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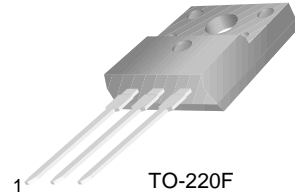


# KSB1015

KSB1015

## Low Frequency Power Amplifier

- Low Collector Emitter Saturation Voltage
- Complement to KSD1406



TO-220F  
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	- 60	V
$V_{CEO}$	Collector-Emitter Voltage	- 60	V
$V_{EBO}$	Emitter-Base Voltage	- 7	V
$I_C$	Collector Current(DC)	- 3	A
$I_B$	Base Current	- 0.5	A
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	25	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	$I_C = - 50\text{mA}, I_B = 0$	- 60			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = - 60\text{V}, I_E = 0$			- 100	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = - 7\text{V}, I_C = 0$			- 100	$\mu\text{A}$
$h_{FE1}$ $h_{FE2}$	DC Current Gain	$V_{CE} = - 5\text{V}, I_C = - 0.5\text{A}$ $V_{CE} = - 5\text{V}, I_C = - 3\text{A}$	60 20		200	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = - 3\text{A}, I_B = - 0.3\text{A}$		- 0.5	- 1	V
$V_{BE(on)}$	Base-Emitter ON Voltage	$V_{CE} = - 5\text{V}, I_C = - 0.5\text{A}$		- 0.7	- 1	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = - 5\text{V}, I_C = - 0.5\text{A}$		9		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = - 10\text{V}, f = 1\text{MHz}$		150		pF
$t_{ON}$	Turn ON Time	$V_{CC} = - 30\text{V}, I_C = - 1\text{A}$		0.4		$\mu\text{s}$
$t_{STG}$	Storage Time	$I_{B1} = -I_{B2} = -0.2\text{A}$		1.7		$\mu\text{s}$
$t_F$	Fall Time	$R_L = 30\Omega$		0.5		$\mu\text{s}$

