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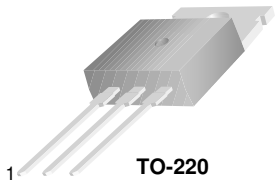
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August 2009

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°C)
- Complement to KSC1173



TO-220

1.Base 2.Collector 3.Emitter

Absolute Maximum Ratings * T_A = 25°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°C)	10	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 to + 150	°C

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

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Electrical Characteristics T_A = 25°C unless otherwise noted

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

h_{FE} Classification

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

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Typical Performance Characteristics

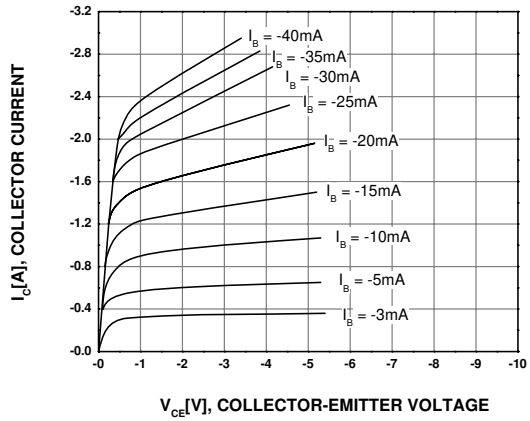


Figure 1. Static Characteristic

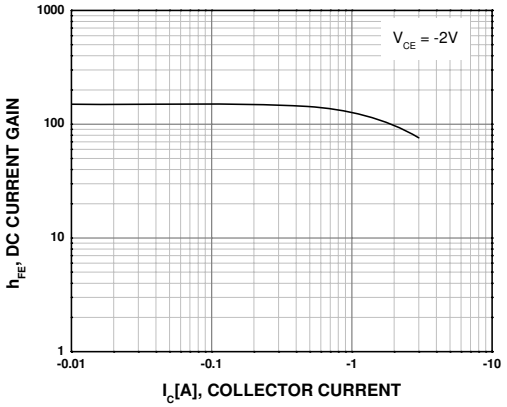


Figure 2. DC current Gain

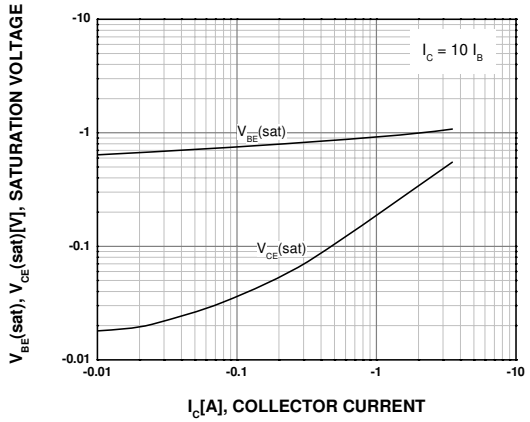


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

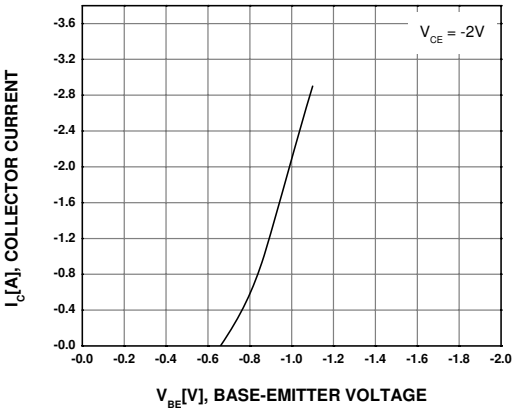


Figure 4. Base-Emitter On Voltage

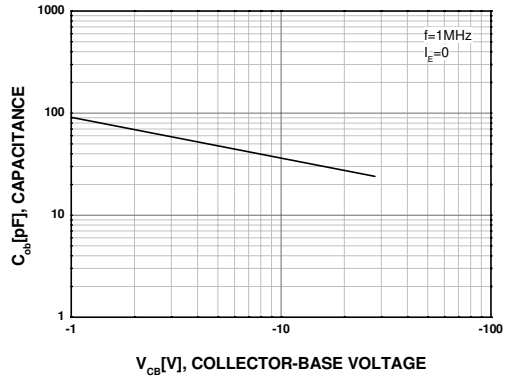


Figure 5. Collector Output Capacitance

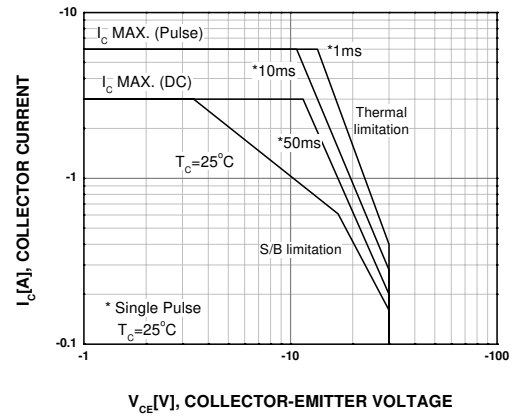


Figure 6. Safe Operating Area

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Typical Performance Characteristics (Continued)

