

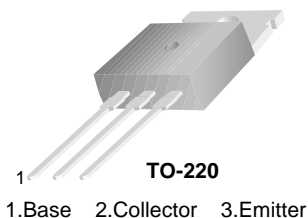


August 2009

# KSA473 PNP Epitaxial Silicon Transistor

## Features

- Low Frequency Power Amplifier, Power Regulator
- Collector Current :  $I_C = -3A$
- Collector Dissipation :  $P_C = 10W$  ( $T_C=25^\circ C$ )
- Complement to KSC1173



## Absolute Maximum Ratings \* $T_A = 25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	- 30	V
$V_{CEO}$	Collector-Emitter Voltage	- 30	V
$V_{EBO}$	Emitter-Base Voltage	- 5	V
$I_C$	Collector Current	- 3	A
$P_C$	Collector Dissipation ( $T_C=25^\circ C$ )	10	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{STG}$	Storage Temperature	- 55 to + 150	$^\circ C$

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = -500\mu\text{A}, I_E = 0$	-30			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -10\text{mA}, I_B = 0$	-30			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = -1\text{mA}, I_C = 0$	-5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -20\text{V}, I_E = 0$			-1.0	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -5\text{V}, I_C = 0$			-1.0	$\mu\text{A}$
$h_{FE1}$ $h_{FE2}$	DC Current Gain	$V_{CE} = -2\text{V}, I_C = -0.5\text{A}$ $V_{CE} = -2\text{V}, I_C = -2.5\text{A}$	70 25		240	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -2\text{A}, I_B = -0.2\text{A}$		-0.3	-0.8	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = -2\text{V}, I_C = -0.5\text{A}$		-0.75	-1.0	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -2\text{V}, I_C = -0.5\text{A}$		100		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = -10\text{V}, I_E = 0,$ $f = 1\text{MHz}$		40		pF

