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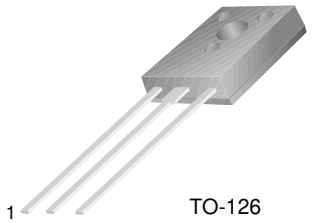
Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

FAIRCHILD
SEMICONDUCTOR®

KSD794/794A

Audio Frequency Power Amplifier

- Complement to KSB744/KSB744A



TO-126

1. Emitter 2.Collector 3.Base

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter		Value	Units
V_{CBO}	Collector- Base Voltage		70	V
V_{CEO}	Collector-Emitter Voltage	: KSD794	45	V
		: KSD794A	60	V
V_{EBO}	Emitter- Base Voltage		5	V
I_C	Collector Current (DC)		3	A
I_{CP}	*Collector Current (Pulse)		5	A
I_B	Base Current (DC)		0.6	A
P_C	Collector Dissipation (T_a=25°C)		1	W
P_C	Collector Dissipation (T_C=25°C)		10	W
T_J	Junction Temperature		150	°C
T_{STG}	Storage Temperature		- 55 ~ 150	°C

* PW≤10ms, Duty Cycle≤50%

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CBO}	Collector Cut-off Current	V_{CB} = 45V, I_E = 0			1	μA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 3V, I_C = 0			1	μA
h_{FE1}	* DC Current Gain	V_{CE} = 5V, I_C = 20mA	30	70		
h_{FE2}		V_{CE} = 5V, I_C = 0.5A	60	100	320	
V_{CE}(Sat)	* Collector-Emitter Saturation Voltage	I_C =1.5A, I_B = 0.15A		0.3	2	V
V_{BE}(Sat)	* Base-Emitter Saturation Voltage	I_C =1.5A, I_B = 0.15A		0.8	2	V
f_T	Current Gain Bandwidth Product	V_{CE} = 5V, I_E = 0.1A		60		MHz
C_{ob}	Output Capacitance	V_{CB} = 10V, I_E = 0, f = 1MHz		40		pF