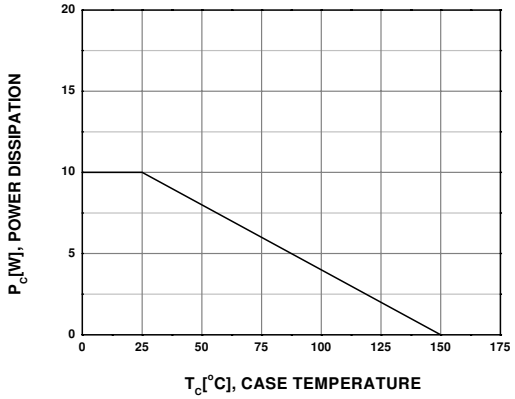
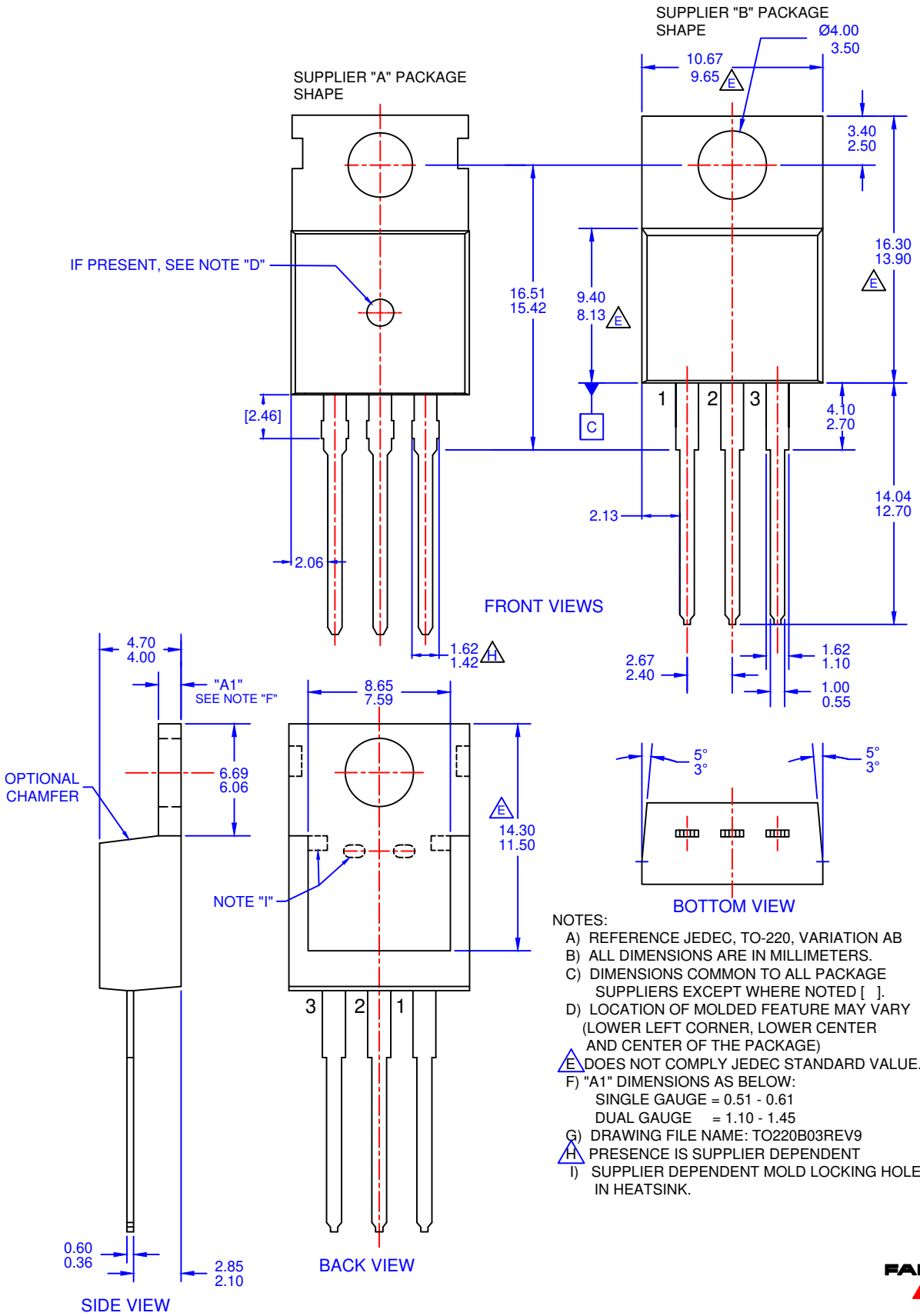


Figure 7. Power Derating

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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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