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# KSB596

KSB596

## Power Amplifier Applications

- Complement to KSD526



1.Base 2.Collector 3.Emitter

## PNP Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	- 80	V
$V_{CEO}$	Collector-Emitter Voltage	- 80	V
$V_{EBO}$	Emitter-Base Voltage	- 5	V
$I_C$	Collector Current(DC)	- 4	A
$I_B$	Base Current	- 0.4	A
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	30	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^\circ\text{C}$

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = - 50\text{mA}, I_B = 0$	- 80			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = - 10\text{mA}, I_C = 0$	- 5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = - 80\text{V}, I_E = 0$			- 70	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = - 5\text{V}, I_C = 0$			- 100	$\mu\text{A}$
$h_{FE1}$ $h_{FE2}$	DC Current Gain	$V_{CE} = - 5\text{V}, I_C = - 0.5\text{A}$ $V_{CE} = - 5\text{V}, I_C = - 3\text{A}$	40 15		240	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = - 3\text{A}, I_B = - 0.3\text{A}$		- 1	- 1.7	V
$V_{BE(on)}$	Base-Emitter ON Voltage	$V_{CE} = - 5\text{V}, I_C = - 3\text{A}$		- 1	- 1.5	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = - 5\text{V}, I_C = - 0.5\text{A}$	3			MHz
$C_{ob}$	Output Capacitance	$V_{CB} = - 10\text{V}, I_E = 0$ $f = 1\text{MHz}$		130		pF

