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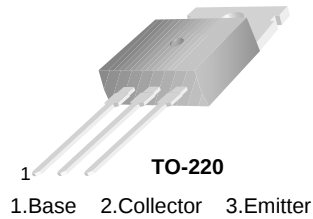
August 2009

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	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = -5\text{V}, I_C = 0$			-1.0	μA
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

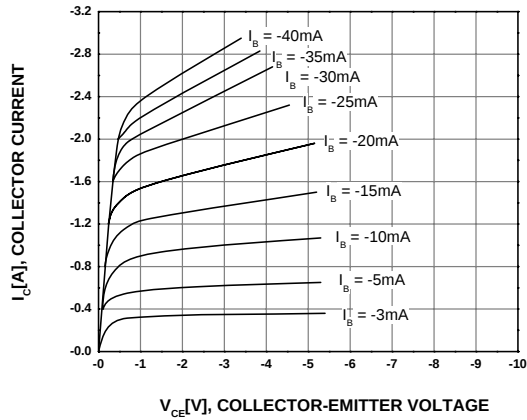


Figure 1. Static Characteristic

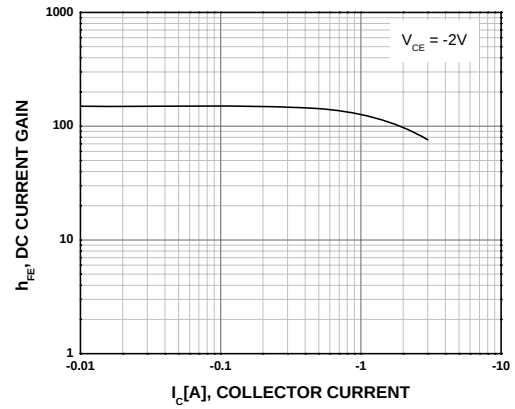


Figure 2. DC current Gain

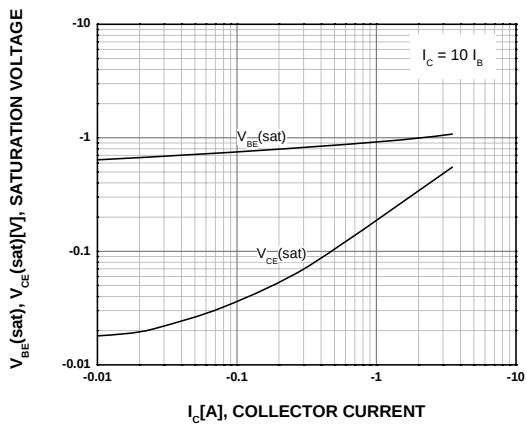


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

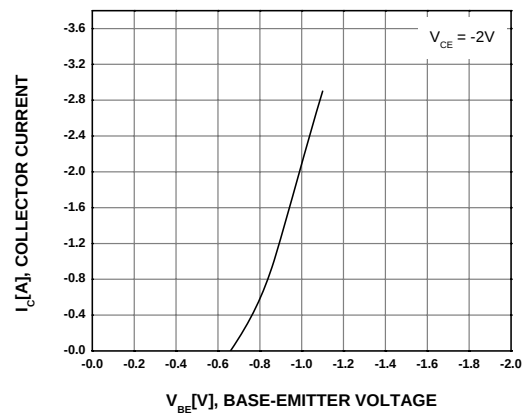


Figure 4. Base-Emitter On Voltage

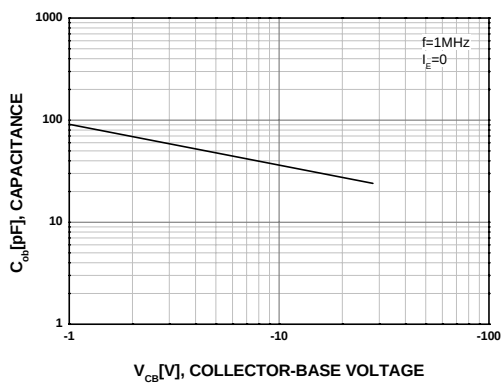


Figure 5. Collector Output Capacitance

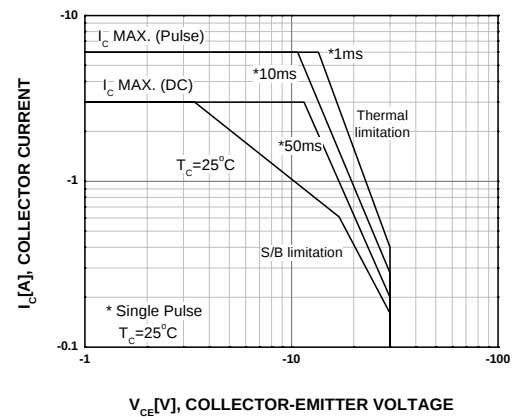


Figure 6. Safe Operating Area

Typical Performance Characteristics

(Continued)

