

KSA709

FAIRCHILD
SEMICONDUCTOR®

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	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = -5V, I_C = 0$			-0.1	μA
h_{FE}	* DC Current Gain	$V_{CE} = -2V, I_C = -50mA$	70		400	
$V_{CE} (\text{sat})$	* Collector-Emitter Saturation Voltage	$I_C = -200mA, I_B = -20mA$		-0.3	-0.4	V
$V_{BE} (\text{sat})$	* 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

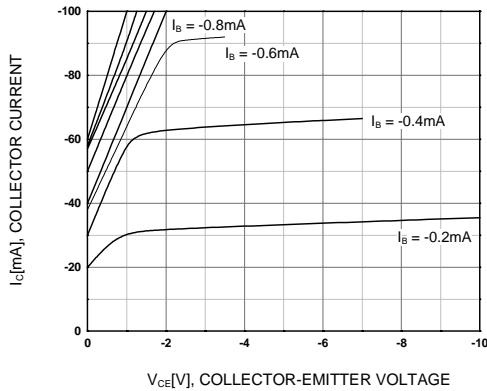


Figure 1. Static Characteristic

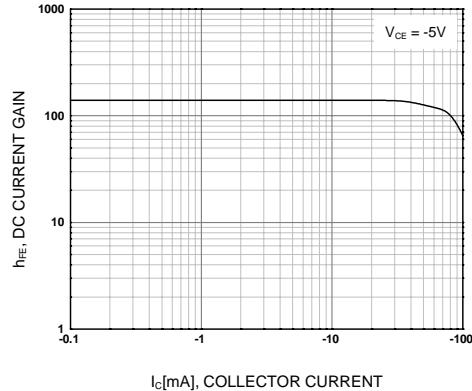


Figure 2. DC current Gain

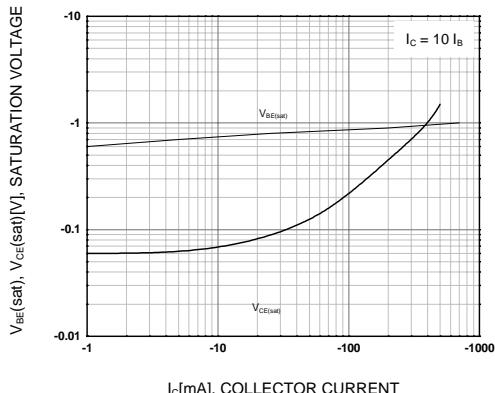


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

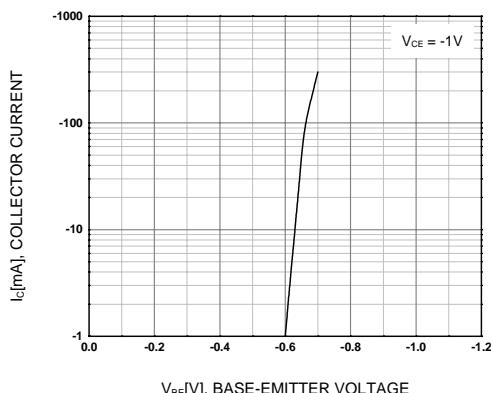


Figure 4. Base-Emitter On Voltage

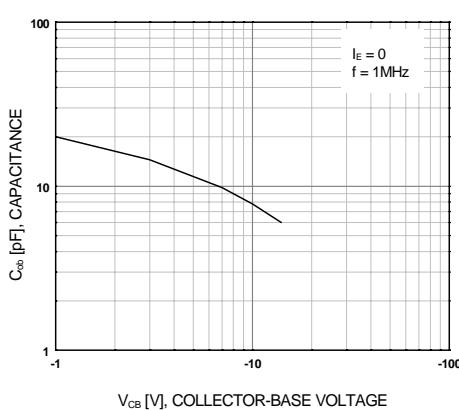
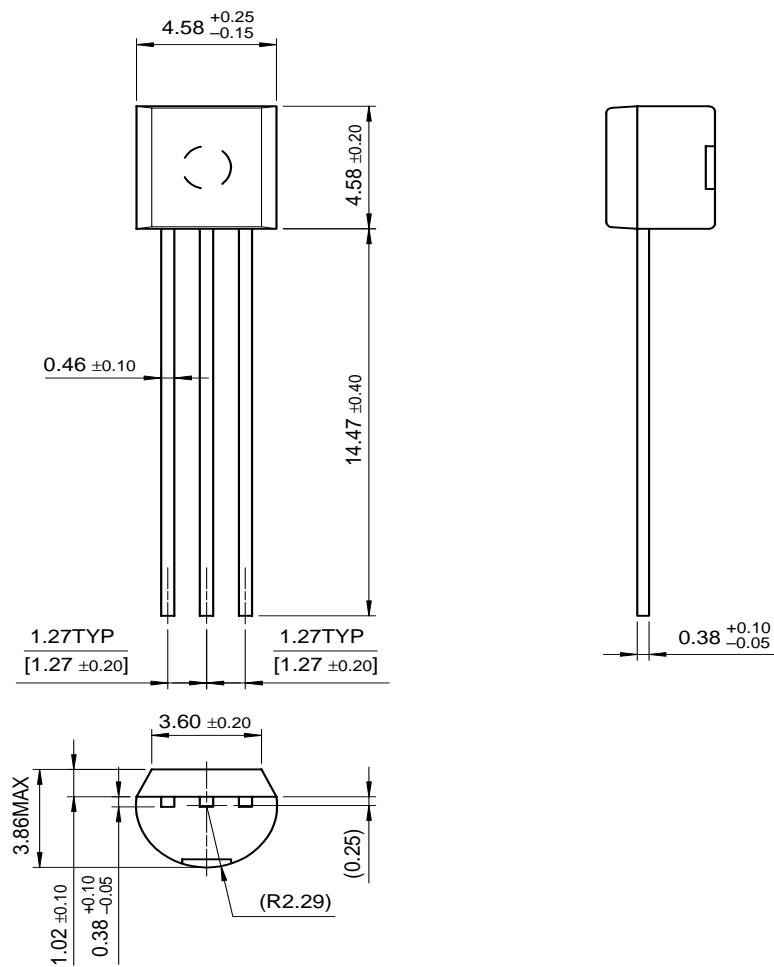


Figure 5. Collector Output Capacitance

Package Dimensions

TO-92



Dimensions in Millimeters

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