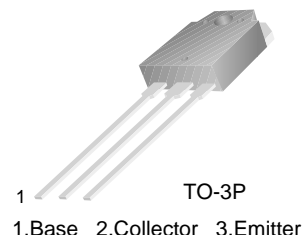


# KSA3010

## 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  $150^\circ\text{C}$ .
- 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	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -5V, I_C = 0$	-	-	-10	$\mu\text{A}$
$h_{FE}$	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

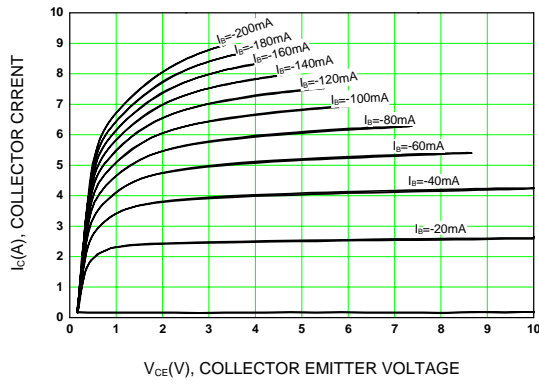


Figure 1. Static Characteristic

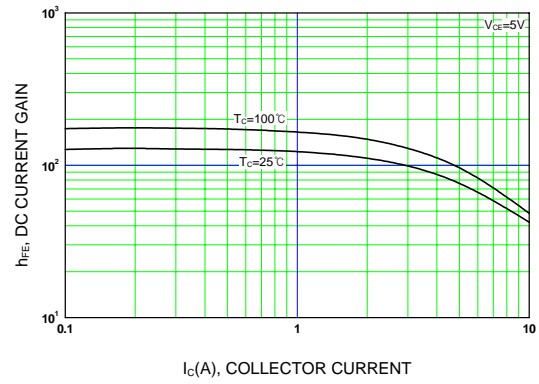


Figure 2. DC current Gain

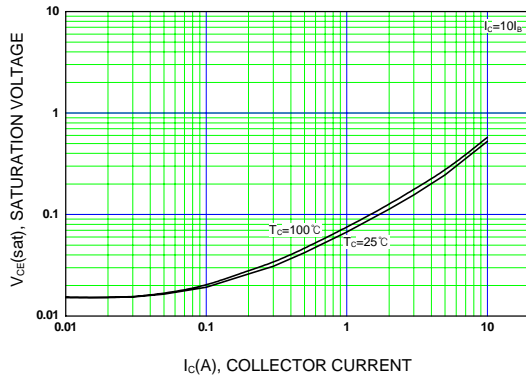


Figure 3. Collector-Emitter Saturation Voltage

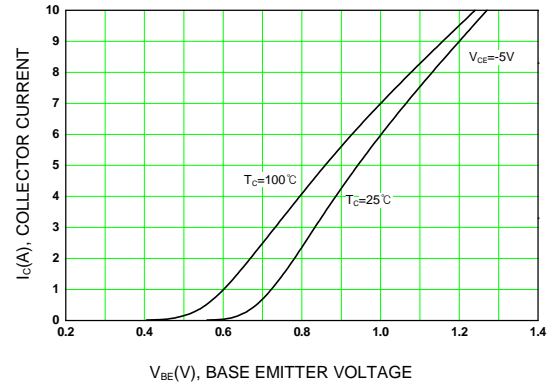


Figure 4. Base-Emitter On Voltage

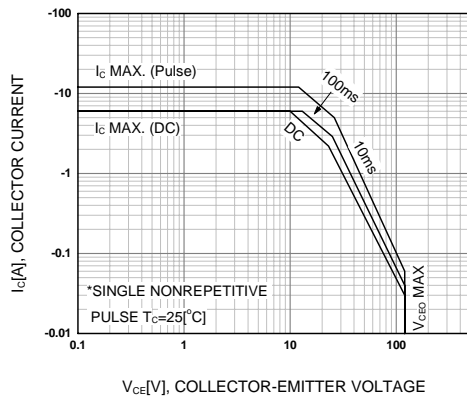


Figure 5. Safe Operating Area

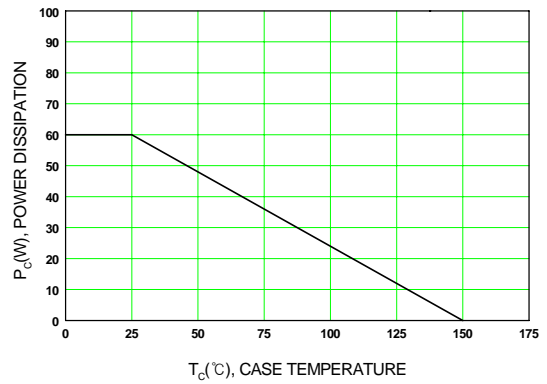
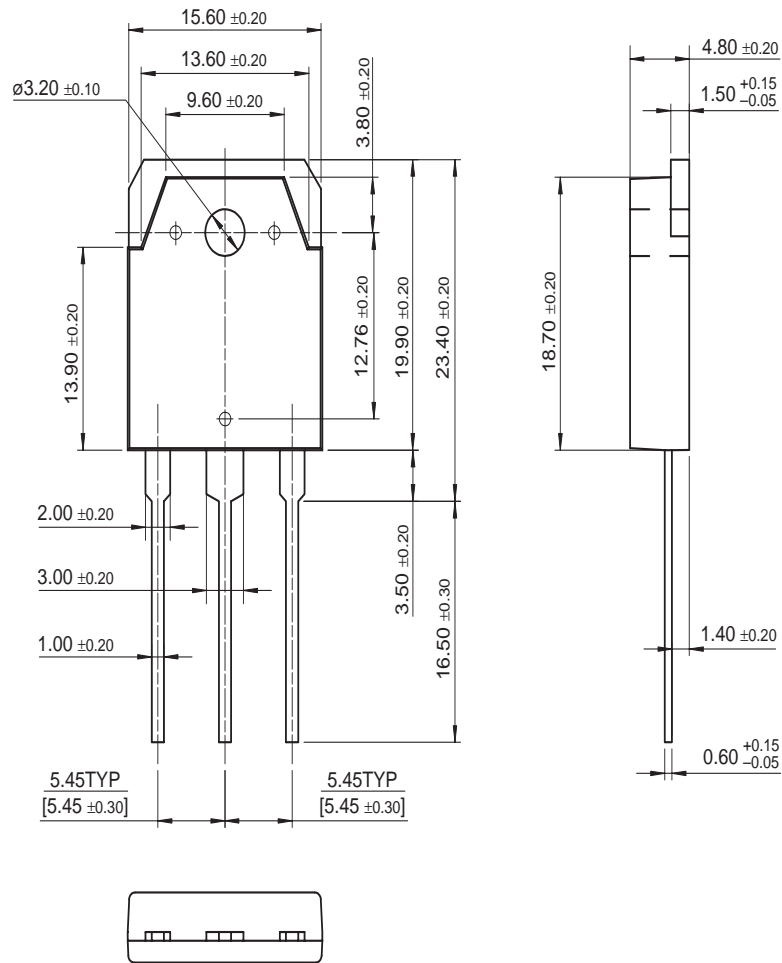


Figure 6. Power Derating

# Mechanical Dimensions

## TO-3P



Dimensions in Millimeters

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Bottomless™	GTO™	OPTOLOGIC®	SPM™	Wire™
Build it Now™	HiSeC™	OPTOPLANAR™	Stealth™	
CoolFET™	I <sup>2</sup> C™	PACMAN™	SuperFET™	
CROSSVOLT™	i-Lo™	POPT™	SuperSOT™-3	
DOME™	ImpliedDisconnect™	Power247™	SuperSOT™-6	
EcoSPARK™	IntelliMAX™	PowerEdge™	SuperSOT™-8	
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EnSigna™	LittleFET™	PowerTrench®	TCM™	
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FAST®	MicroFET™	QS™	TinyBuck™	
FASTr™	MicroPak™	QT Optoelectronics™	TinyPWM™	
FPS™	MICROWIRE™	Quiet Series™	TinyPower™	
FRFET™	MSX™	RapidConfigure™	TinyLogic®	
	MSXPro™	RapidConnect™	TINYOPTO™	
		μSerDes™	TruTranslation™	
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