

KSC2331

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	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		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

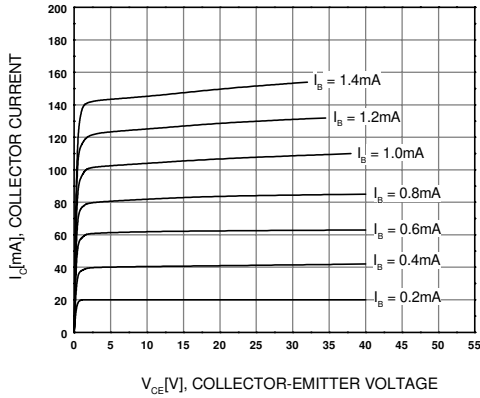


Figure 1. Static Characteristic

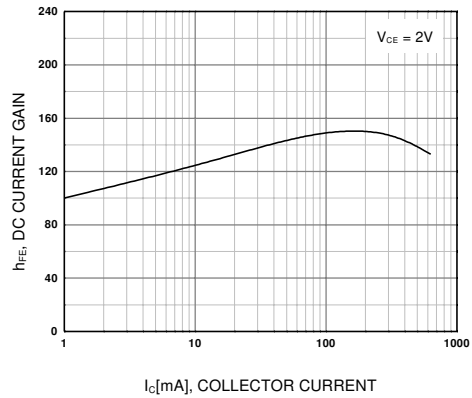


Figure 2. DC current Gain

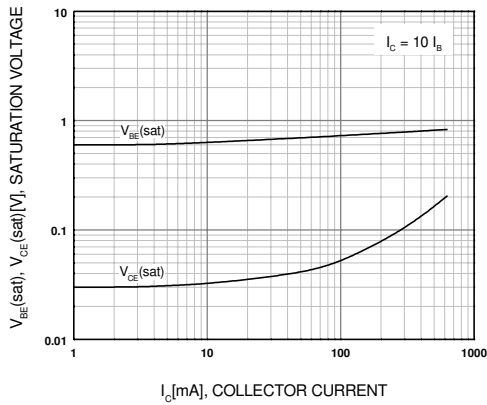


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

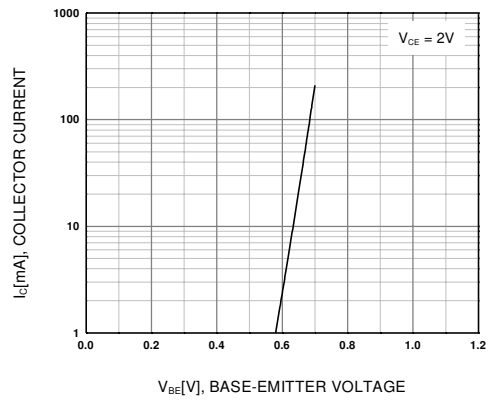


Figure 4. Base-Emitter On Voltage

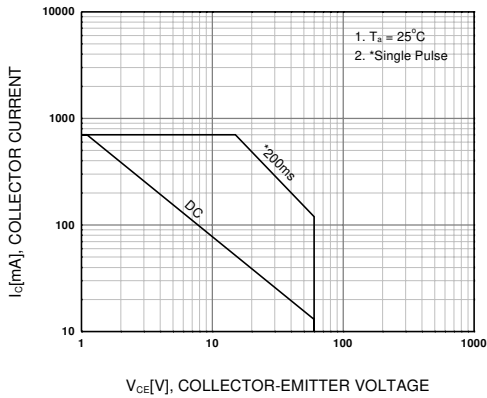


Figure 5. Safe Operating Area

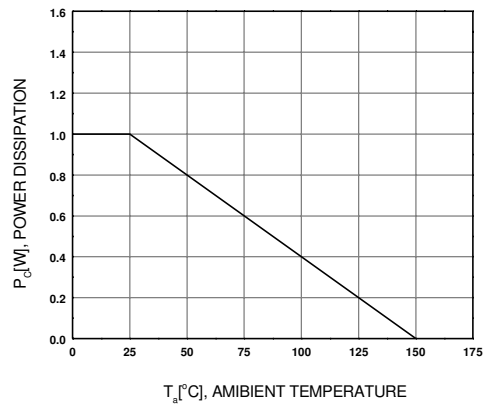
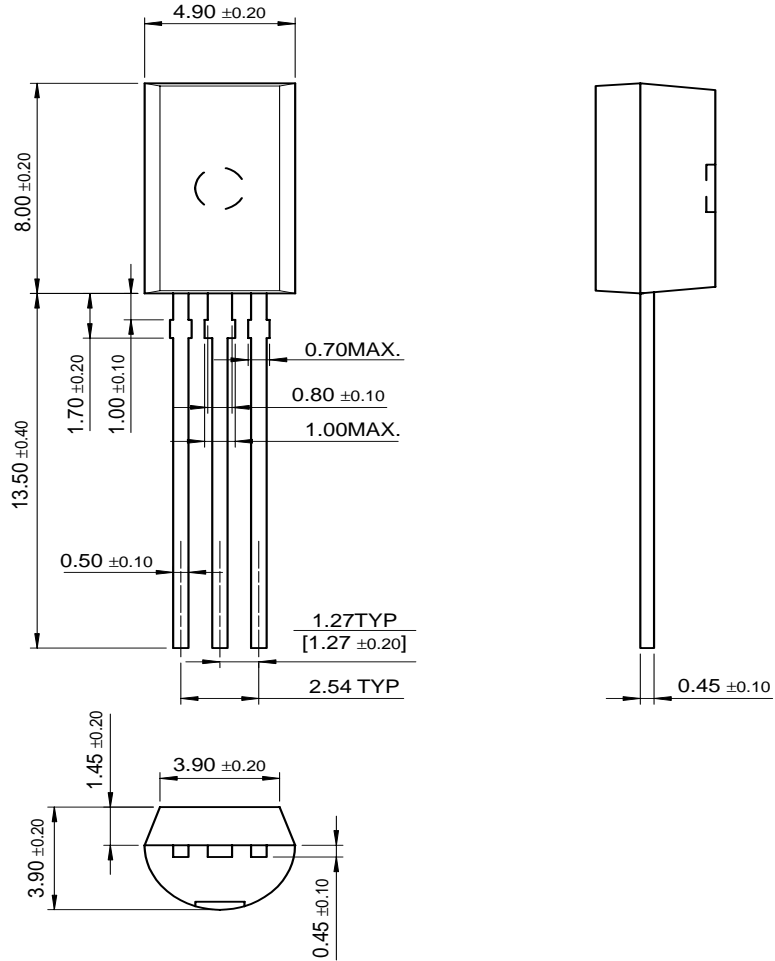


Figure 6. Power Derating

Package Dimensions

KSC2331

TO-92L



Dimensions in Millimeters

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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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