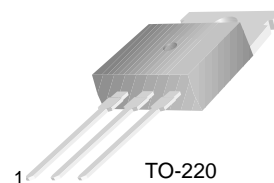


# KSD568/569

## Low Frequency Power Amplifier

- Low Speed Switching Industrial Use
- Complement to KSB707/708



TO-220  
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	: KSD568	60
		: KSD569	80
$V_{EBO}$	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 ( $T_C=25^\circ\text{C}$ )	40	W
$P_C$	Collector Dissipation ( $T_a=25^\circ\text{C}$ )	1.5	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	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 5\text{V}$ , $I_C = 0$		10	$\mu\text{A}$
$h_{FE1}$ $h_{FE2}$	*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  $\leq 2\%$

### $h_{FE}$ Classification

Classification	R	O	Y
$h_{FE1}$	40 ~ 80	60 ~ 120	100 ~ 200

# Typical Characteristics

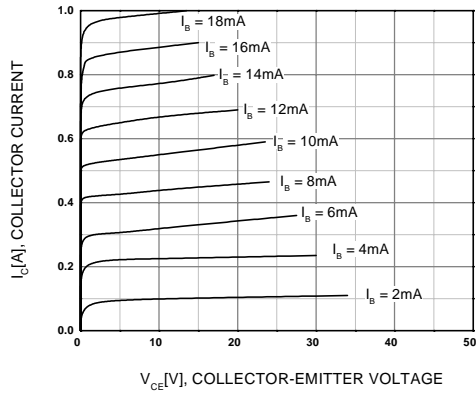


Figure 1. Static Characteristic

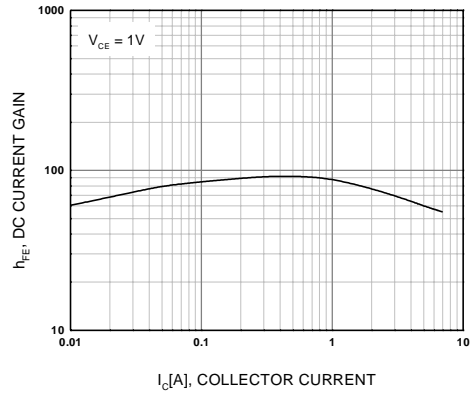


Figure 2. DC current Gain

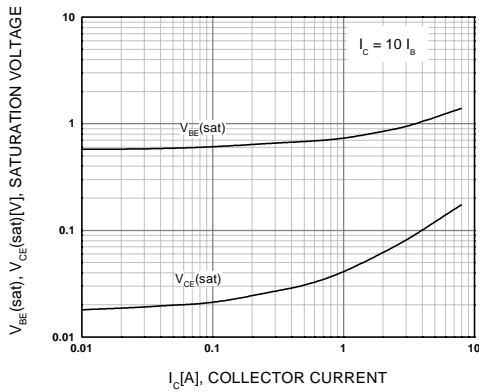


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

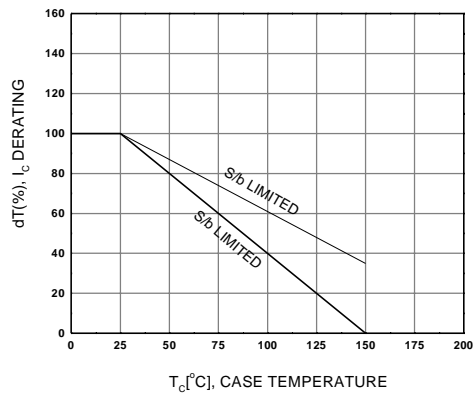


Figure 4. Derating Curve Of Safe Operating Areas

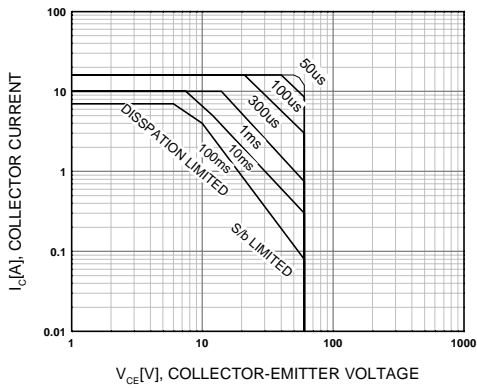


Figure 5. Forward Bias Safe Operating Area

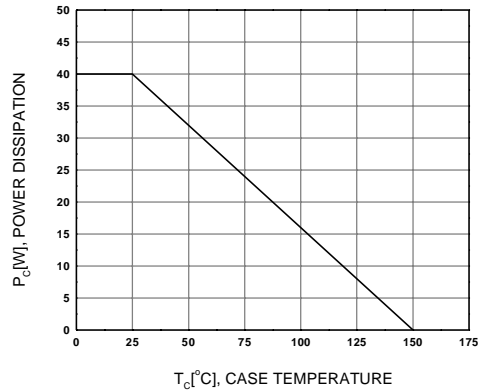


Figure 6. Power Derating

# Package Dimensions

KSD568/569

## TO-220



Dimensions in Millimeters

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CoolFET™	MICROWIRE™	TinyLogic™
CROSSVOLT™	POP™	UHC™
E <sup>2</sup> CMOS™	PowerTrench®	VCX™
FACT™	QFET™	
FACT Quiet Series™	QS™	
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