



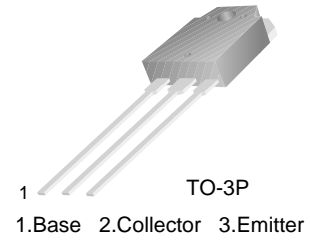
**THE DATASHEET OF
KSA3010RTU**



KSA3010

PNP Epitaxial Silicon Transistor

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



Absolute Maximum Ratings* $T_a=25^\circ\text{C}$ 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 ($T_C=25^\circ\text{C}$)	60	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	- 50 ~ 150	$^\circ\text{C}$

* 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 $T_a=25^\circ\text{C}$ unless otherwise noted

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

* Device mounted on the minimum pad size.

Electrical Characteristics* $T_a = 25^\circ\text{C}$ 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	$V_{CB} = -10V, I_E = 0, f = 1\text{MHz}$	-	180	-	pF

* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2.0\%$

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

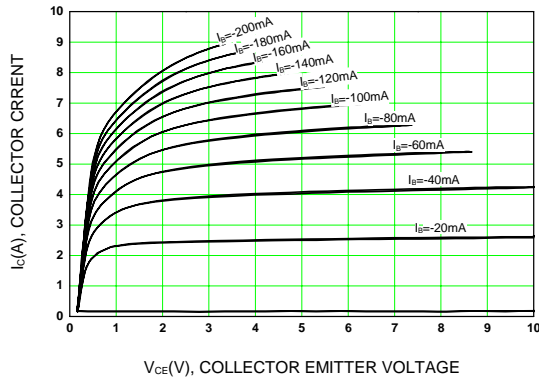


Figure 1. Static Characteristic

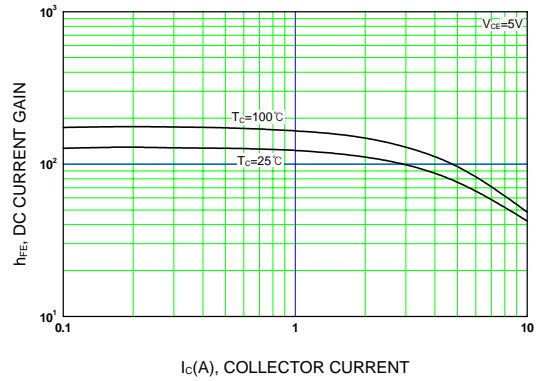


Figure 2. DC current Gain

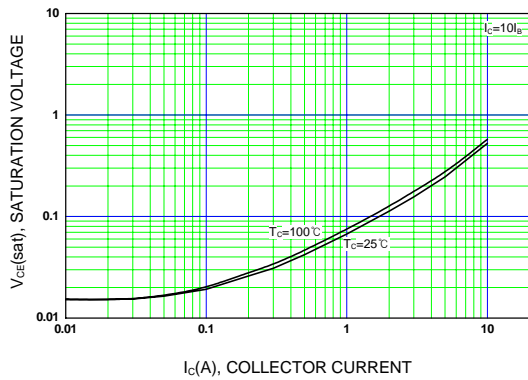


Figure 3. Collector-Emitter Saturation Voltage

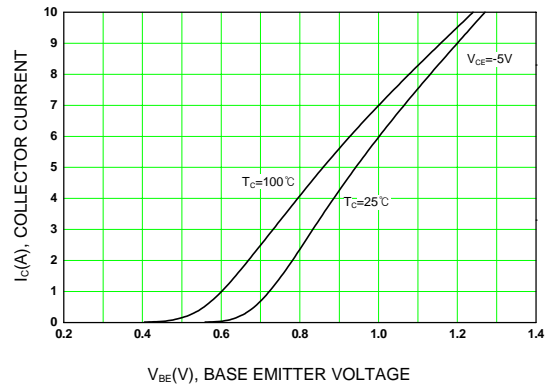


Figure 4. Base-Emitter On Voltage

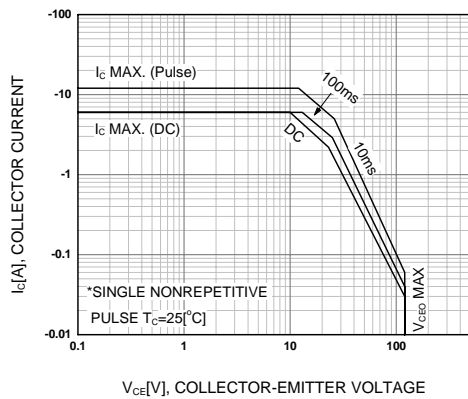


Figure 5. Safe Operating Area

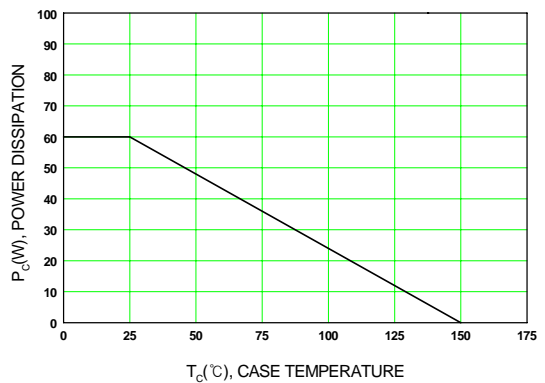
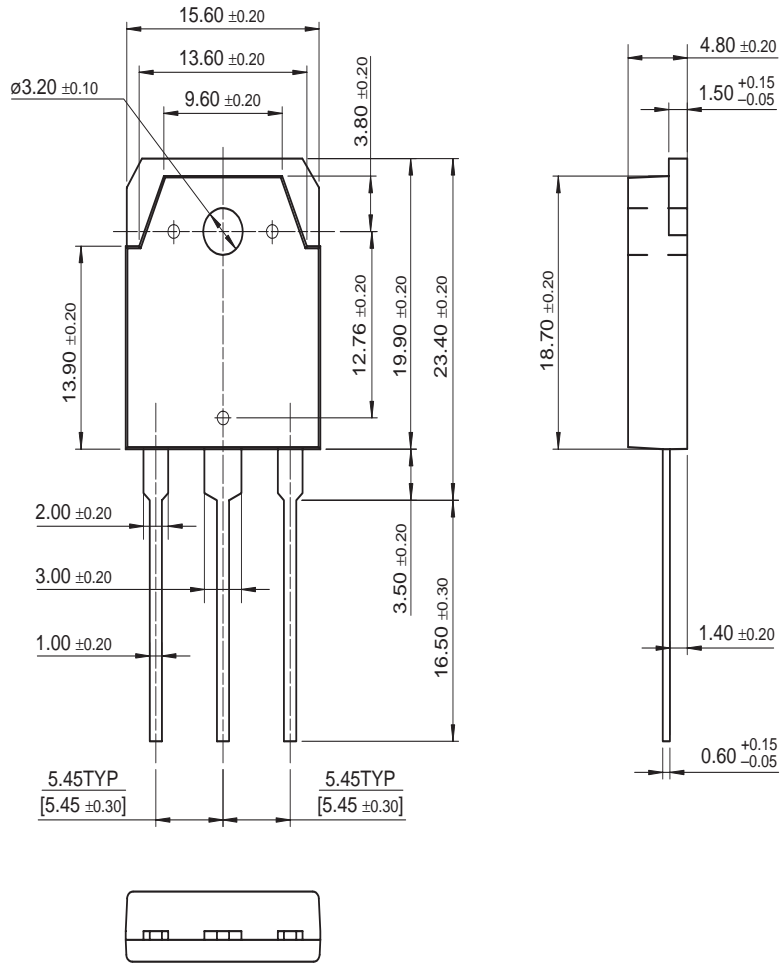


Figure 6. Power Derating

Mechanical Dimensions

TO-3P



Dimensions in Millimeters

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Programmable Active Droop™				

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Rev. I22

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