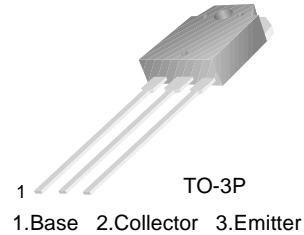


KSD1047

KSD1047

Audio Power Amplifier DC to DC Converter

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



NPN Planar Silicon Transistor

Absolute Maximum Ratings $T_C=25^\circ\text{C}$ 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 ($T_C=25^\circ\text{C}$)	80	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	- 40 ~ 150	$^\circ\text{C}$

Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

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

* Pulse test: $PW=20\mu\text{s}$

* h_{FE} Classification

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

Typical Characteristics

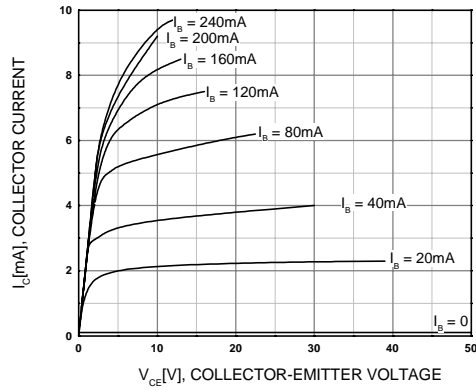


Figure 1. Static Characteristic

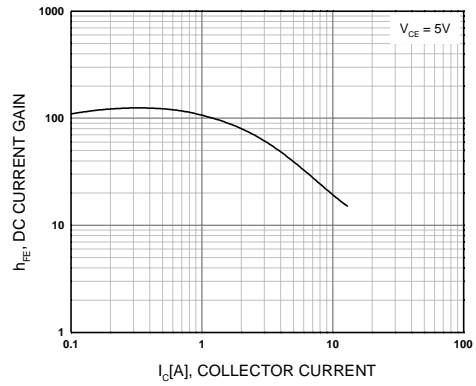


Figure 2. DC current Gain

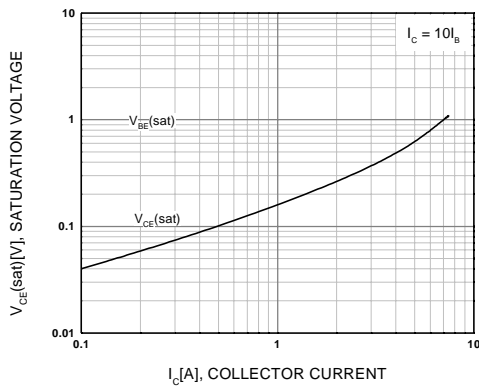


Figure 3. Collector-Emitter Saturation Voltage

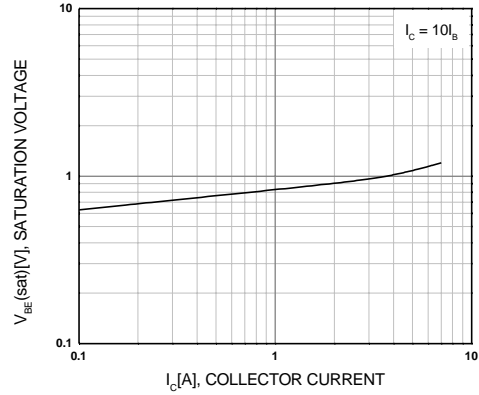


Figure 4. Base-Emitter Saturation Voltage

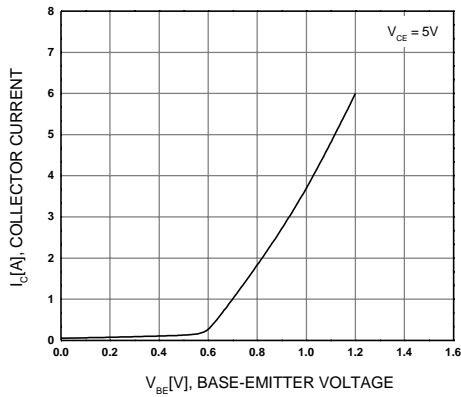


Figure 5. Base-Emitter On Voltage

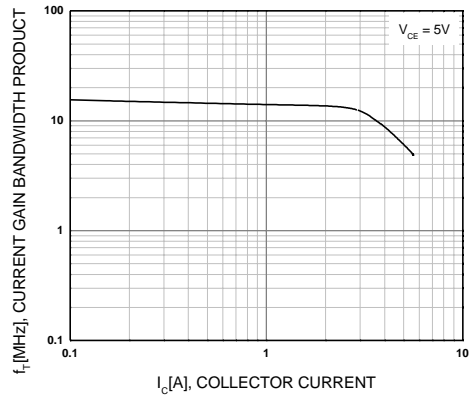


Figure 6. Current Gain Bandwidth Product

Typical Characteristics (Continued)

