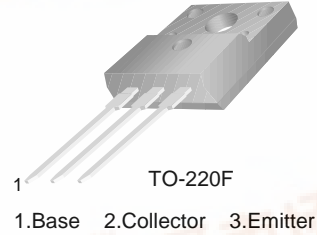


FAIRCHILD
SEMICONDUCTOR™

KSD1588

Low Frequency Power Amplifier

- Low Speed Switching
- Complement to KSB1097



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 $\leq 10\%$

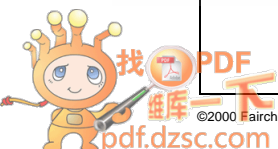
Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

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} h_{FE2}	*DC Current Gain	$V_{CE} = 1\text{V}, I_C = 3\text{A}$ $V_{CE} = 1\text{V}, I_C = 5\text{A}$	40 20	200	
$V_{CE(sat)}$	*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

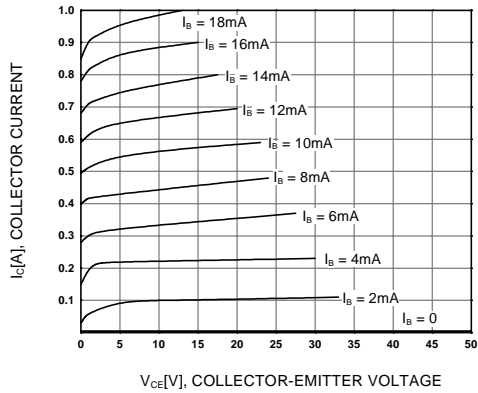


Figure 1. Static Characteristic

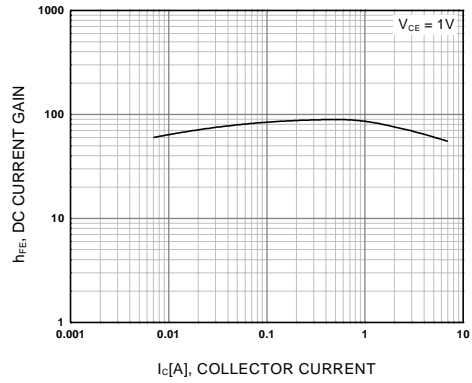


Figure 2. DC current Gain

