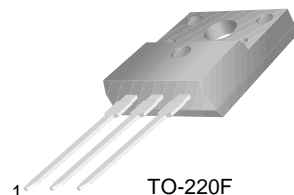


KSD1588

KSD1588

Low Frequency Power Amplifier

- Low Speed Switching
- Complement to KSB1097



TO-220F
1.Base 2.Collector 3.Emitter

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current (DC)	7	A
I_{CP}	*Collector Current (Pulse)	15	A
I_B	Base Current	3.5	A
P_C	Collector Dissipation ($T_a=25^\circ\text{C}$)	2	W
P_C	Collector Dissipation ($T_C=25^\circ\text{C}$)	30	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

* $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 10\%$

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

Symbol	Parameter	Test Condition	Min.	Max.	Units
I_{CBO}	Collector Cut-off Current	$V_{CB} = 80\text{V}$, $I_E = 0$		10	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 5\text{V}$, $I_C = 0$		10	μA
h_{FE1}	*DC Current Gain	$V_{CE} = 1\text{V}$, $I_C = 3\text{A}$	40	200	
h_{FE2}		$V_{CE} = 1\text{V}$, $I_C = 5\text{A}$	20		
$V_{CE(sat)}$	*Collector-Emitter Saturation Voltage	$I_C = 5\text{A}$, $I_B = 0.5\text{A}$		0.5	V
$V_{BE(sat)}$	*Base-Emitter Saturation Voltage	$I_C = 5\text{A}$, $I_B = 0.5\text{A}$		1.5	V

