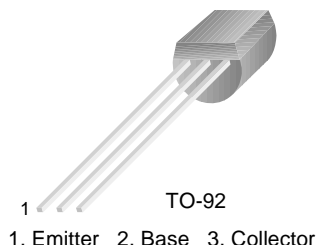




## KSA709

### High Voltage Amplifier

- Collector-Base Voltage :  $V_{CBO} = -160V$
- Collector Power Dissipation :  $P_C = 800mW$
- Complement to KSC1009
- Suffix "-C" means Center Collector (1. Emitter 2. Collector 3. Base)



### PNP Epitaxial Silicon Transistor

#### Absolute Maximum Ratings $T_a = 25^\circ C$ unless otherwise noted

Symbol	Parameter	Ratings	Units
$V_{CBO}$	Collector-Base Voltage	-160	V
$V_{CEO}$	Collector-Emitter Voltage	-150	V
$V_{EBO}$	Emitter-Base Voltage	-8	V
$I_C$	Collector Current	-700	mA
$P_C$	Collector Power Dissipation	800	mW
$T_J$	Junction Temperature	150	$^\circ C$
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ C$

#### Electrical Characteristics $T_a = 25^\circ C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = -100\mu A, I_E = 0$	-160			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -10mA, I_B = 0$	-150			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = -100\mu A, I_C = 0$	-8			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -100V, I_E = 0$			-0.1	$\mu A$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -5V, I_C = 0$			-0.1	$\mu A$
$h_{FE}$	* DC Current Gain	$V_{CE} = -2V, I_C = -50mA$	70		400	
$V_{CE} (sat)$	* Collector-Emitter Saturation Voltage	$I_C = -200mA, I_B = -20mA$		-0.3	-0.4	V
$V_{BE} (sat)$	* Base-Emitter Saturation Voltage	$I_C = -200mA, I_B = -20mA$		-0.9	-1.0	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -10V, I_C = -50mA$		50		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = -10V, I_E = 0, f = 1MHz$			10	pF

