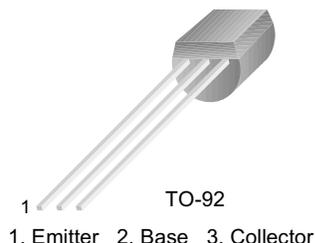


# KSC815

## Low Frequency Amplifier & High Frequency Oscillator

- Collector-Base Voltage :  $V_{CBO}=60V$
- Complement to KSA539



## NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
$V_{CBO}$	Collector-Base Voltage	60	V
$V_{CEO}$	Collector-Emitter Voltage	45	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	200	mA
$P_C$	Collector Dissipation	400	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
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C=100\mu A, I_E=0$	60			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10mA, I_B=0$	45			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=10\mu A, I_C=0$	5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=45V, I_E=0$			0.1	$\mu A$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB}=3V, I_C=0$			0.1	$\mu A$
$h_{FE}$	DC Current Gain	$V_{CE}=1V, I_C=50mA$	40		400	
$V_{BE} (on)$	Base-Emitter On Voltage	$V_{CE}=10V, I_C=10mA$	0.6	0.65	0.9	V
$V_{CE} (sat)$	Collector-Emitter Saturation Voltage	$I_C=150mA, I_B=15mA$		0.15	0.4	V
$V_{BE} (sat)$	Base-Emitter Saturation Voltage	$I_C=150mA, I_B=15mA$		0.83	1.1	V
$f_T$	Current Gain Bandwidth Product	$V_{CE}=10V, I_C=10mA$	100	200		MHz
$C_{ob}$	Output Capacitance	$V_{CB}=10V, I_E=0, f=1MHz$		4		pF

