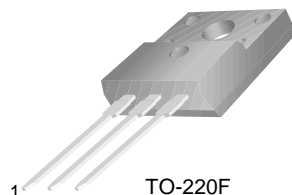


# KSA1304

KSA1304

## Vertical Output Applications Power Amplifier Applications

- Complement to KSC3296



TO-220F  
1.Base 2.Collector 3.Emitter

## PNP Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Ratings	Units
$V_{CBO}$	Collector-Base Voltage	- 150	V
$V_{CEO}$	Collector-Emitter Voltage	- 150	V
$V_{EBO}$	Emitter-Base Voltage	- 5	V
$I_C$	Collector Current	- 1.5	A
$I_B$	Base Current	- 0.5	A
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	20	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^\circ\text{C}$

### Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -120\text{V}, I_E = 0$			- 10	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -5\text{V}, I_C = 0$			- 10	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$V_{CE} = -10\text{V}, I_C = -500\text{mA}$	40	75	140	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -500\text{mA}, I_B = -50\text{mA}$			- 1.5	V
$V_{BE(on)}$	Base-Emitter ON Voltage	$V_{CE} = -10\text{V}, I_C = -500\text{mA}$	- 0.65	- 0.75	- 0.85	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -10\text{V}, I_C = -500\text{mA}$		4		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = -10\text{V}, f = 1\text{MHz}$		55		pF

