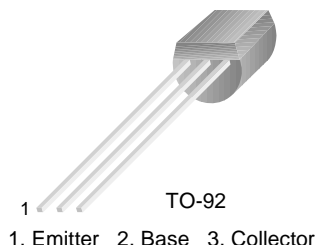


# KSA542

KSA542

## LOW FREQUENCY AMPLIFIER

- Collector-Base Voltage :  $V_{CBO} = -30V$
- Low Collector-Emitter Saturation Voltage :  $V_{CE(sat)} = -0.15V(TYP.)$
- Complement to KSC184



## PNP Epitaxial Silicon Transistor

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

Symbol	Parameter	Ratings	Units
$V_{CBO}$	Collector-Base Voltage	-30	V
$V_{CEO}$	Collector-Emitter Voltage	-25	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current	-50	mA
$P_C$	Collector Dissipation	250	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	$I_C = -100\mu A, I_E = 0$	-30			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -10mA, I_B = 0$	-25			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = -10\mu A, I_C = 0$	-5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -25V, I_E = 0$			-100	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -3V, I_C = 0$			-100	nA
$h_{FE}$	DC Current Gain	$V_{CE} = -6V, I_C = -1mA$	40		400	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -20mA, I_B = -2mA$		-0.15	-0.3	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = -6V, I_C = -1mA$		-0.65	-1.0	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -6V, I_C = -1mA$		100		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = -6V, I_E = 0, f = 1MHz$		2.5		pF

### $h_{FE}$ Classification

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

# Typical Characteristics

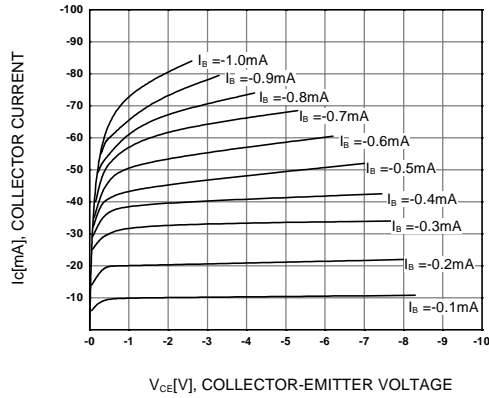


Figure 1. Static Characteristic

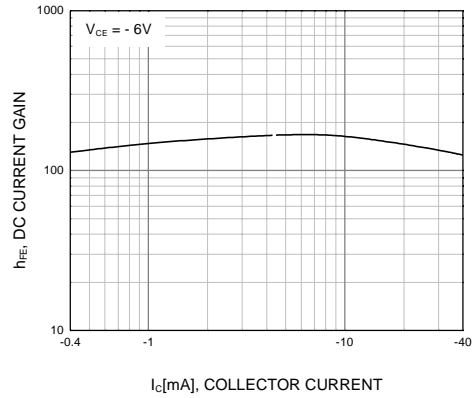


Figure 2. DC current Gain

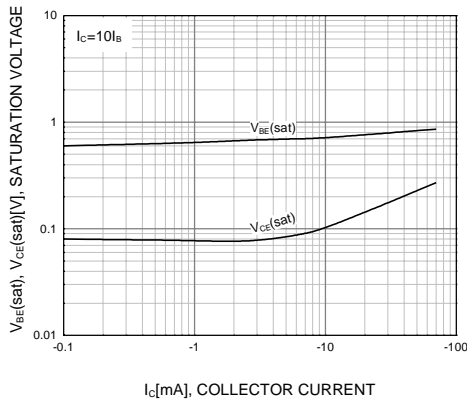


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

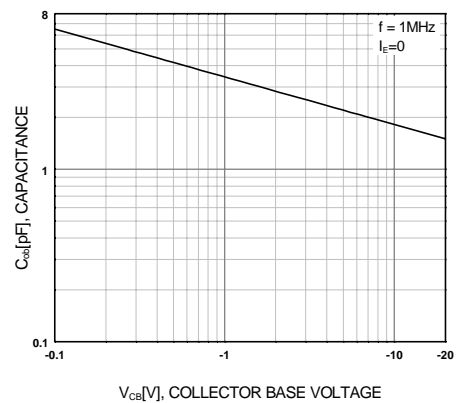


Figure 4. Collector Output Capacitance

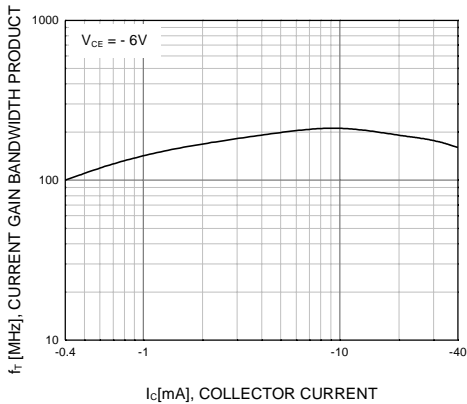
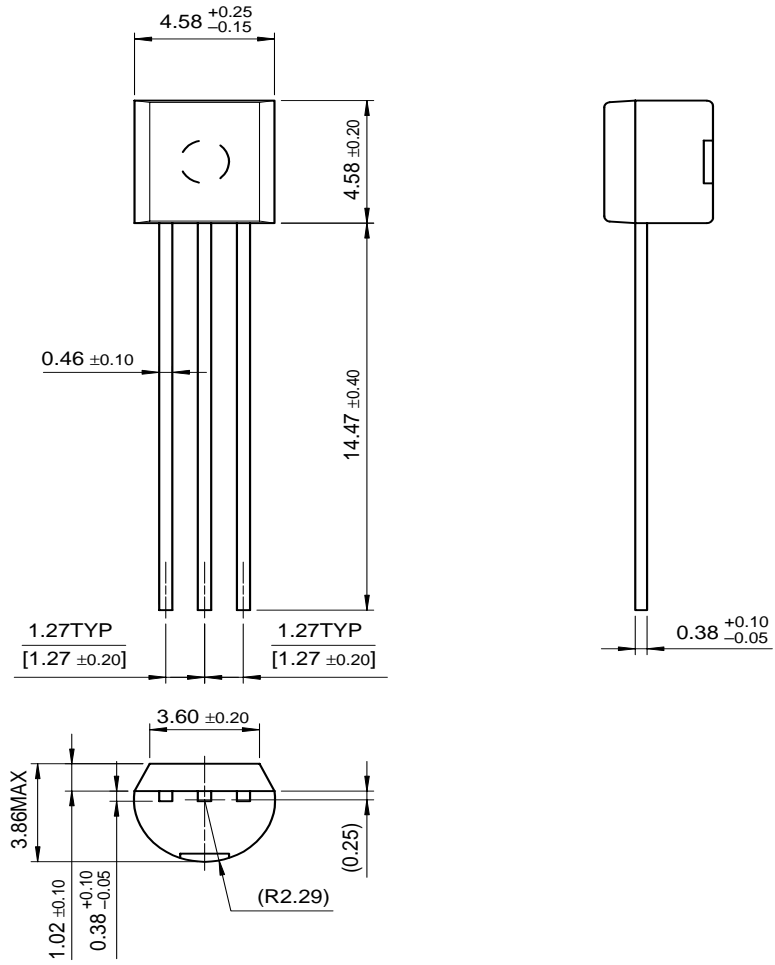


Figure 5. Current Gain Bandwidth Product

# Package Dimensions

## TO-92



Dimensions in Millimeters

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

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