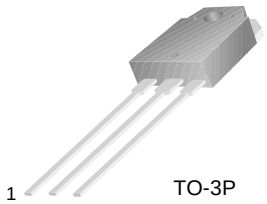
FAIRCHILD SEMICONDUCTOR™

KSD1047

Audio Power Amplifier
DC to DC Converter

- High Current Capability
- High Power Dissipation
- Complement to KSB817



1 TO-3P

1.Base 2.Collector 3.Emitter

NPN Planar Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	160	V
V_{CEO}	Collector-Emitter Voltage	140	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current (DC)	8	A
I_{CP}	*Collector Current (Pulse)	16	A
P_C	Collector Dissipation (T_C=25°C)	80	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 40 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 5mA, I_E = 0	160			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 10mA, R_{BE} =∞	140			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 5mA, I_C = 0	6			V
I_{CBO}	Collector Cut-off Current	V_{CB} = 80V, I_E = 0			0.1	mA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 4V, I_C = 0			0.1	mA
h_{FE1}	* DC Current Gain	V_{CE} = 5V, I_C = 1A	60		200	
h_{FE2}	DC Current Gain	V_{CE} = 5V, I_C = 6A	20			
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 5A, I_B = 0.5A			2.5	V
V_{BE}(on)	Base-Emitter ON Voltage	V_{CE} = 5V, I_C = 1A			1.5	V
f_T	Current Gain Bandwidth Product	V_{CE} = 5V, I_C = 1A		15		MHz
C_{ob}	Output Capacitance	V_{CB} = 10V, f = 1MHz		210		pF
t_{ON}	Turn ON Time	V_{CC} = 20V I_C = 1A = 10I_{B1} = -10I_{B2} R_L = 20Ω		0.26		µs
t_F	Fall Time			0.68		µs
t_{STG}	Storage Time			6.88		µs

* Pulse test: PW=20µs

* h_{FE} Classificntion

Classification	O	Y
h_{FE1}	60 ~ 120	100 ~ 200

Typical Characteristics

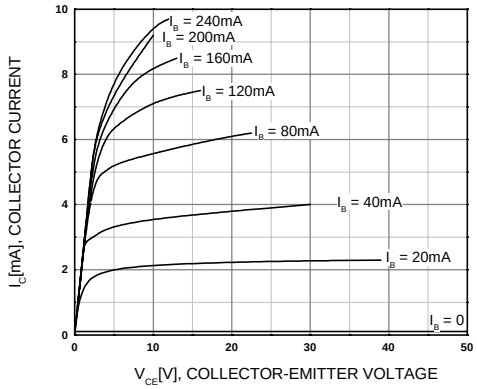


Figure 1. Static Characteristic

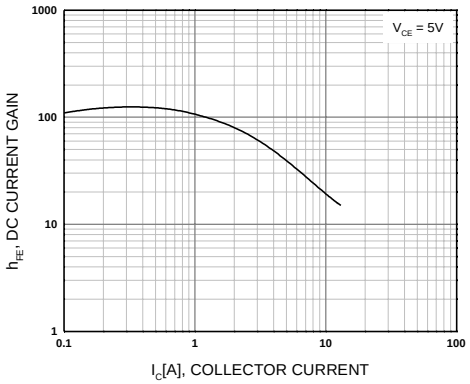


Figure 2. DC current Gain

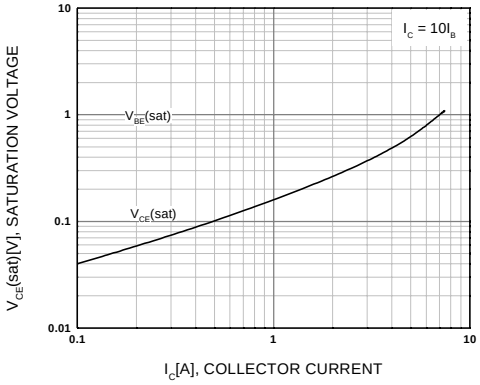


Figure 3. Collector-Emitter Saturation Voltage

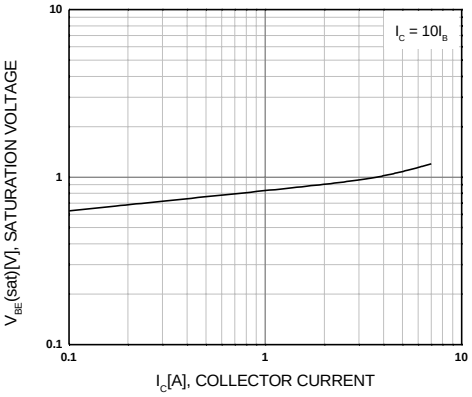


Figure 4. Base-Emitter Saturation Voltage

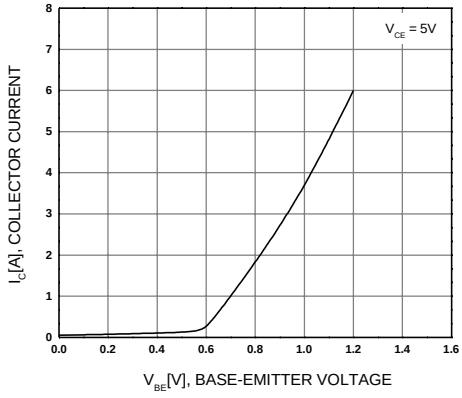


Figure 5. Base-Emitter On Voltage

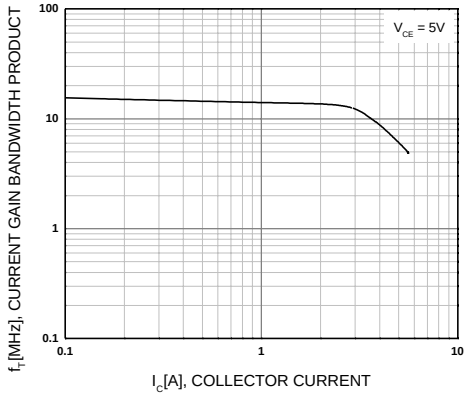


Figure 6. Current Gain Bandwidth Product

Typical Characteristics (Continued)

