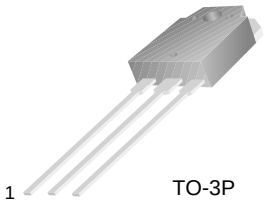
FAIRCHILD SEMICONDUCTOR®

January 2007

KSA3010
PNP Epitaxial Silicon Transistor

- Audio Power Amplifier
- High Current Capability : I_C = - 6A
- High Power Dissipation
- Wide S.O.A
- Complement to KSC4010



1 TO-3P

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	-120	V
V_{CEO}	Collector-Emitter Voltage	-120	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current (DC)	-6	A
I_{CP}	Collector Current (Pulse)	-12	A
P_C	Collector Dissipation (T_C=25°C)	60	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 50 ~ 150	°C

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

NOTES:
1) These ratings are based on a maximum junction temperature of 150°C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
$R_{\theta JC}$	Thermal Resistance, Junction to Case	2.0	°C/W

* Device mounted on the minimum pad size.

Electrical Characteristics* T_a = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C= -5A, I_B= 0	-120	-	-	V
I_{CBO}	Collector Cut-off Current	V_{CB}= -120V, I_E= 0	-	-	-10	μA
I_{EBO}	Emitter Cut-off Current	V_{EB}= -5V, I_C= 0	-	-	-10	μA
h_{FE}	DC Current Gain	V_{CE}= -5V, I_C= -1A,	55	-	160	
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C= -5A, I_B= -0.5A	-	-	-2.5	V
V_{BE}(on)	Base-Emitter ON Voltage	V_{CE}= -5V, I_C= -5A	-	-	-1.5	V
f_T	Current Gain Bandwidth Product	V_{CE}= -5V, I_C= -1A	-	30	-	MHz
C_{ob}	Output Capacitance	V_{CB}=-10V, I_E=0, f=1MHz	-	180	-	pF

* Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%

h_{FE} Classification

Classification	R	O
h_{FE}	55 ~ 110	80 ~ 160

Package Marking and Ordering Information

Device Item (note)	Device Marking	Package	Packing Method	Qty(pcs)
KSA3010RTU	A3010R	TO-3P	TUBE	450
KSA3010OTU	A3010O	TO-3P	TUBE	450

Note : The Suffix "-TU" means the Tube packing method, which can be on fairchildsemi website at http://www.fairchildsemi.com/packaging

