

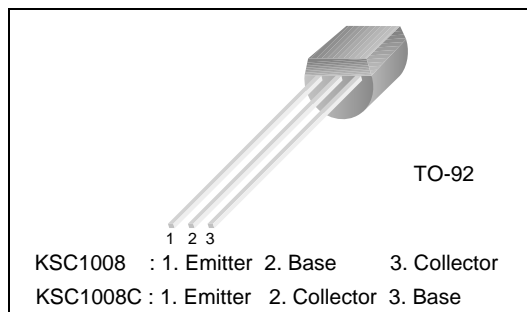


# KSC1008

## NPN Epitacial Silicon Transistor

### Features

- Low frequency amplifier medium speed switching.
- High Collector-Base Voltage :  $V_{CBO}=80V$ .
- Collector Current :  $I_C=700mA$
- Collector Power Dissipation :  $P_C=800mW$
- Suffix "-C" means Center Collector (1. Emitter 2. Collector 3. Base)
- Non suffix "-C" means Side Collector (1. Emitter 2. Base 3. Collector)
- Complement to KSA708



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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	80	V
$V_{CEO}$	Collector-Emitter Voltage	60	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	$^\circ C$

\* 1. These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.  
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C=100\mu A, I_E=0$	80			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10mA, I_B=0$	60			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	$I_C=500mA, I_B=50mA$		0.2	0.4	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=500mA, I_B=50mA$		0.86	1.1	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

\* DC Item are tested by Pulse Test: Pulse Width $\leq$ 300us, Duty Cycle $\leq$ 2%

### $h_{FE}$ Classification

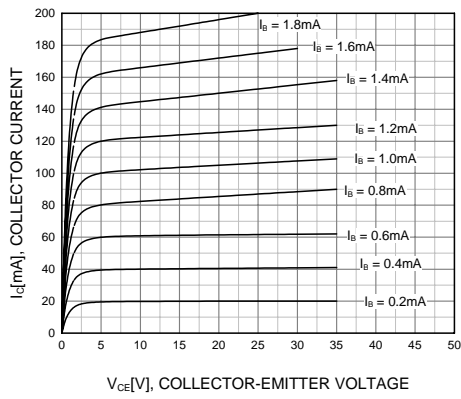
Classification	R	O	Y	G
$h_{FE}$	40 ~ 80	70 ~ 140	120 ~ 240	200 ~ 400

## Package Marking and Ordering Information

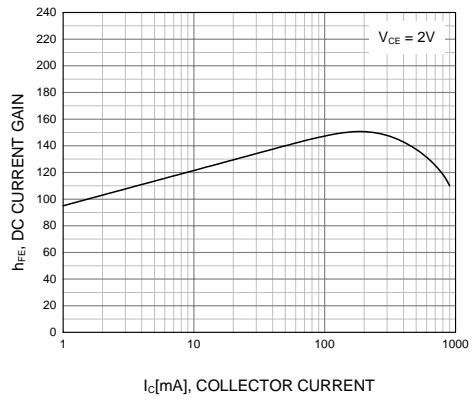
Device <sup>(note)</sup>	Device Marking	Package	Packing Method	Qty(pcs)	Pin Definitions
KSC1008COBU	C1008OC	TO-92	BULK	--	1.Emitter 2.Collector 3.Base
KSC1008COTA	C1008OC	TO-92	TAPE & AMMO	2,000	1.Emitter 2.Collector 3.Base
KSC1008CYBU	C1008YC	TO-92	BULK	--	1.Emitter 2.Collector 3.Base
KSC1008CYTA	C1008YC	TO-92	TAPE & AMMO	2,000	1.Emitter 2.Collector 3.Base
KSC1008GBU	C1008G	TO-92	BULK	--	1.Emitter 2.Base 3.Collector
KSC1008GTA	C1008G	TO-92	TAPE & AMMO	2,000	1.Emitter 2.Base 3.Collector
KSC1008OBU	C1008O	TO-92	BULK	--	1.Emitter 2.Base 3.Collector
KSC1008OTA	C1008O	TO-92	TAPE & AMMO	2,000	1.Emitter 2.Base 3.Collector
KSC1008RBU	C1008R	TO-92	BULK	--	1.Emitter 2.Base 3.Collector
KSC1008RTA	C1008R	TO-92	TAPE & AMMO	2,000	1.Emitter 2.Base 3.Collector
KSC1008YBU	C1008Y	TO-92	BULK	--	1.Emitter 2.Base 3.Collector
KSC1008YTA	C1008Y	TO-92	TAPE & AMMO	2,000	1.Emitter 2.Base 3.Collector
KSC1008YTF	C1008Y	TO-92	TAPE & REEL	2,000	1.Emitter 2.Base 3.Collector

Note : Affix "-C-" - center collector pin.  
 Affix "-R-, -O-, -Y-, -G-" -  $h_{FE}$  classification  
 Suffix "-BU" - Bulk packing, straight lead form.(see package dimensions)  
 Suffix "-TF" - Tape& Reel packing, 0.200 In-Line Spacing lead form. (see package dimensions)  
 Suffix "-TA" - Tape& AMMO packing, 0.200 In-Line Spacing lead form. (see package dimensions)