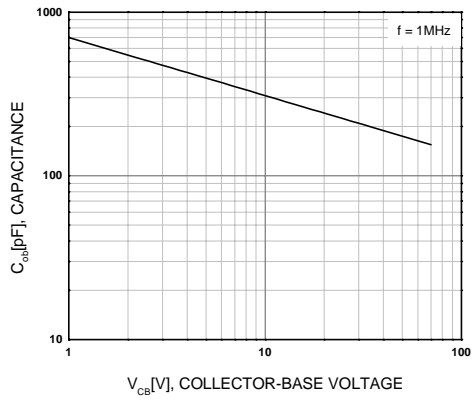


Figure 7. Collector Output Capacitance

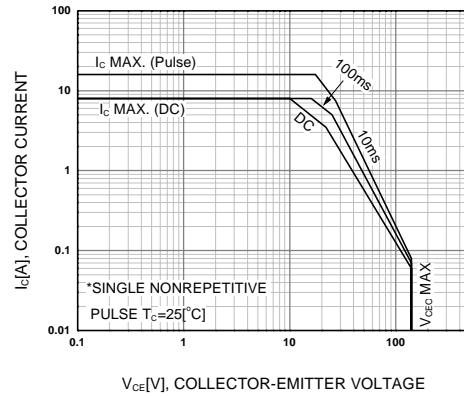


Figure 8. Safe Operating Area

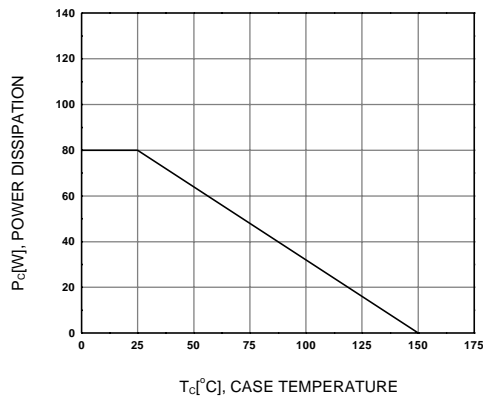
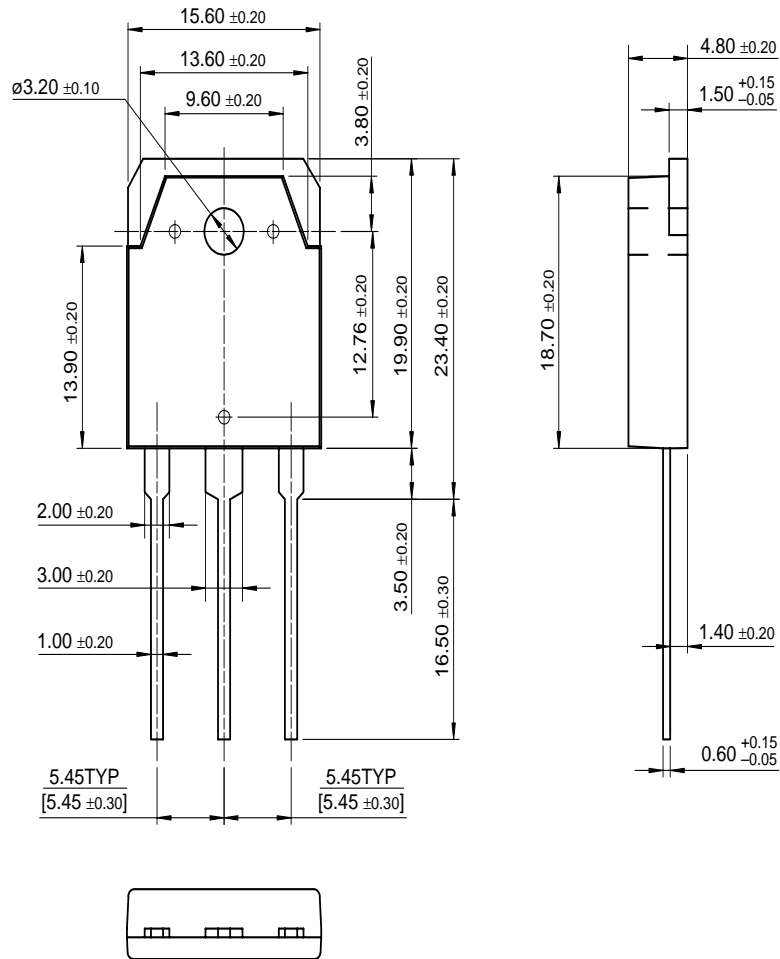


Figure 9. Collector Output Capacitance

Package Dimensions

TO-3P



Dimensions in Millimeters

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