

# KSC1009

## High Voltage Amplifier

- High Collector-Base Voltage :  $V_{CB0}=160V$
- Collector Current :  $I_C=700mA$
- Collector Power Dissipation :  $P_C=800mW$
- Complement to KSA709
- Suffix "-C" means Center Collector (1. Emitter 2. Collector 3. Base)



## NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Ratings	Units
$V_{CB0}$	Collector-Base Voltage	160	V
$V_{CEO}$	Collector-Emitter Voltage	140	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
$BV_{CB0}$	Collector-Base Breakdown Voltage	$I_C=100\mu A, I_E=0$	160			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10mA, I_B=0$	140			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=10\mu A, I_C=0$	8			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=60V, I_E=0$			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	$V_{CE}=2V, I_C=50mA$	40		400	
$V_{CE} (sat)$	Collector-Emitter Saturation Voltage	$I_C=200mA, I_B=20mA$		0.2	0.7	V
$V_{BE} (sat)$	Base-Emitter Saturation Voltage	$I_C=200mA, I_B=20mA$		0.86	1.0	V
$f_T$	Current Gain Bandwidth Product	$V_{CE}=10V, I_C=50mA$	30	50		MHz
$C_{ob}$	Output Capacitance	$V_{CB}=10V, I_E=0, f=1MHz$		8		pF

## $h_{FE}$ Classification

Classification	R	O	Y	G
$h_{FE}$	40 ~ 80	70 ~ 140	120 ~ 240	200 ~ 400

# Typical Characteristics

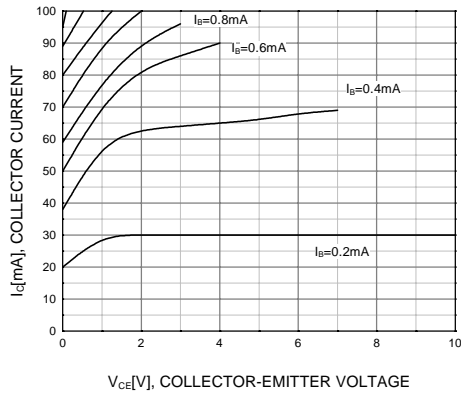


Figure 1. Static Characteristic

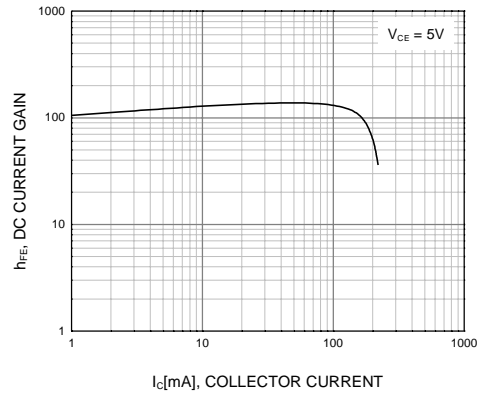


Figure 2. DC current Gain

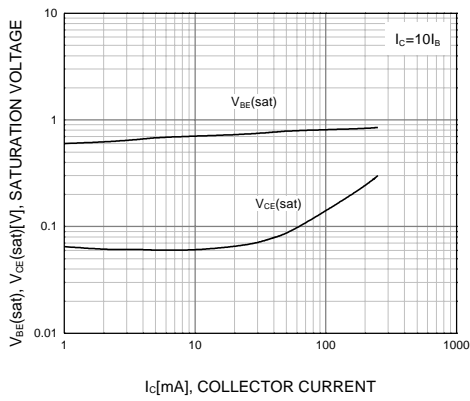


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

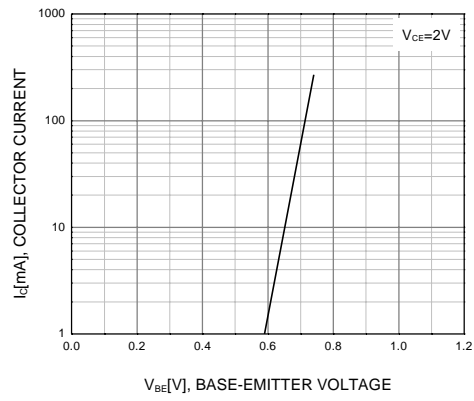


Figure 4. Base-Emitter On Voltage

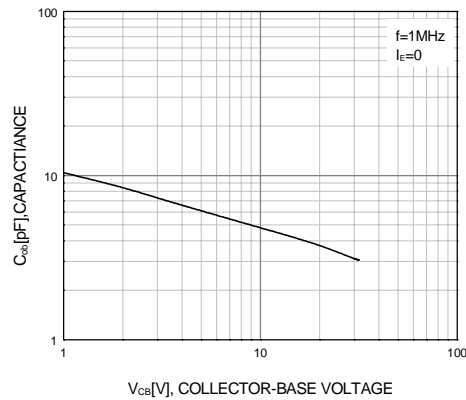


Figure 5. Collector Output Capacitance

# Package Dimensions

KSC1009

## TO-92



Dimensions in Millimeters

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