### $h_{FE}$ Classification

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

# Typical Characteristics

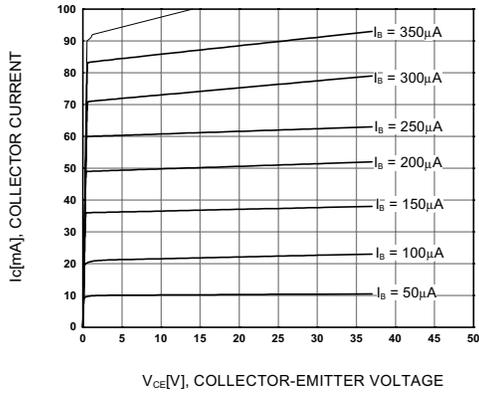


Figure 1. Static Characteristic

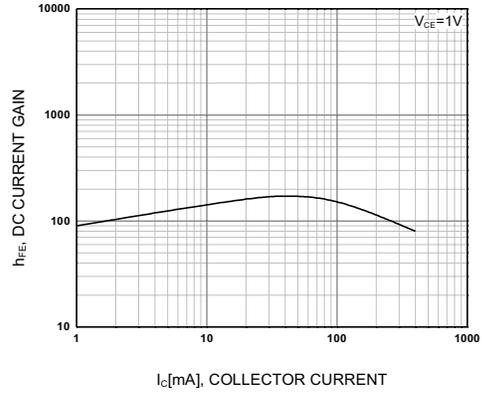


Figure 2. DC current Gain

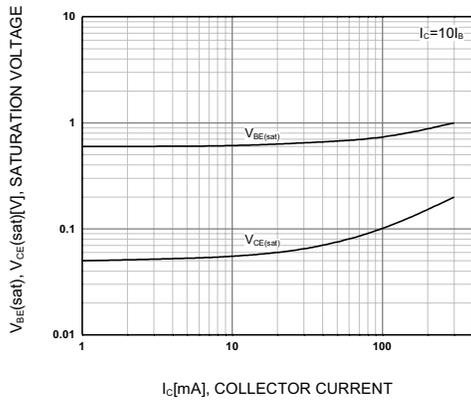


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

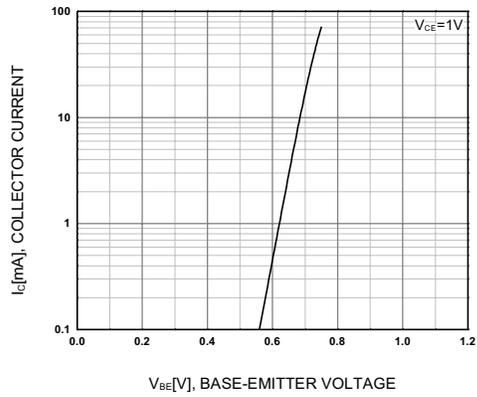


Figure 4. Base-Emitter On Voltage

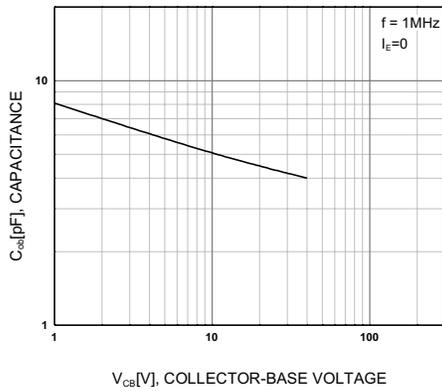


Figure 5. Collector Output Capacitance

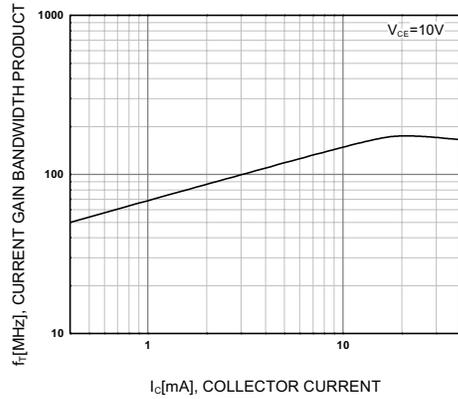
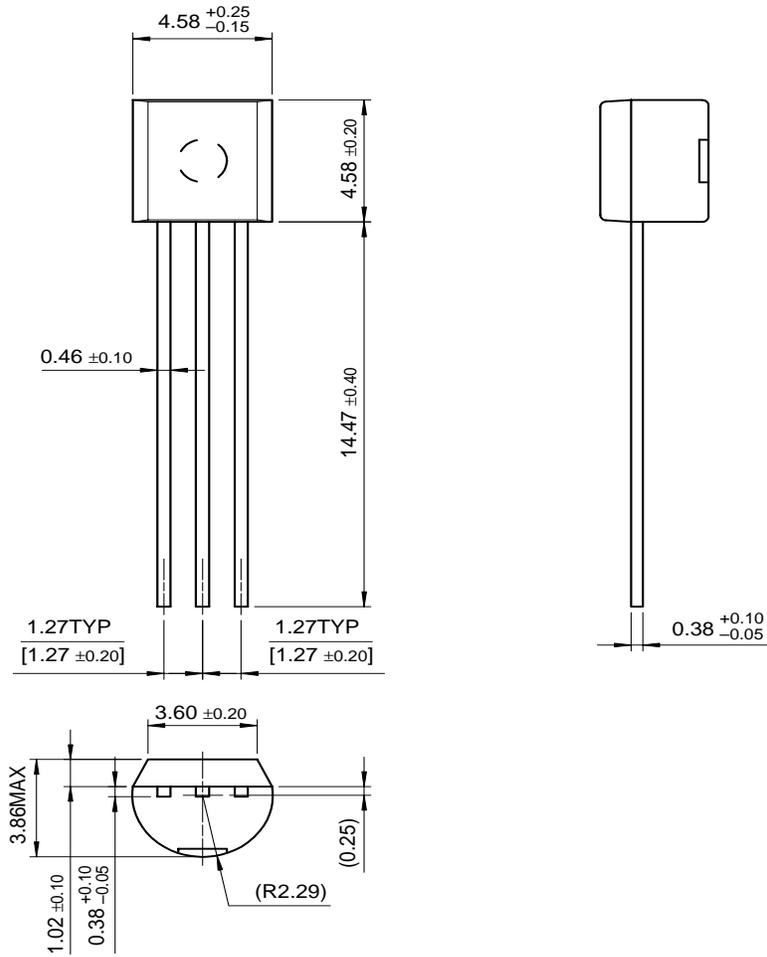


Figure 6. Current Gain Bandwidth Product

# Package Dimensions

KSC815

## TO-92



Dimensions in Millimeters

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CROSSVOLT™	POP™	UHC™
E <sup>2</sup> CMOS™	PowerTrench®	VCX™
FACT™	QFET™	
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FASTr™	SuperSOT™-3	
GTO™	SuperSOT™-6	

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