Typical Characteristics

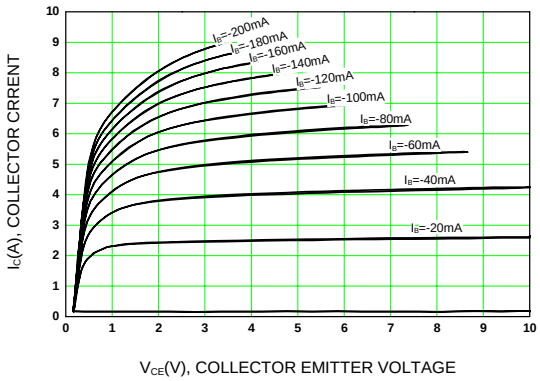


Figure 1. Static Characteristic

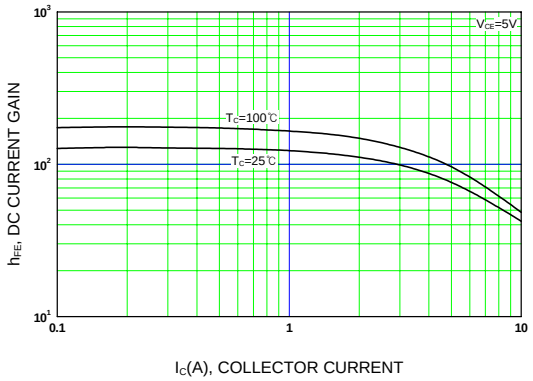


Figure 2. DC current Gain

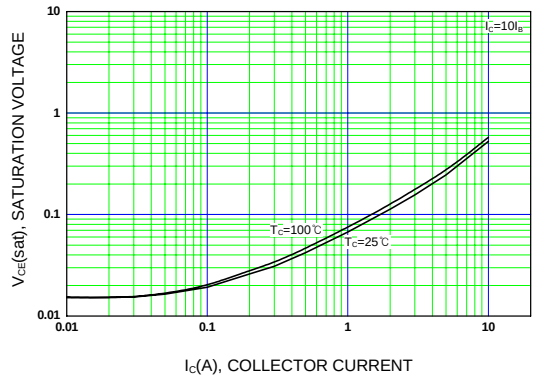


Figure 3. Collector-Emitter Saturation Voltage

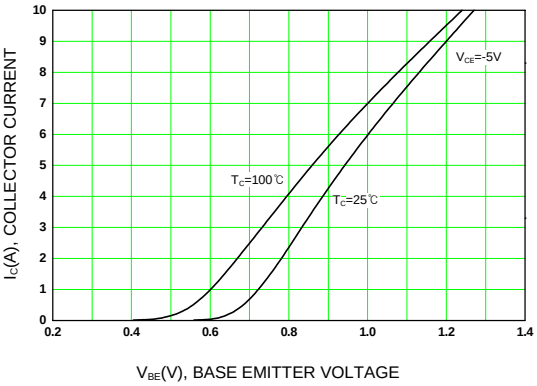


Figure 4. Base-Emitter On Voltage

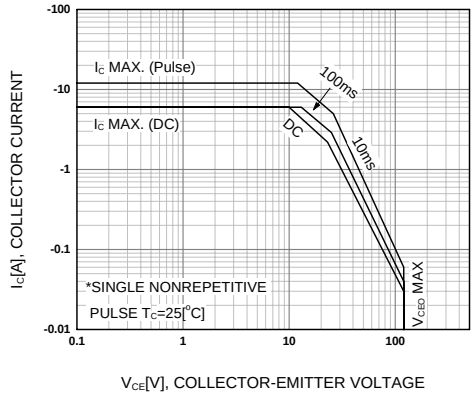


Figure 5. Safe Operating Area

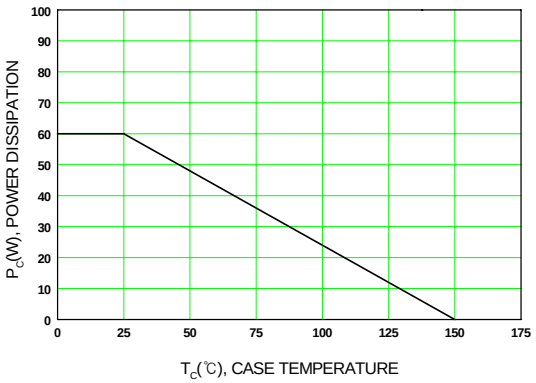
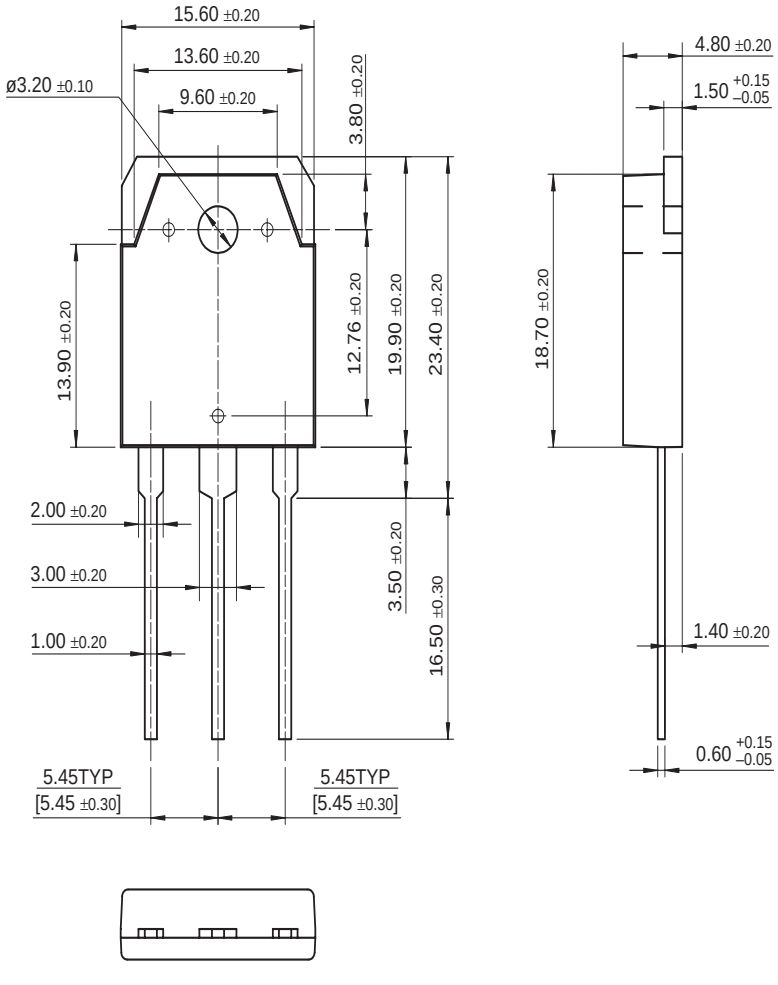


Figure 6. Power Derating

Mechanical Dimensions

TO-3P



Dimensions in Millimeters

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PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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