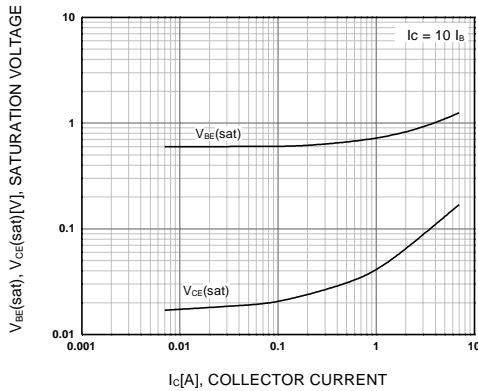


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

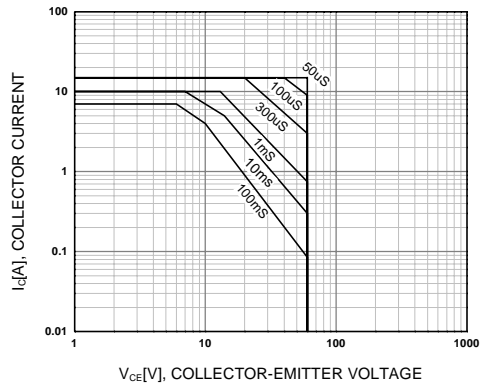


Figure 4. Safe Operating Area

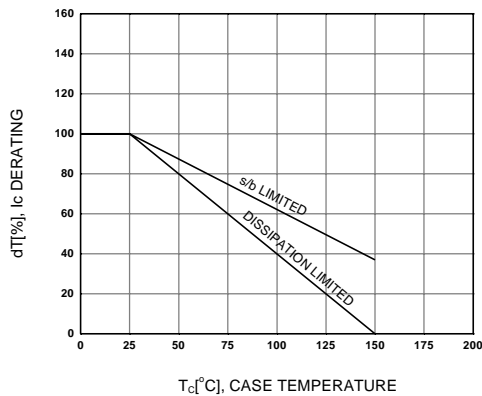


Figure 5. Derating Curve Safe Operating Area

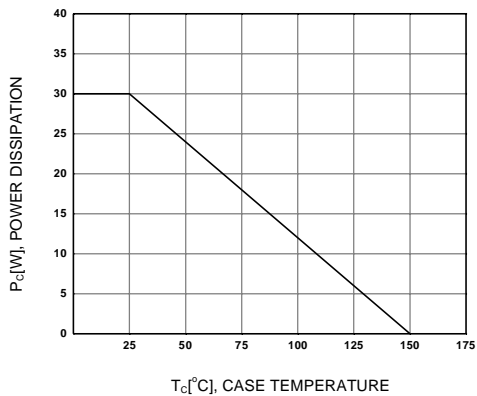
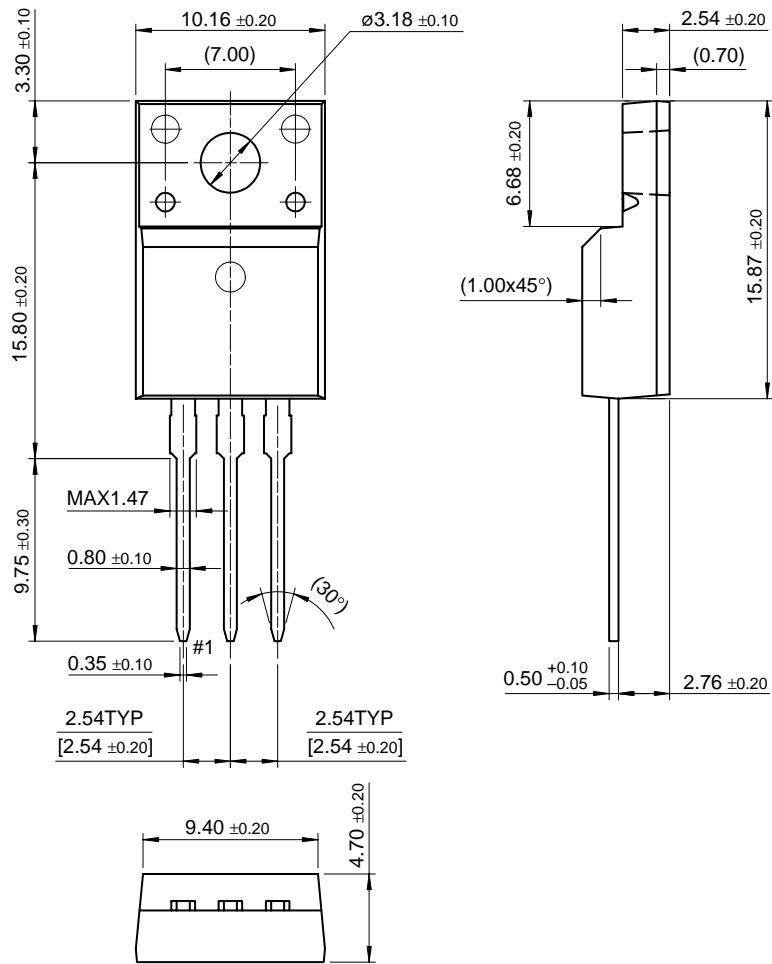


Figure 6. Power Derating

Package Dimensions

KSD1588

TO-220F



Dimensions in Millimeters

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CROSSVOLT™	POPT™	UHC™
E ² CMOS™	PowerTrench®	VCX™
FACT™	QFET™	
FACT Quiet Series™	QST™	
FAST®	Quiet Series™	
FASTr™	SuperSOT™-3	
GTO™	SuperSOT™-6	

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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