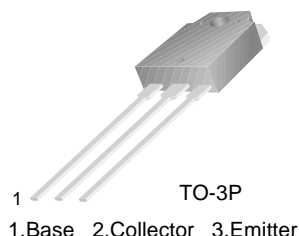


KSD1047

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	$V_{CC} = 20\text{V}$		0.26		μs
t_F	Fall Time	$I_C = 1\text{A} = 10I_{B1} = -10I_{B2}$		0.68		μs
t_{STG}	Storage Time	$R_L = 20\Omega$		6.88		μs

* Pulse test: PW=20 μs

* h_{FE} Classification

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

Typical Characteristics

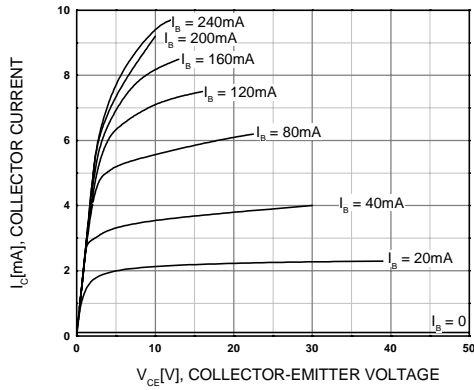


Figure 1. Static Characteristic

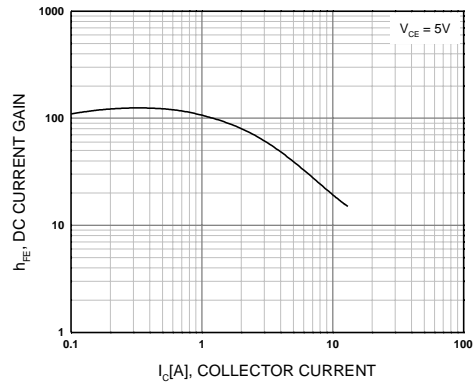


Figure 2. DC current Gain

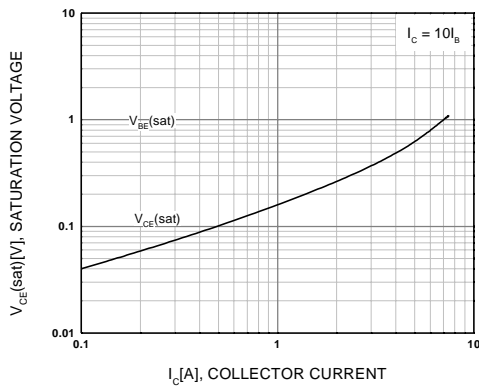


Figure 3. Collector-Emitter Saturation Voltage

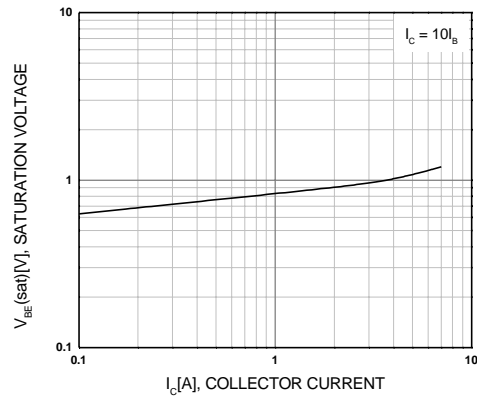


Figure 4. Base-Emitter Saturation Voltage

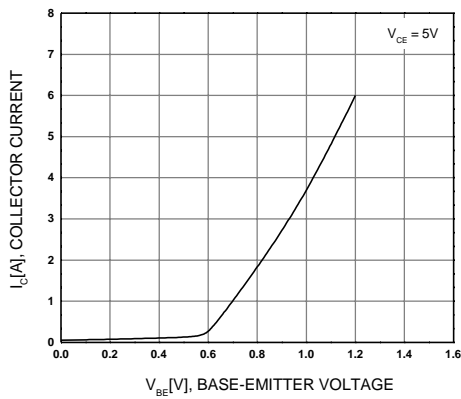


Figure 5. Base-Emitter On Voltage

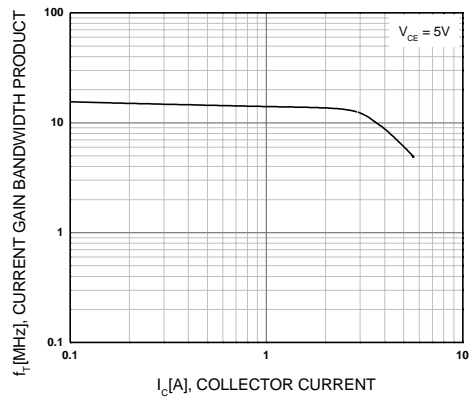


Figure 6. Current Gain Bandwidth Product

Typical Characteristics (Continued)