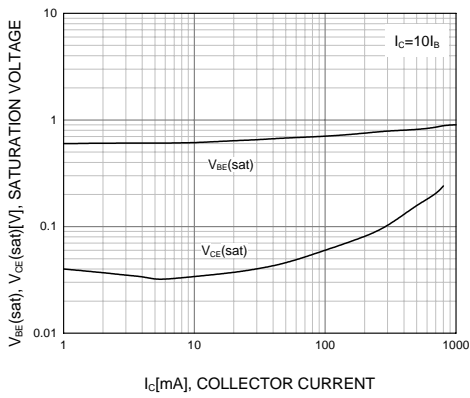
# Typical Characteristics



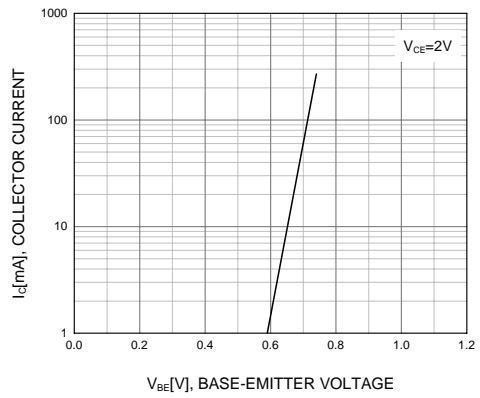
**Figure 1. Static Characteristic**



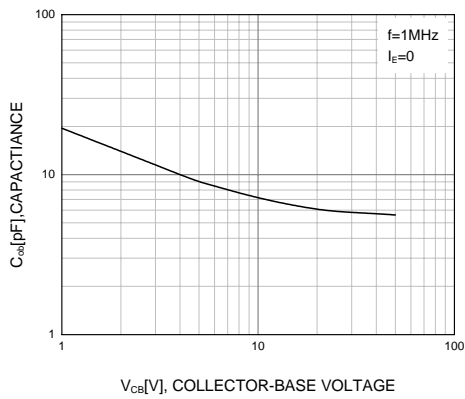
**Figure 2. DC current Gain**



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



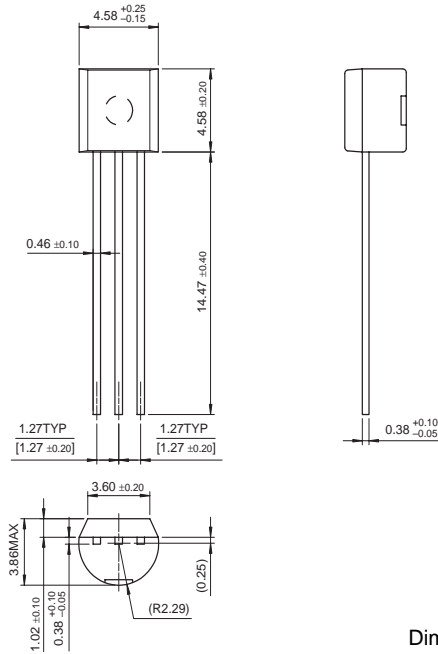
**Figure 4. Base-Emitter On Voltage**



**Figure 5. Collector Output Capacitance**

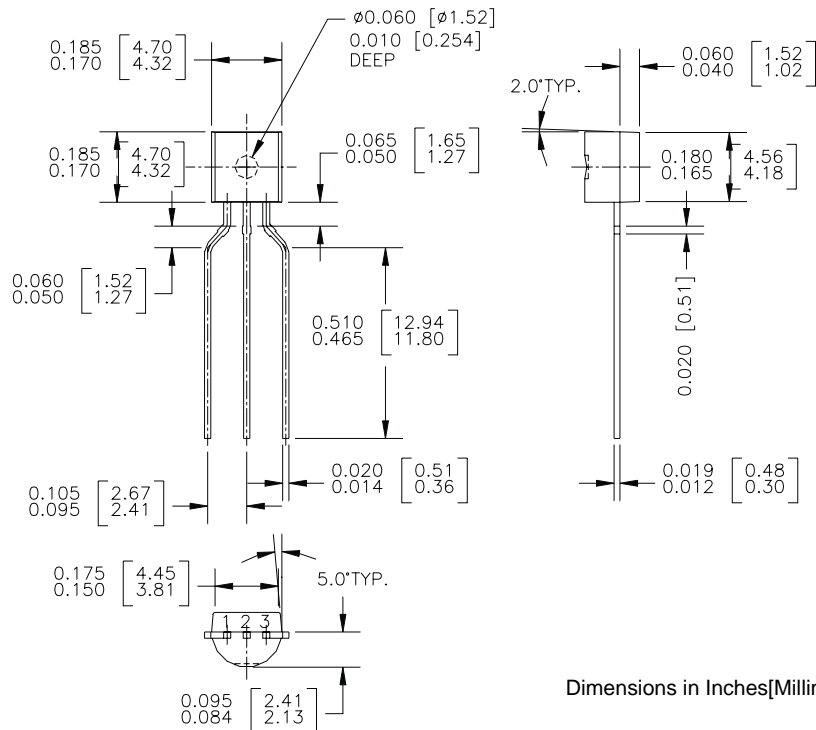
# Package Dimensions

## TO-92 Straight Lead Form



Dimensions in Millimeters

## TO-92 0.200 In-Line Spacing Lead Form



Dimensions in Inches [Millimeters]

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CROSSVOLT™	i-Lo™	POPT™	SuperSOT™-3	
DOMETM	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™	
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