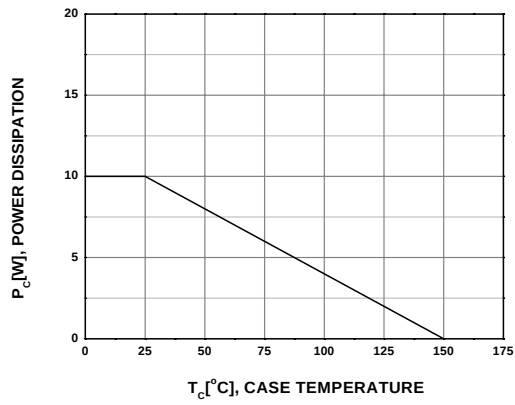
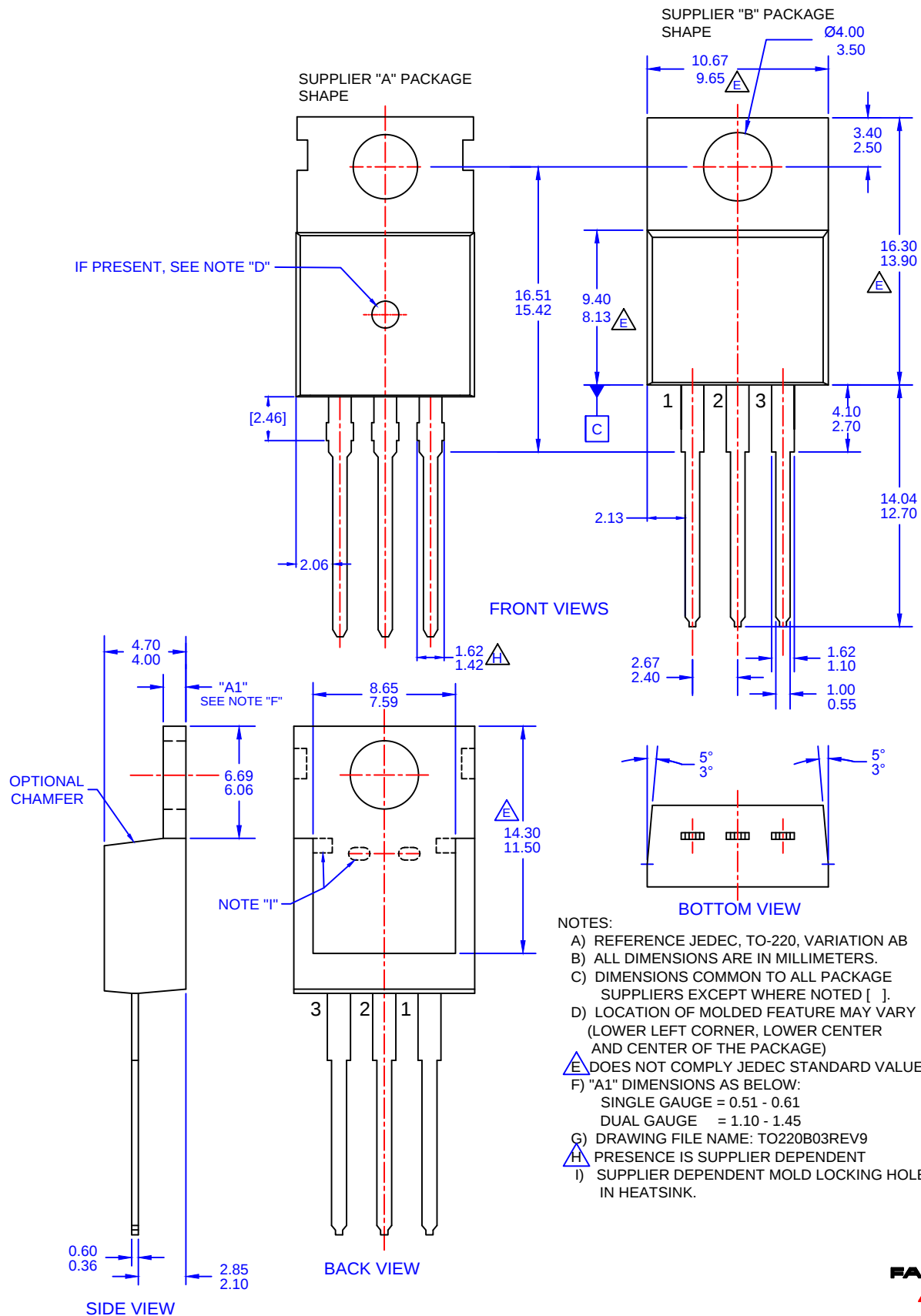


Figure 7. Power Derating



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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