### $h_{FE}$ Classification

Classification	R	O	Y
$h_{FE1}$	40 ~ 80	70 ~ 140	120 ~ 240

# Typical Characteristics

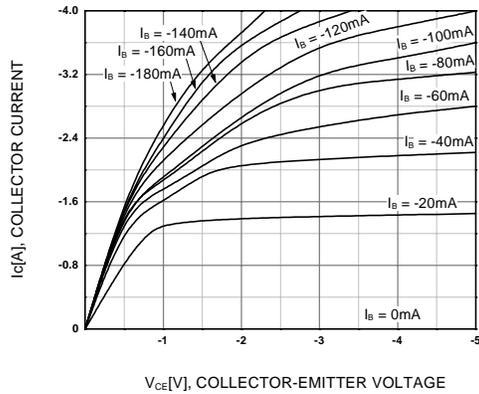


Figure 1. Static Characteristic

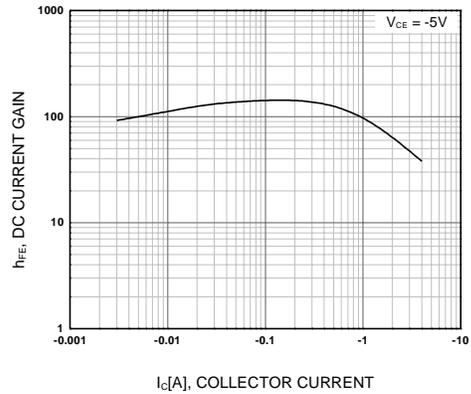


Figure 2. DC current Gain

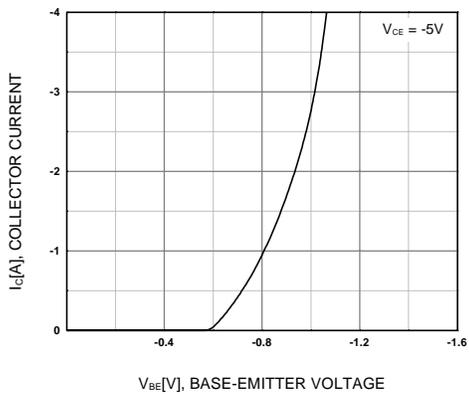


Figure 3. Base-Emitter Saturation Voltage

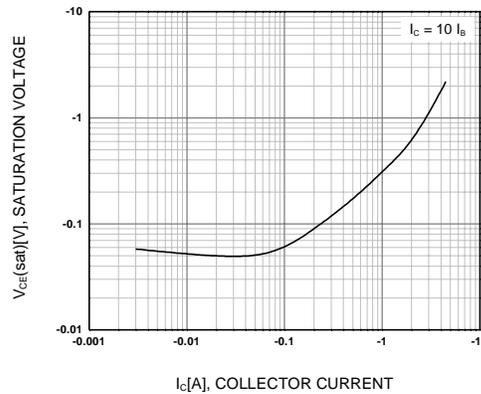


Figure 4. Collector-Emitter Saturation Voltage

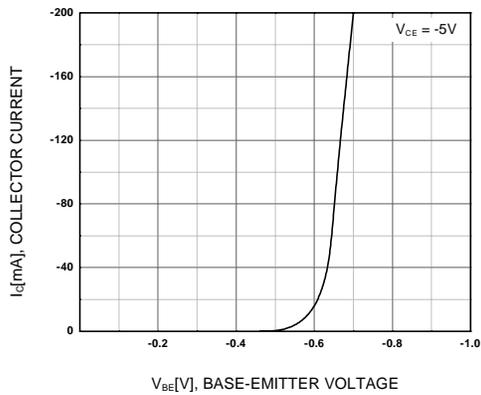


Figure 5. Base-Emitter On Voltage

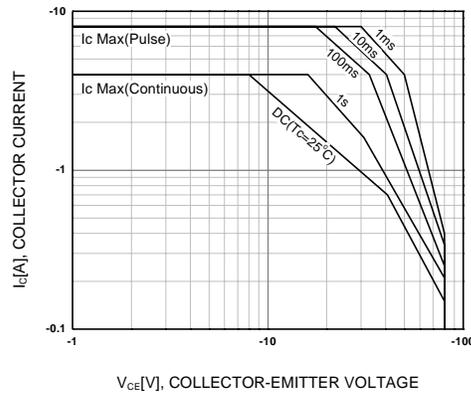


Figure 6. Safe Operating Area

# Typical Characteristics (Continued)

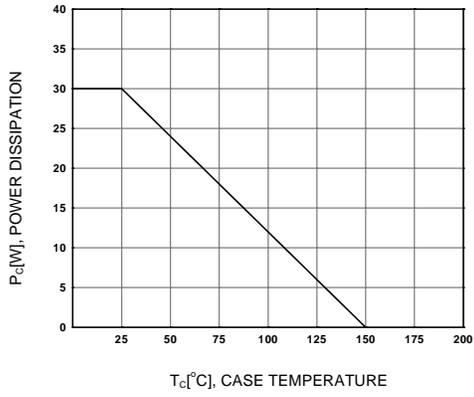
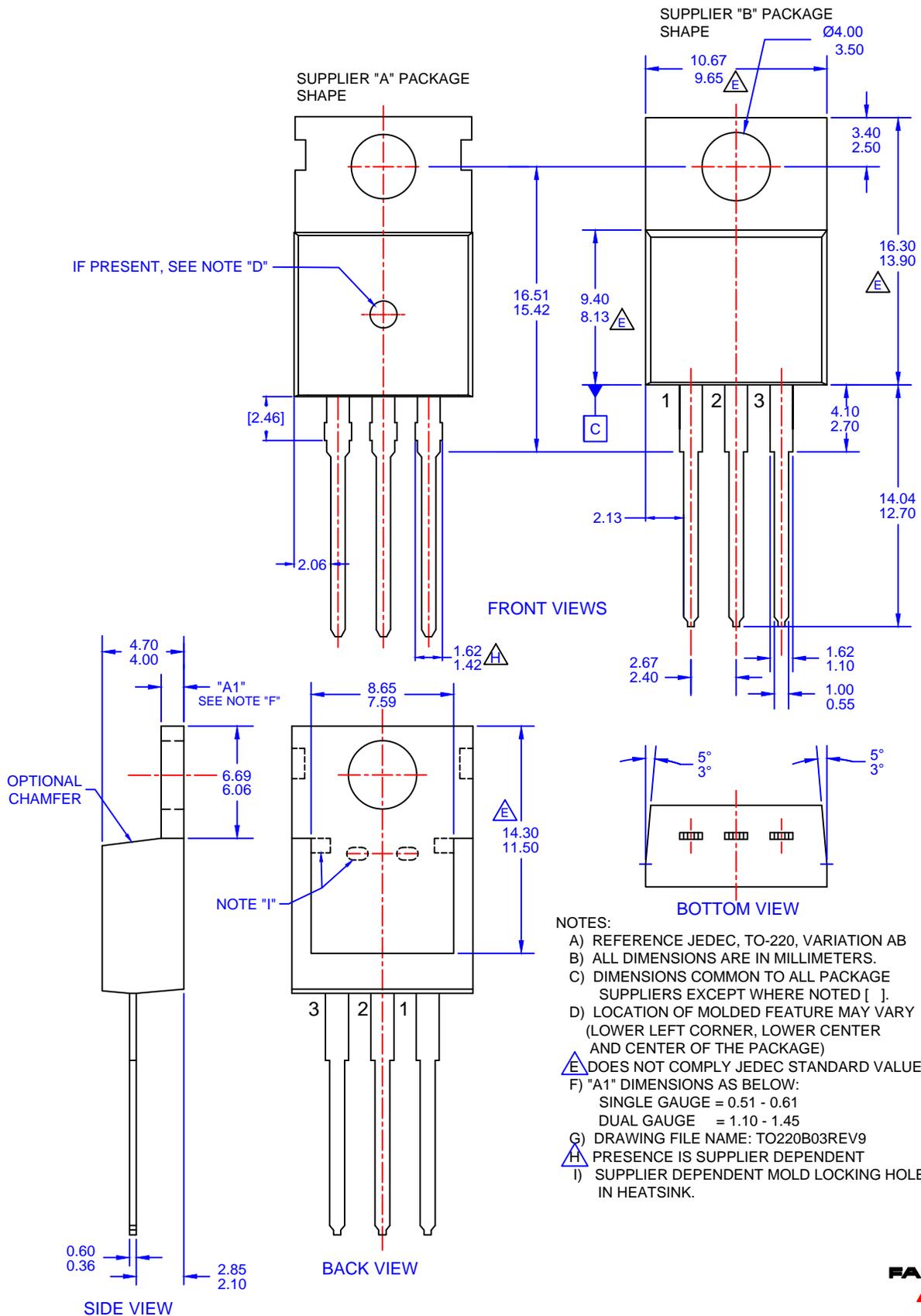


Figure 1. Power Derating



- NOTES:
- A) REFERENCE JEDEC, TO-220, VARIATION AB
  - B) ALL DIMENSIONS ARE IN MILLIMETERS.
  - C) DIMENSIONS COMMON TO ALL PACKAGE SUPPLIERS EXCEPT WHERE NOTED [ ].
  - D) LOCATION OF MOLDED FEATURE MAY VARY (LOWER LEFT CORNER, LOWER CENTER AND CENTER OF THE PACKAGE)
  - E) DOES NOT COMPLY JEDEC STANDARD VALUE.
  - F) "A1" DIMENSIONS AS BELOW:  
 SINGLE GAUGE = 0.51 - 0.61  
 DUAL GAUGE = 1.10 - 1.45
  - G) DRAWING FILE NAME: TO220B03REV9
  - H) PRESENCE IS SUPPLIER DEPENDENT
  - I) SUPPLIER DEPENDENT MOLD LOCKING HOLES IN HEATSINK.

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