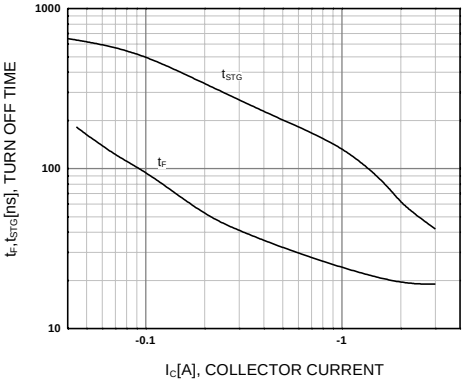


Figure 5. Turn Off Time

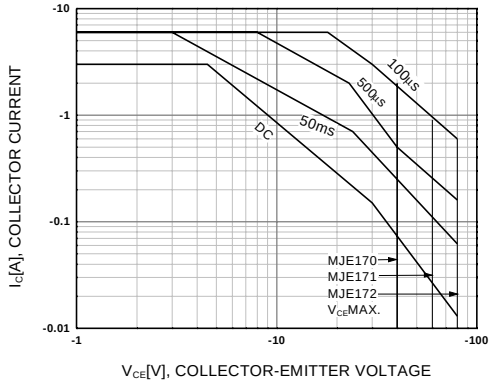


Figure 6. Safe Operating Area

Typical Characteristics (Continued)

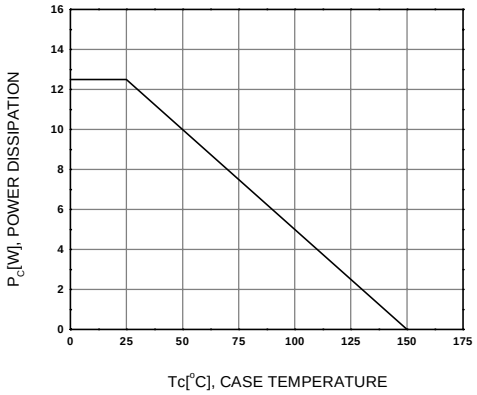
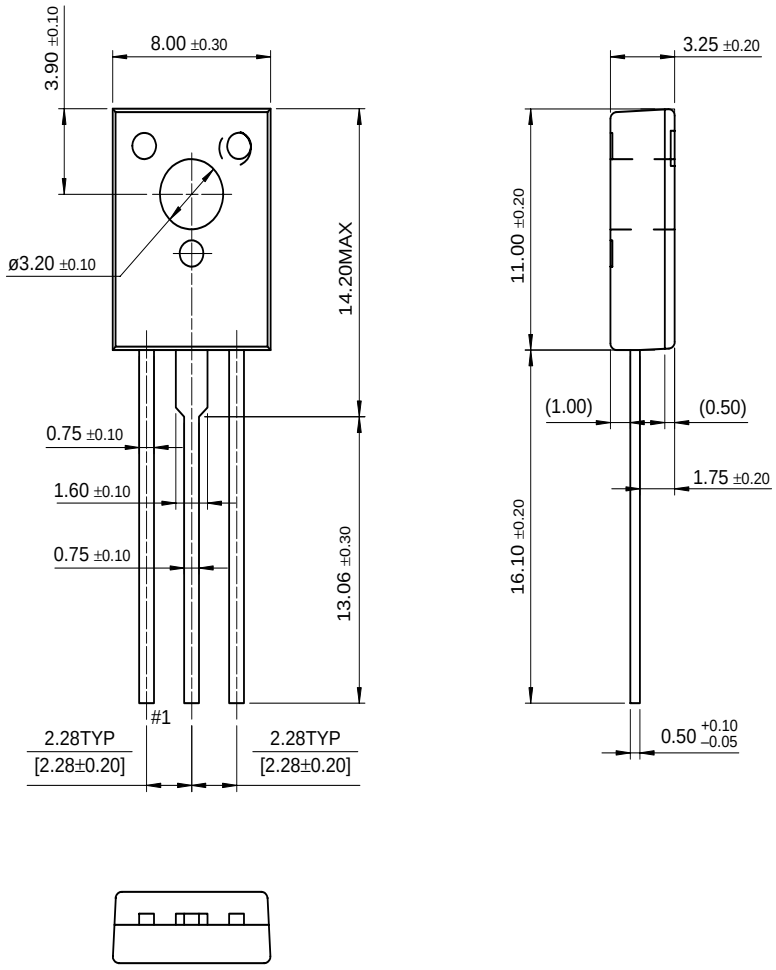


Figure 7. DC current Gain

Package Demensions

TO-126



Dimensions in Millimeters

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