* Pulse Test: PW≤350μs, Duty Cycle≤2% Pulsed

h_{FE} Classificntion

Classification	R	O	Y
h_{FE2}	60 ~ 120	100 ~ 200	160 ~ 320

Typical Characteristics

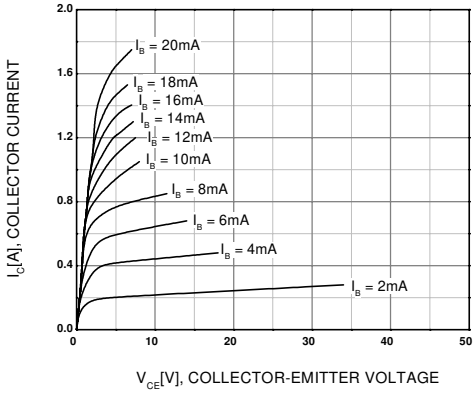


Figure 1. Static Characteristic

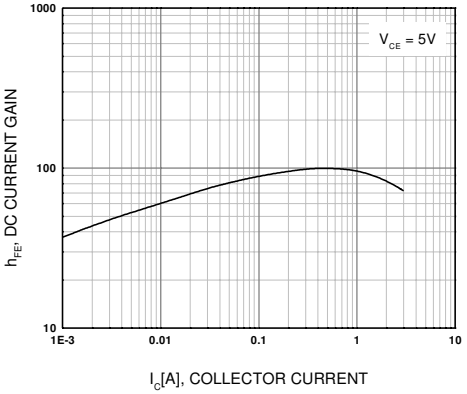


Figure 2. DC current Gain

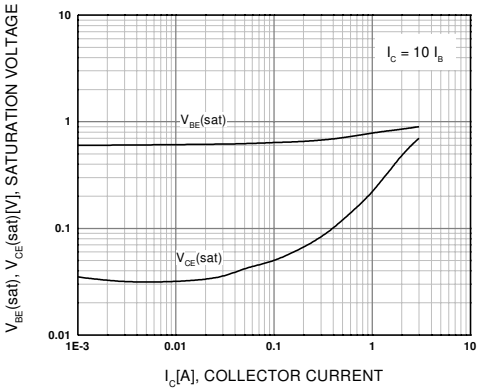


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

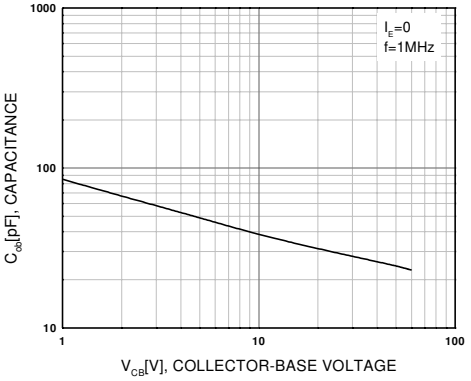


Figure 4. Collector Output Capacitance

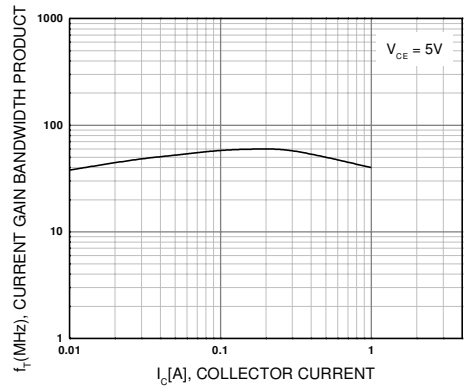


Figure 5. Current Gain Bandwidth Product

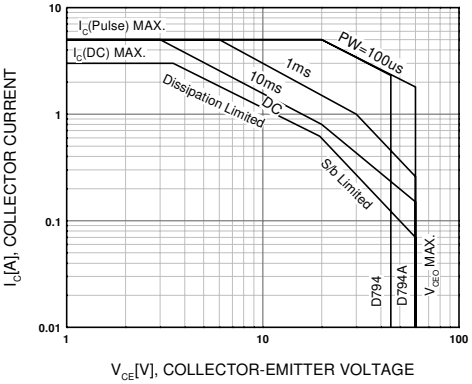


Figure 6. Safe Operating Area

Typical Characteristics (Continued)

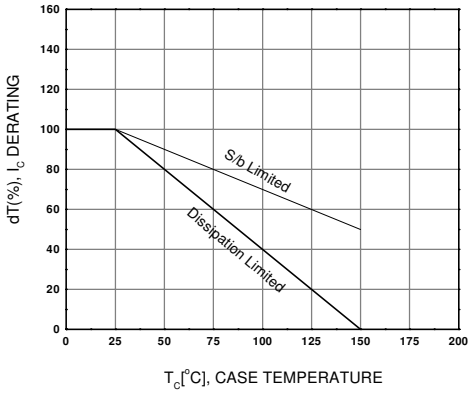


Figure 7. Derating Curve Of Safe Operating Areas

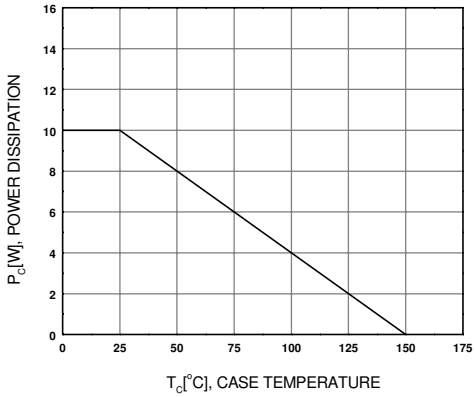
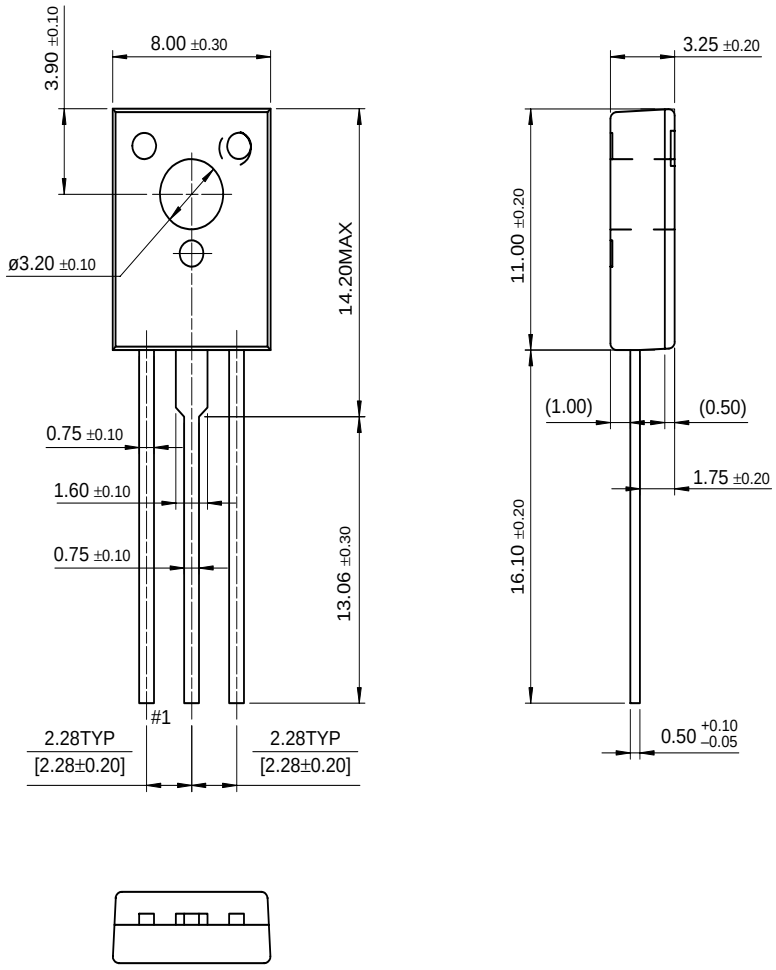


Figure 8. Power Derating

Package Demensions

TO-126



Dimensions in Millimeters

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