* Pulse Test: $PW \leq 350\mu\text{s}$, Duty Cycle $\leq 2\%$

h_{FE1} Classification

Classification	R	O	Y
h_{FE1}	40 ~ 80	80 ~ 120	100 ~ 200

Typical Characteristics

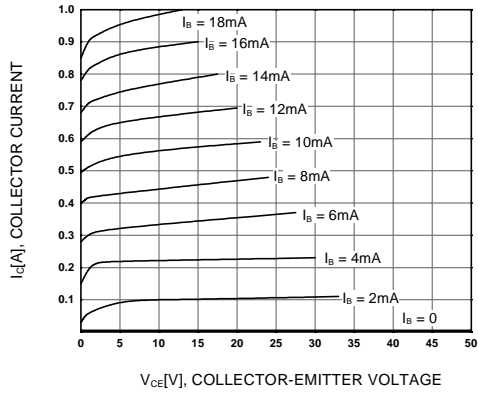


Figure 1. Static Characteristic

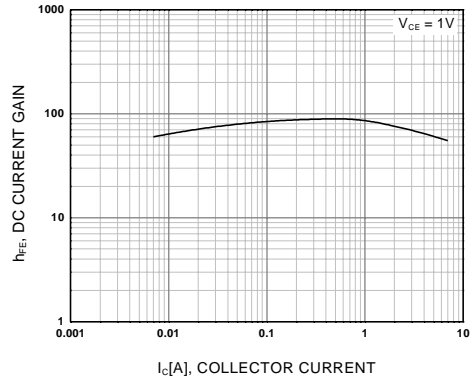


Figure 2. DC current Gain

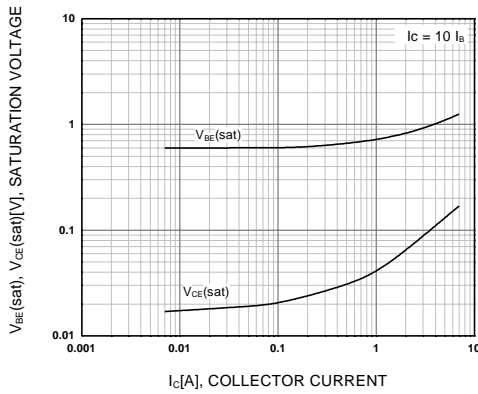


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

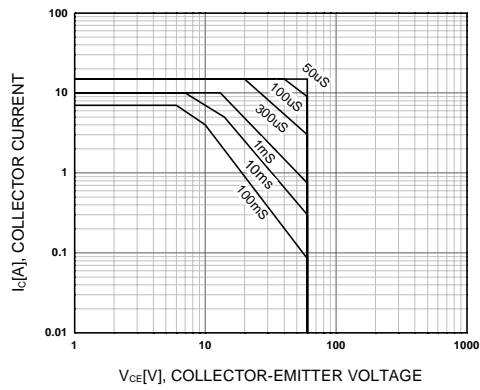


Figure 4. Safe Operating Area

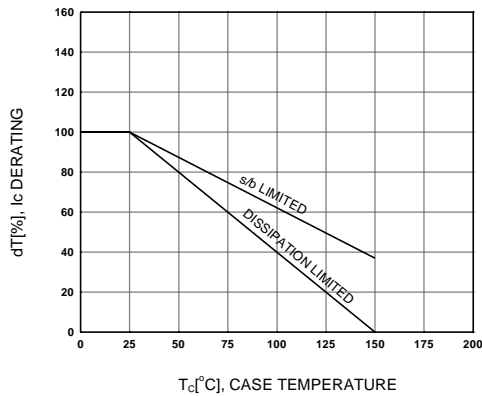


Figure 5. Derating Curve Safe Operating Area

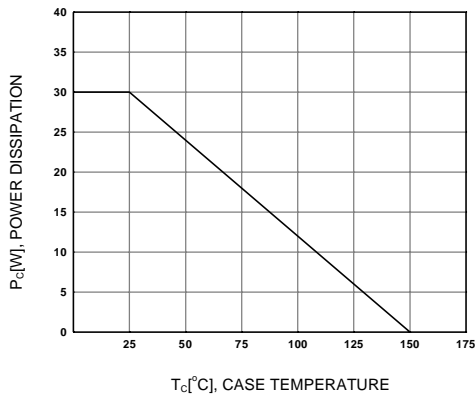
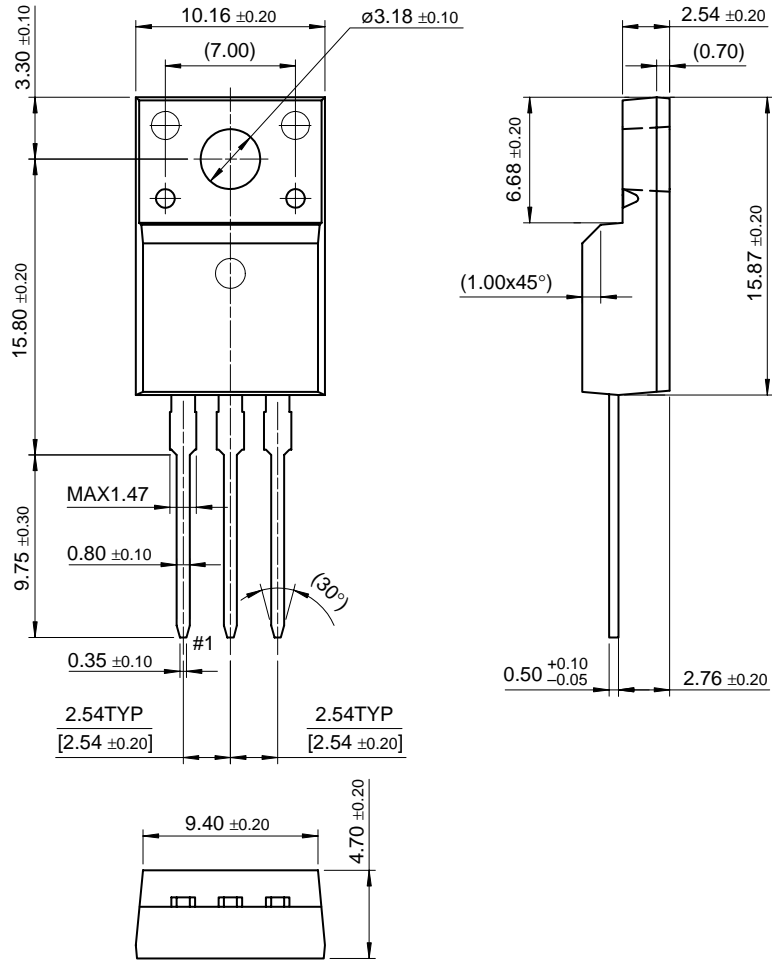


Figure 6. Power Derating

Package Dimensions

KSD1588

TO-220F



Dimensions in Millimeters

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KSD1588

NPN Epitaxial Silicon Transistor

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Applications

Low Frequency Power Amplifier

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Product status/pricing/package

Product	Product status	Pricing*	Package type	Leads	Packing method
KSD1588OTU	Full Production	\$0.53	TO-220F	3	RAIL
KSD1588YTU	Full Production	\$0.53	TO-220F	3	RAIL
KSD1588RTU	Full Production	\$0.53	TO-220F	3	RAIL

* 1,000 piece Budgetary Pricing

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