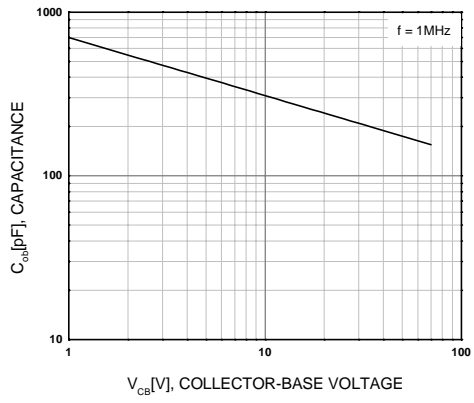


Figure 7. Collector Output Capacitance

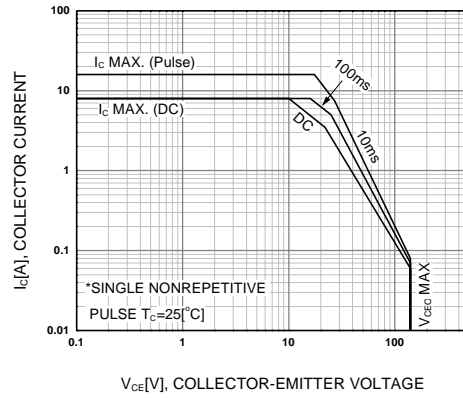


Figure 8. Safe Operating Area

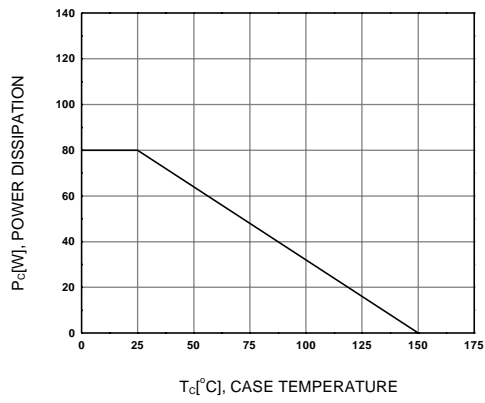
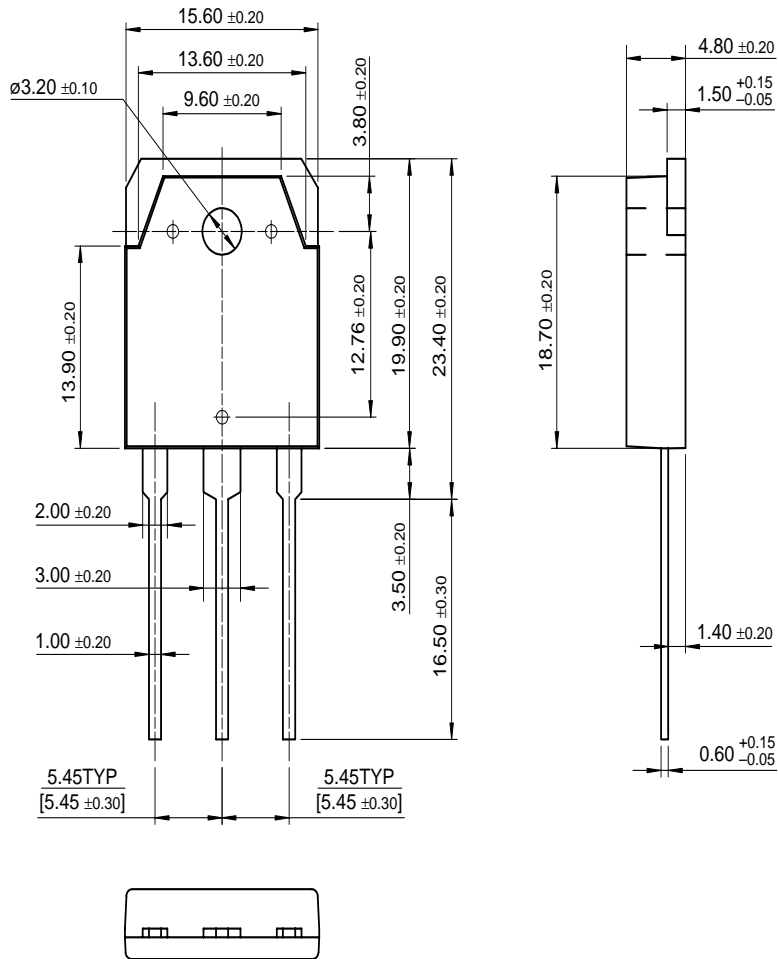


Figure 9. Collector Output Capacitance

Package Dimensions

KSD1047

TO-3P



Dimensions in Millimeters

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