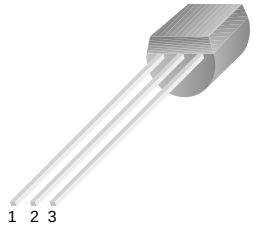
FAIRCHILD SEMICONDUCTOR®

September 2006

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



TO-92

KSC1008 : 1. Emitter 2. Base 3. Collector
KSC1008C : 1. Emitter 2. Collector 3. Base

Absolute Maximum Ratings * T_a = 25°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	°C
T_{stg}	Storage Temperature	-55 ~ +150	°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°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C=100μA, 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=10μA, I_C=0	8			V
I_{CBO}	Collector Cut-off Current	V_{CB}=60V, 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	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≤300us, Duty Cycle≤2%

h_{FE} Classification

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

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Package Marking and Ordering Information

Device(note)	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

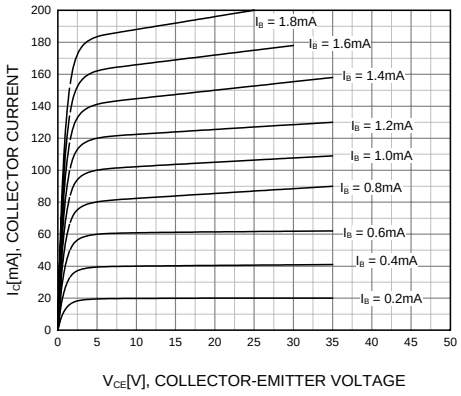


Figure 1. Static Characteristic

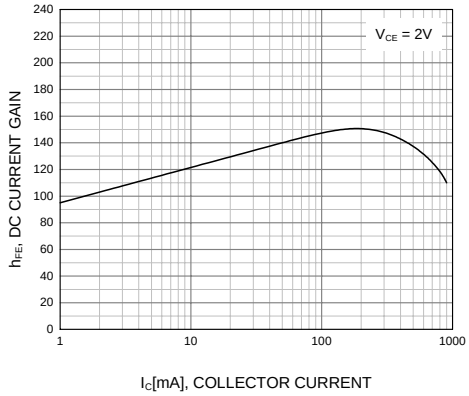


Figure 2. DC current Gain

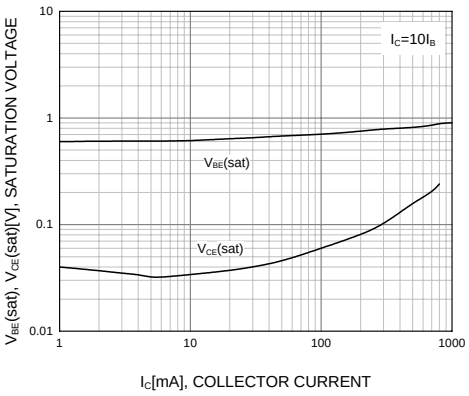


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

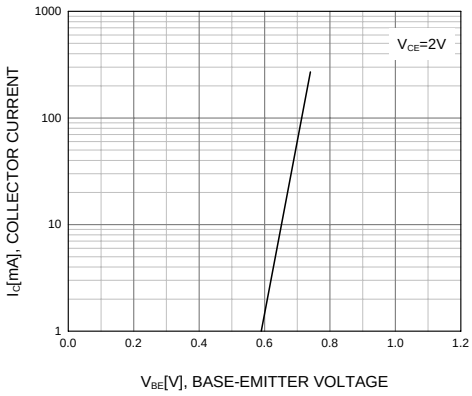


Figure 4. Base-Emitter On Voltage

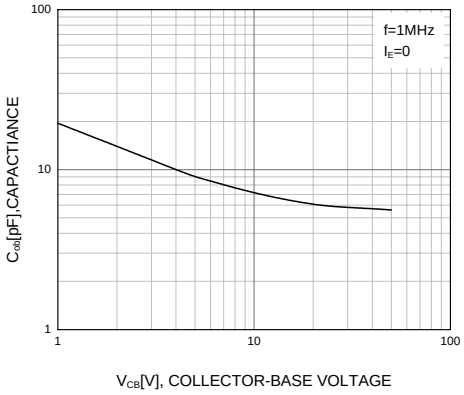
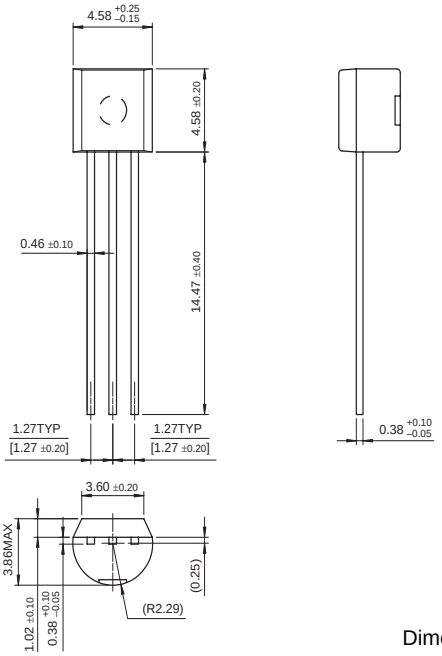


Figure 5. Collector Output Capacitance

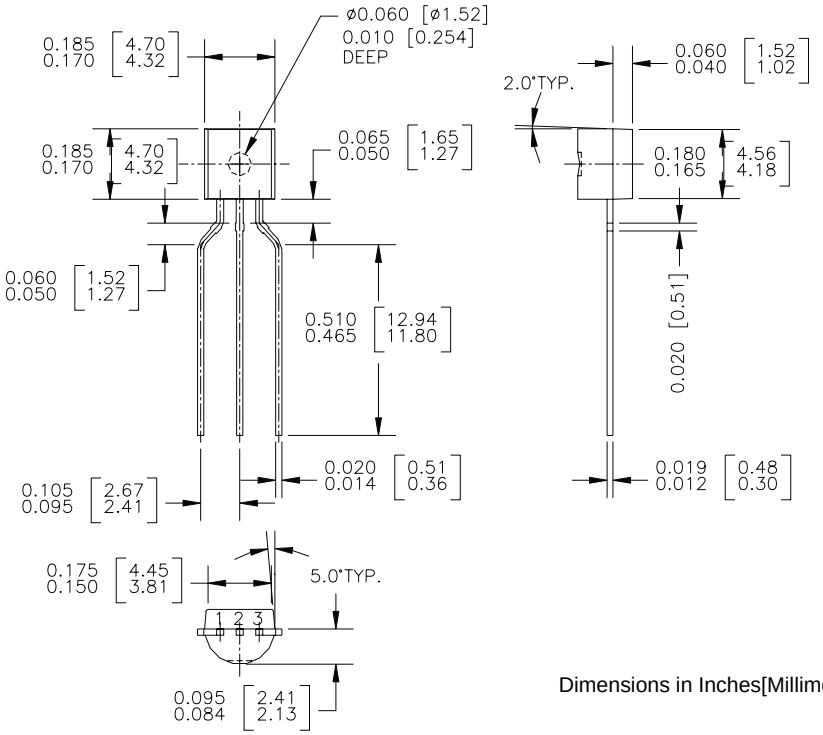
Package Dimensions

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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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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