 **$h_{FE}$  Classification**

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

## Typical Performance Characteristics

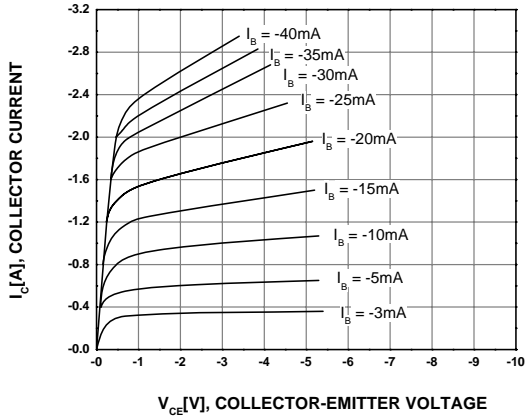


Figure 1. Static Characteristic

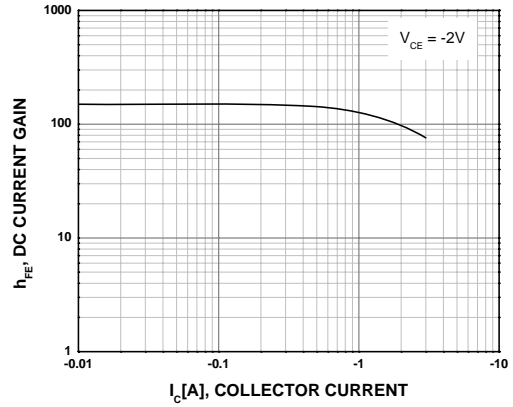


Figure 2. DC current Gain

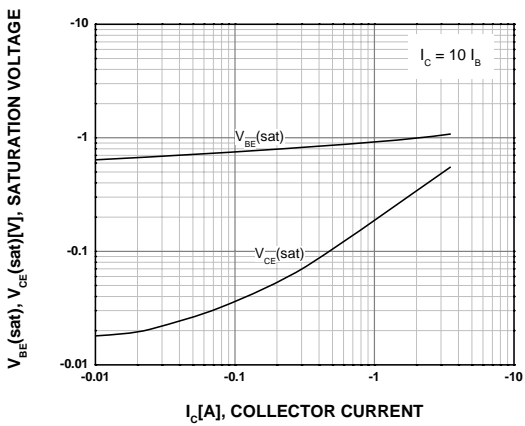


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

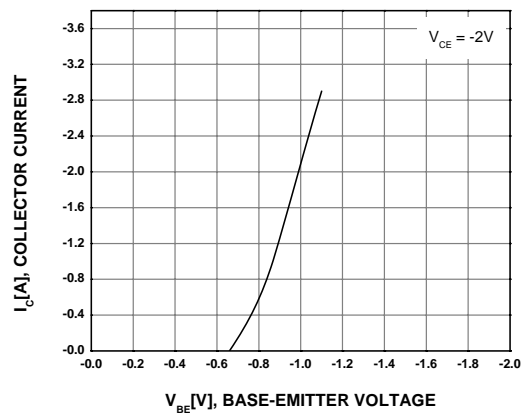


Figure 4. Base-Emitter On Voltage

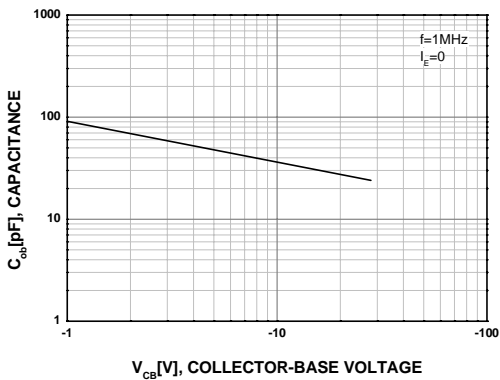


Figure 5. Collector Output Capacitance

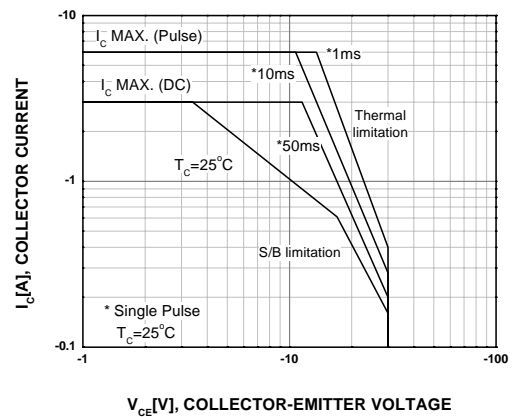


Figure 6. Safe Operating Area

### Typical Performance Characteristics

(Continued)

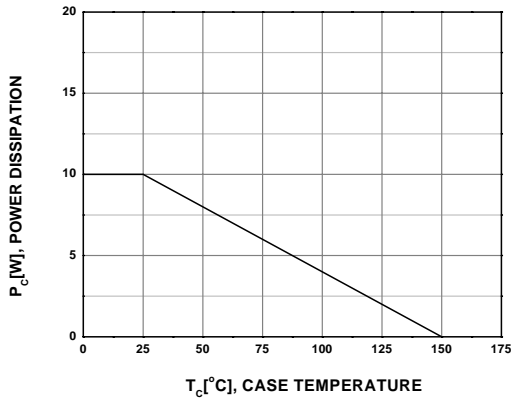
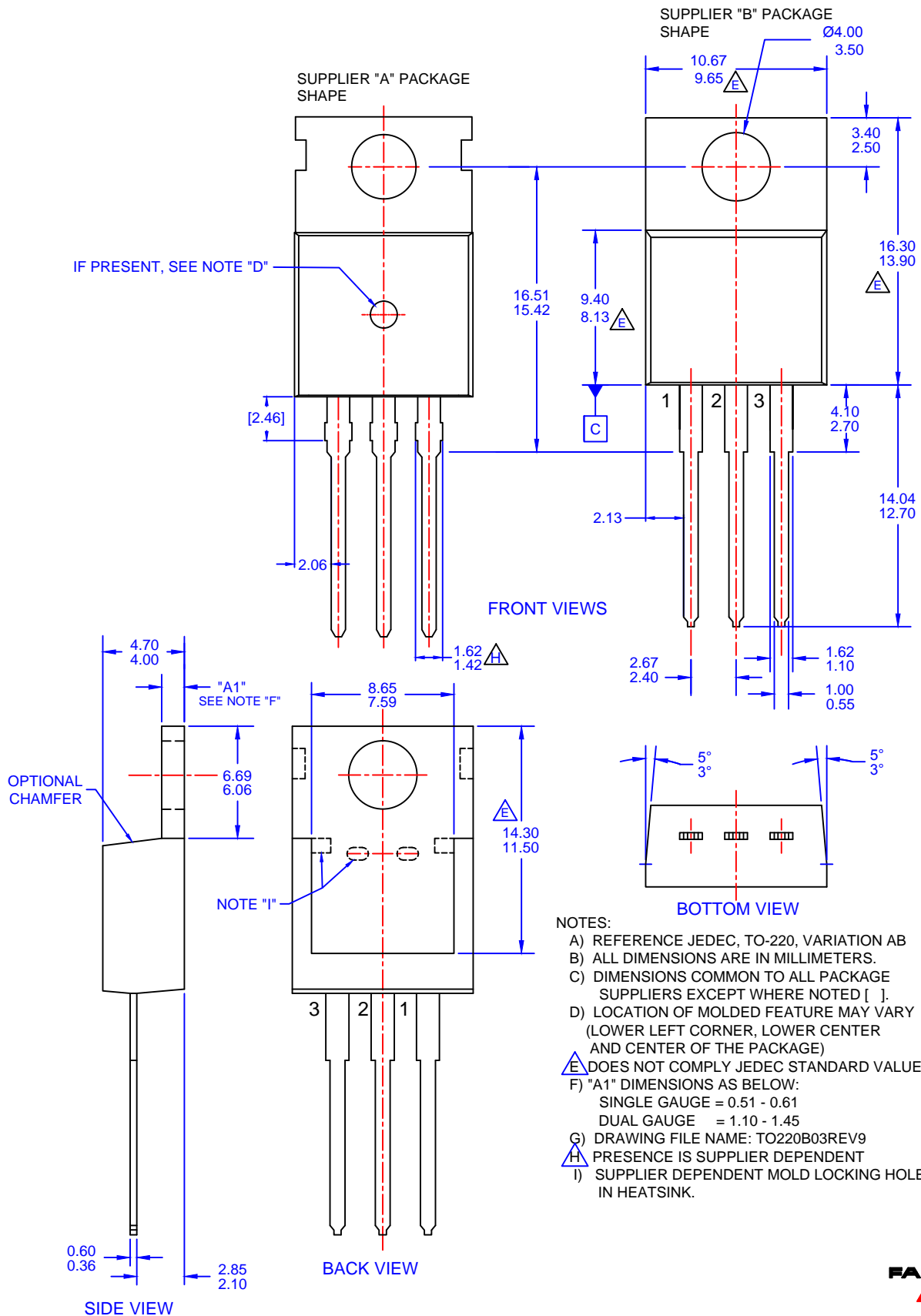


Figure 7. Power Derating





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