

# KSC2331

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## Low Frequency Amplifier & Medium Speed Switching

- Complement to KSA931
- High Collector-Base Voltage :  $V_{CBO}=80V$
- Collector Current :  $I_C=700mA$
- Collector Dissipation :  $P_C=1W$



## NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Ratings	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	1	W
$T_J$	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	$I_C=100\mu A, I_E=0$	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		240	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=500mA, I_B=50mA$		0.2	0.7	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=500mA, I_B=50mA$		0.86	1.20	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
$h_{FE}$	40 ~ 80	70 ~ 140	120 ~ 240

# Typical Characteristics

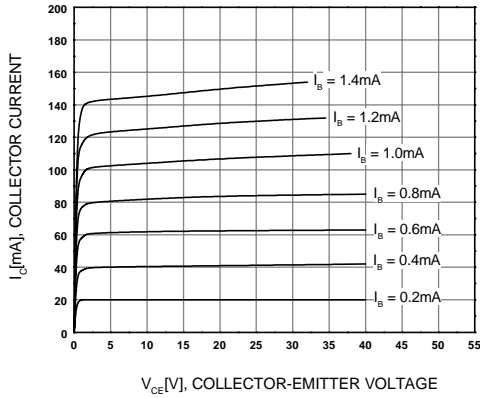


Figure 1. Static Characteristic

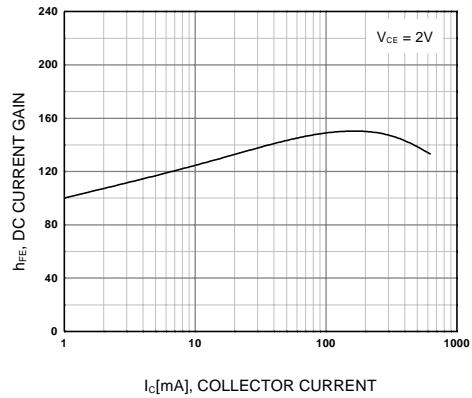


Figure 2. DC current Gain

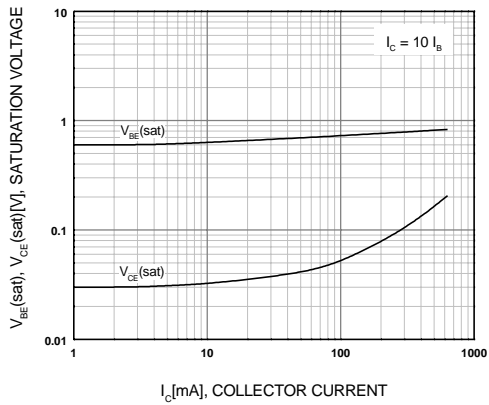


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

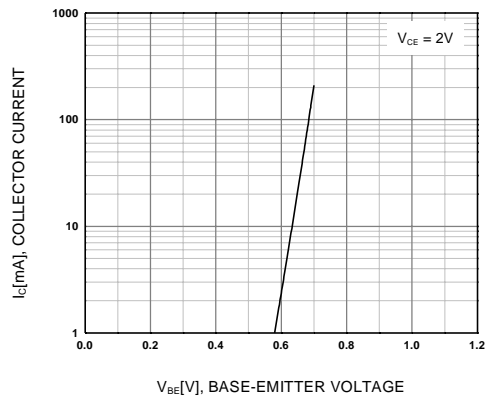


Figure 4. Base-Emitter On Voltage

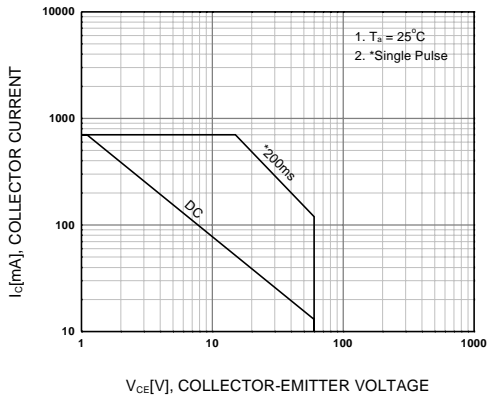


Figure 5. Safe Operating Area

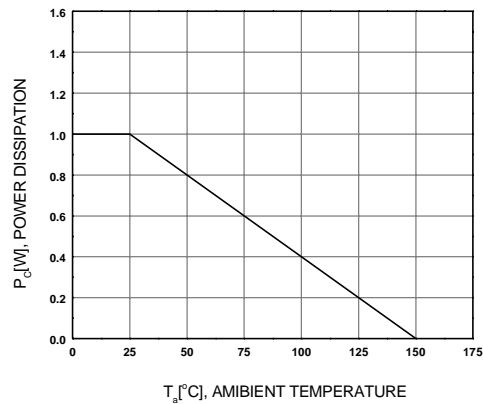
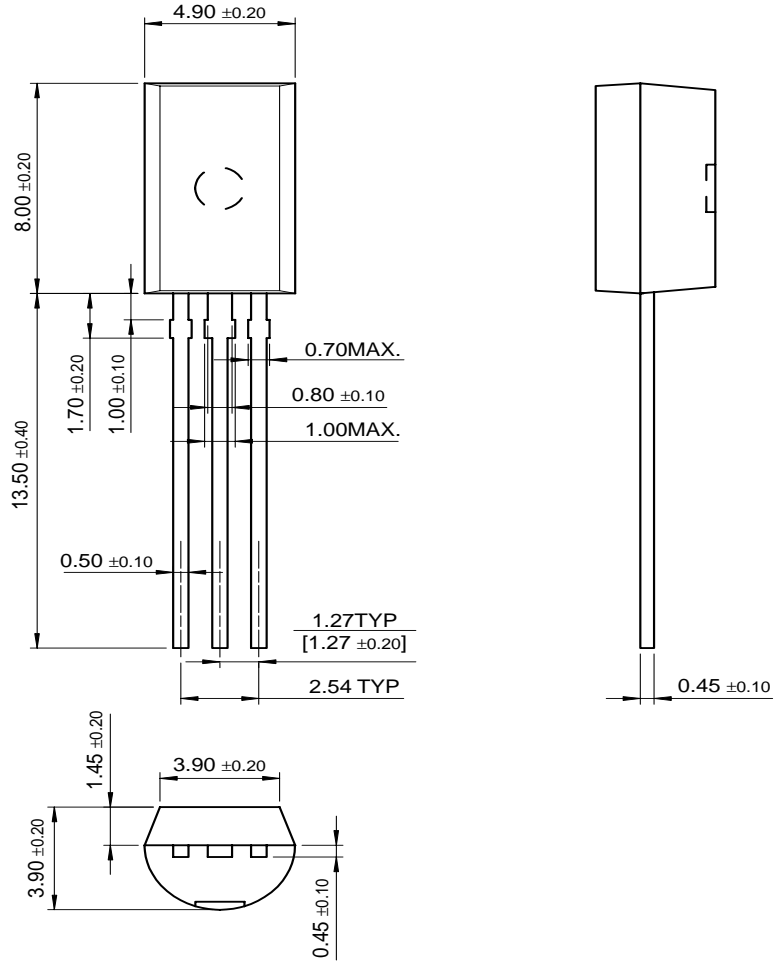


Figure 6. Power Derating

# Package Dimensions

## TO-92L



Dimensions in Millimeters

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