## $h_{FE}$ Classification

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

# Typical Characteristics

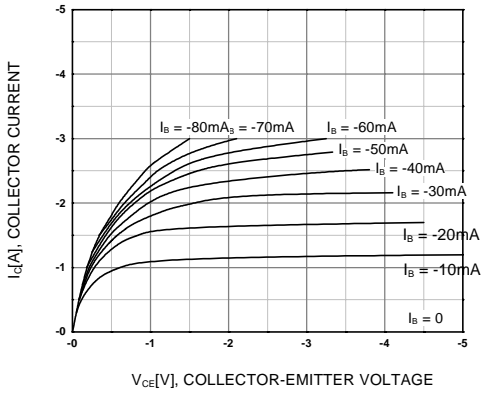


Figure 1. Static Characteristic

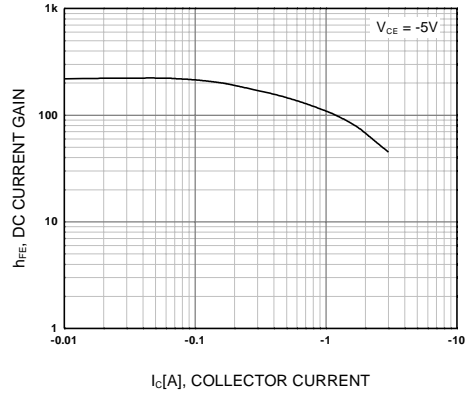


Figure 2. DC current Gain

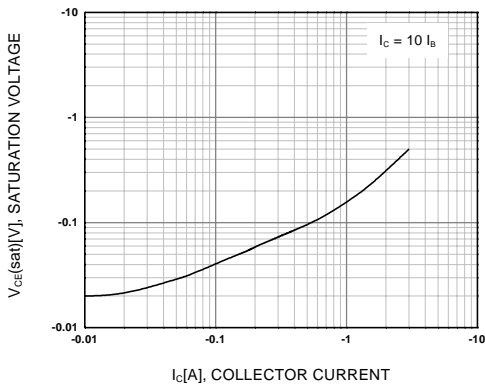


Figure 3. Collector-Emitter Saturation Voltage

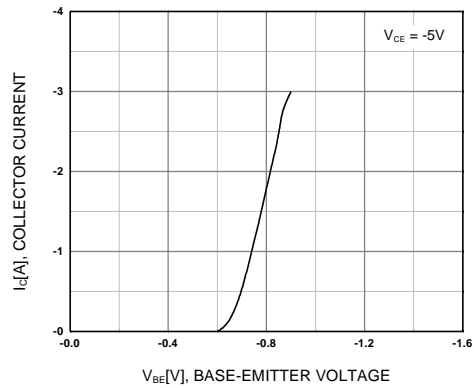


Figure 4. Base-Emitter On Voltage

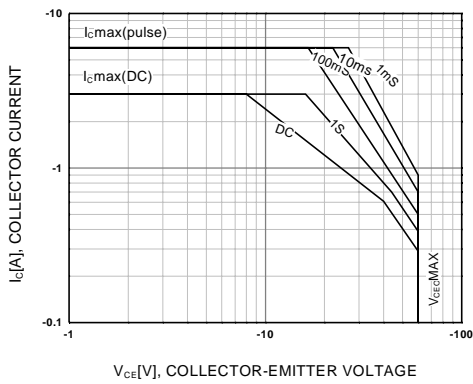


Figure 5. Safe Operating Area

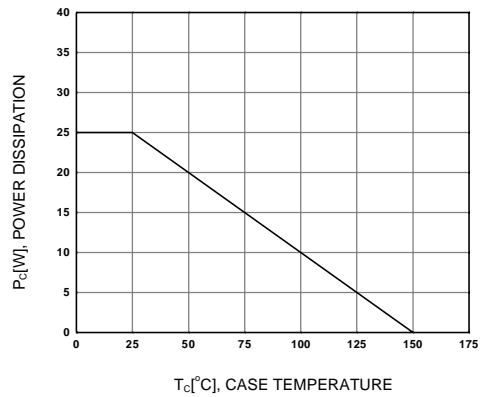
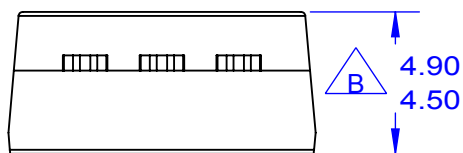
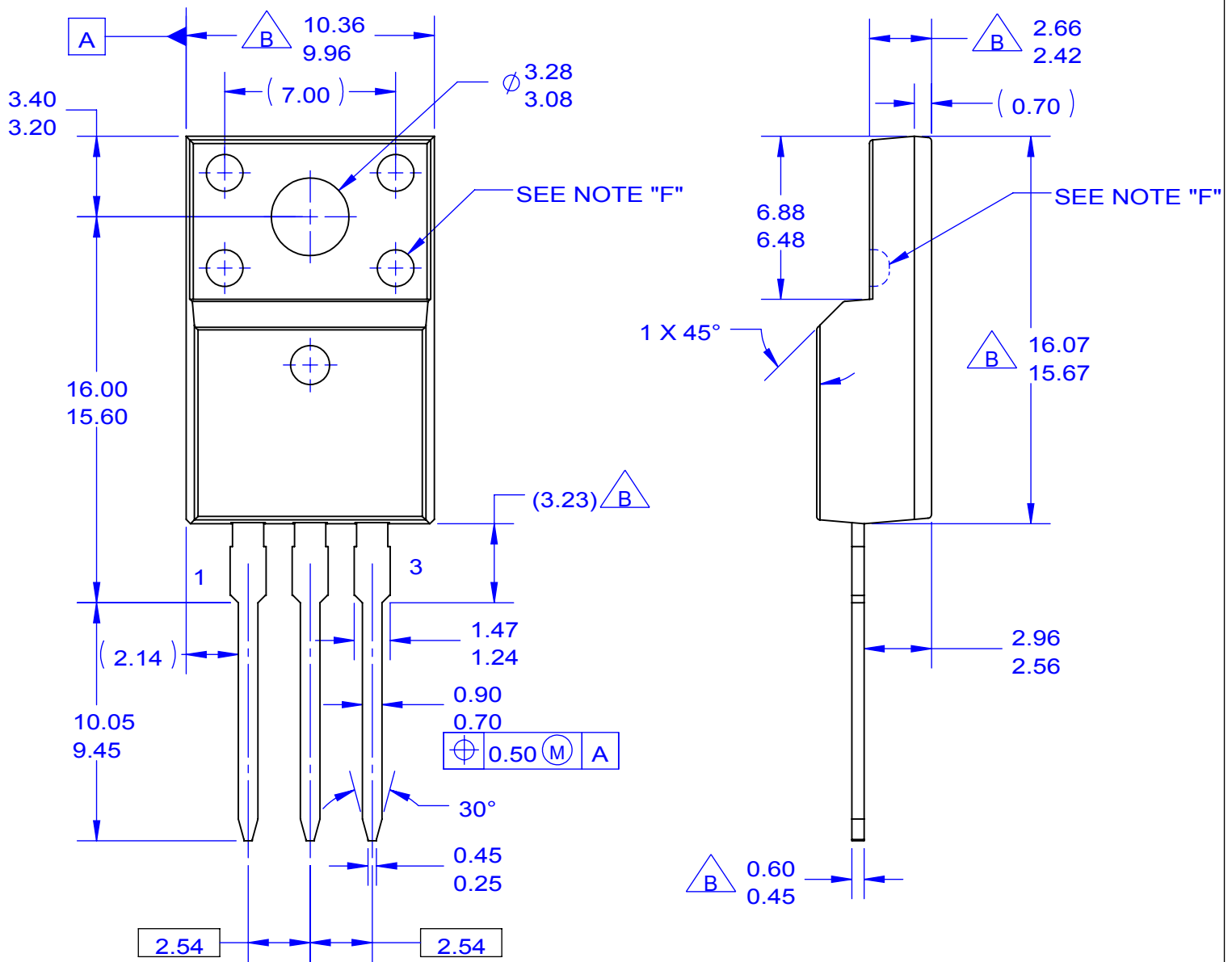


Figure 6. Power Derating



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NOTES:

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- B. DOES NOT COMPLY EIAJ STD. VALUE.
- C. ALL DIMENSIONS ARE IN MILLIMETERS.
- D. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.
- E. DIMENSION AND TOLERANCE AS PER ASME Y14.5-1994.
- F. OPTION 1 - WITH SUPPORT PIN HOLE.  
OPTION 2 - NO SUPPORT PIN HOLE.
- G. DRAWING FILE NAME: TO220M03REV5

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