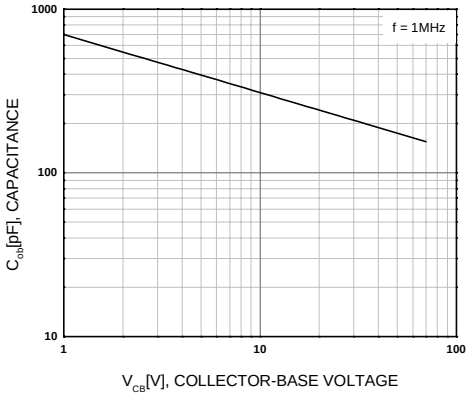


Figure 7. Collector Output Capacitance

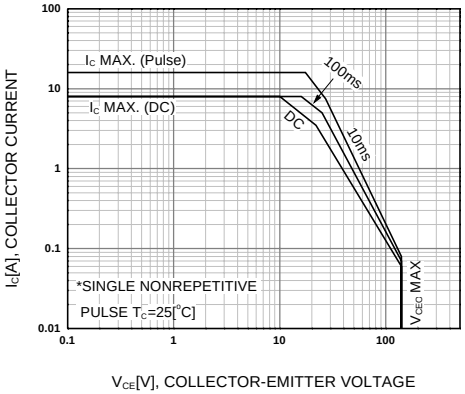


Figure 8. Safe Operating Area

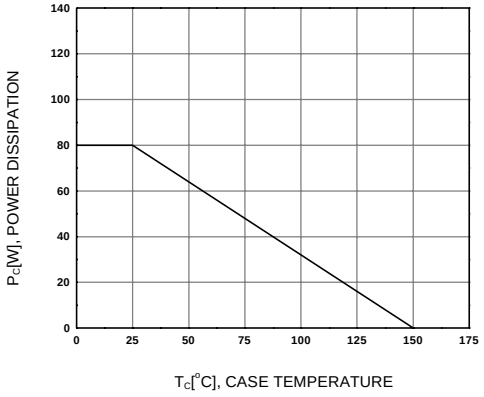
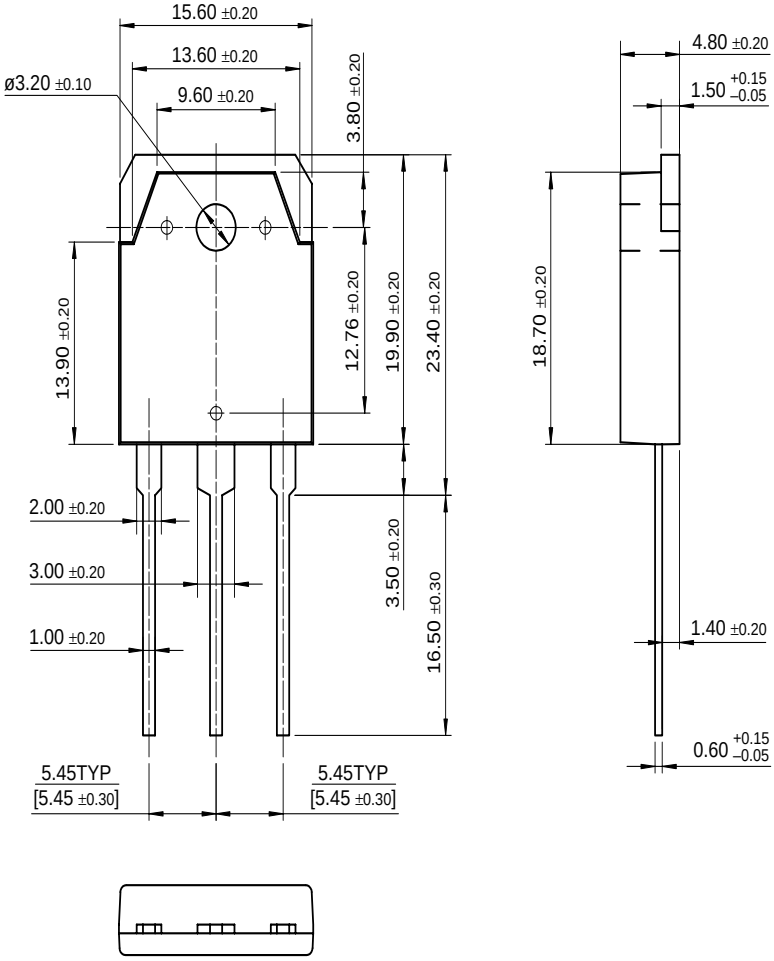


Figure 9. Collector Output Capacitance

Package Demensions

TO-3P



Dimensions in Millimeters

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