# Typical Characteristics

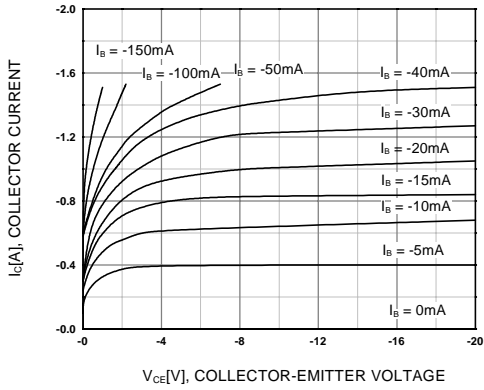


Figure 1. Static Characteristic

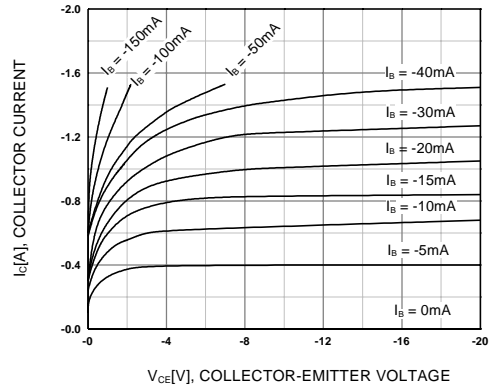


Figure 2. Static Characteristic

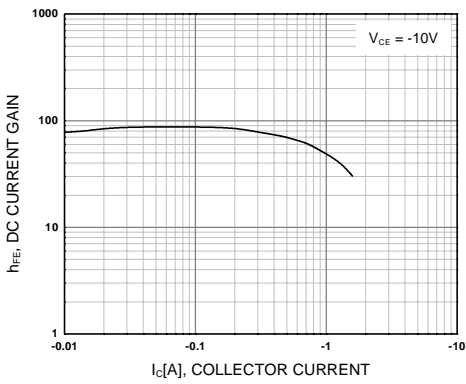


Figure 3. DC current Gain

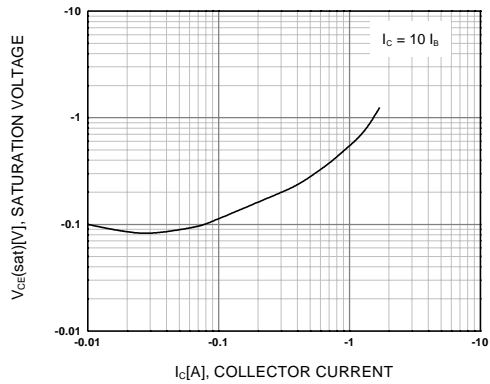


Figure 4. Collector-Emitter Saturation Voltage

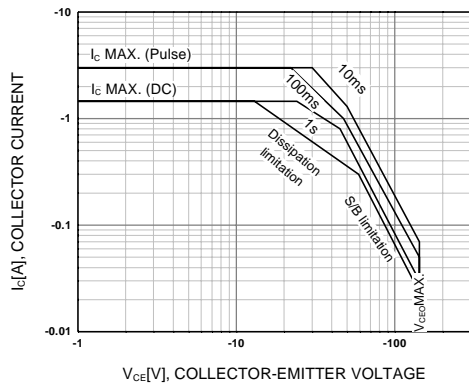


Figure 5. Safe Operating Area

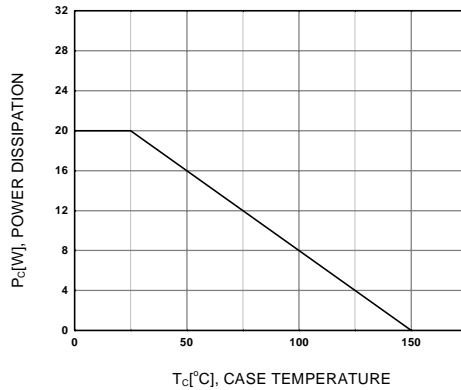
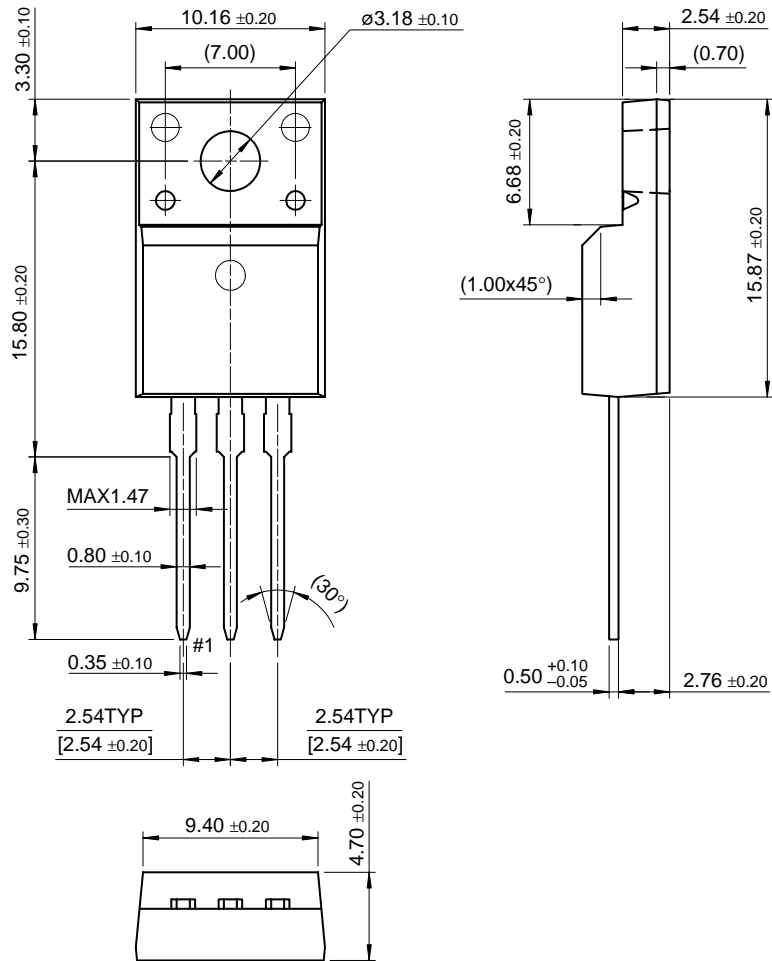


Figure 6. Power Derating

# Package Dimensions

KSA1304

## TO-220F



Dimensions in Millimeters

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E <sup>2</sup> CMOS™	PowerTrench®	VCX™
FACT™	QFET™	
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