\* Pulse Test:  $PW \leq 350\mu s$ , Duty cycle  $\leq 2\%$

### $h_{FE}$ Classification

Classification	O	Y	G
$h_{FE}$	70 ~ 140	120 ~ 240	200 ~ 400

# Typical Characteristics

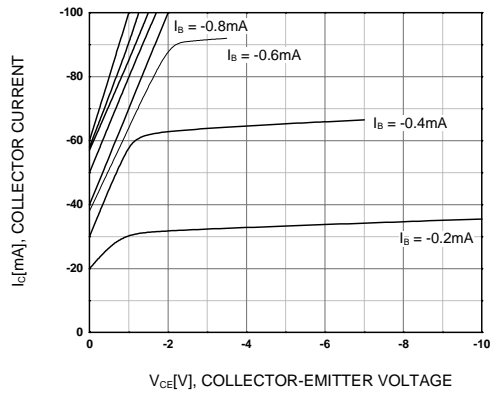


Figure 1. Static Characteristic

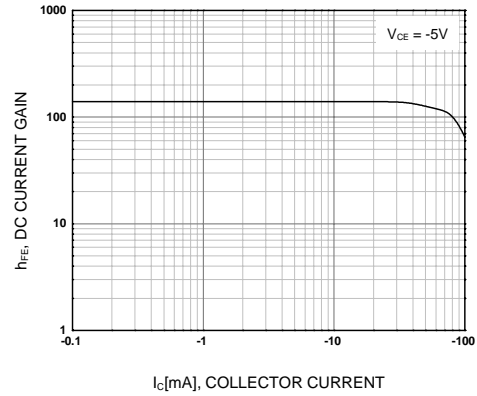


Figure 2. DC current Gain

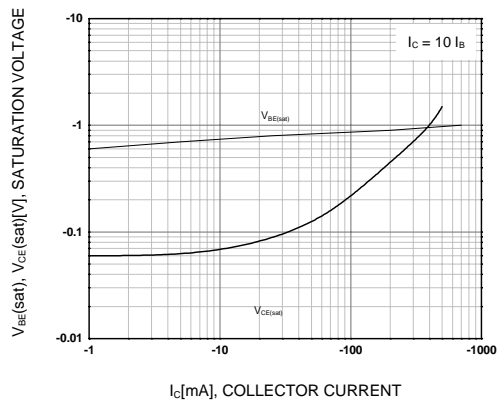


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emmitter Saturation Voltage

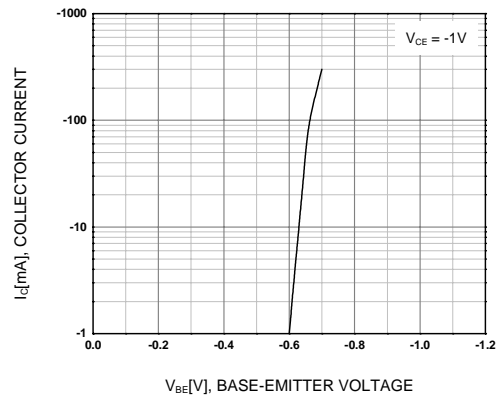


Figure 4. Base-Emitter On Voltage

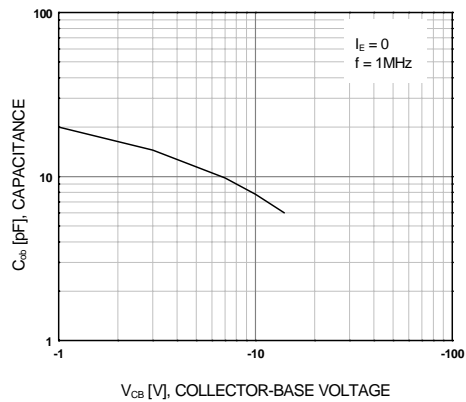
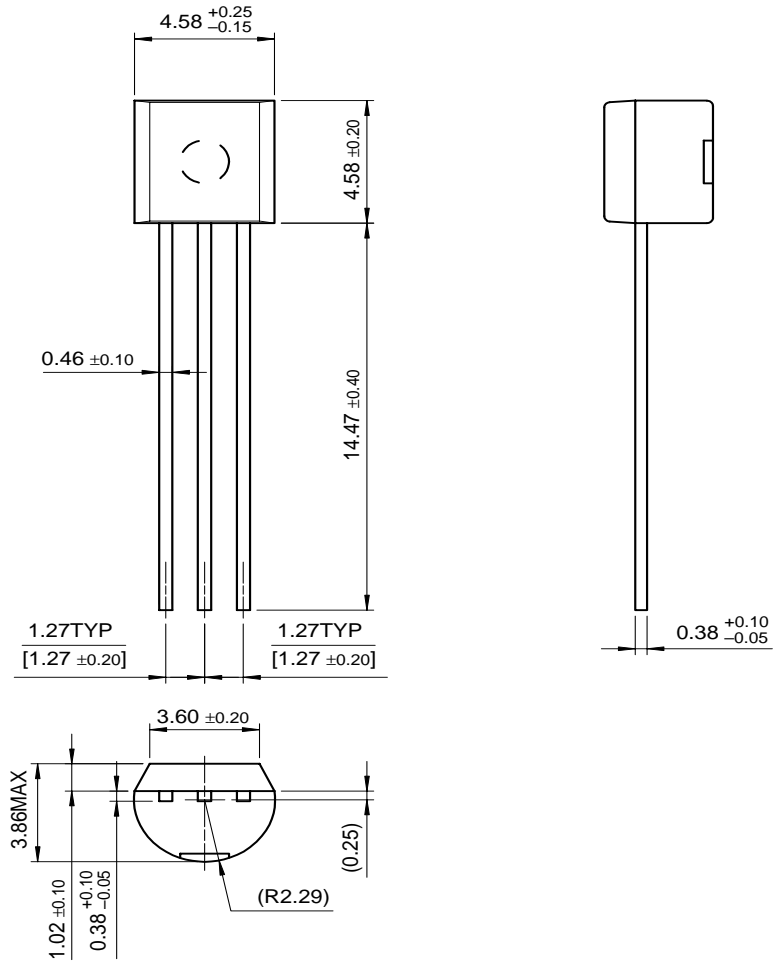


Figure 5. Collector Output Capacitance

# Package Dimensions

KSA709

## TO-92



Dimensions in Millimeters

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