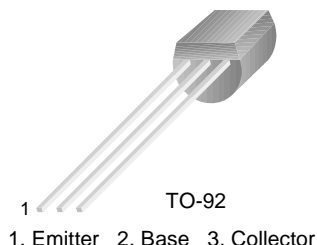


# KSC1187

KSC1187

## TV 1st, 2nd Picture IF Amplifier (Forward AGC)

- High Current Gain Bandwidth Product :  $f_T=700\text{MHz}$
- High Power Gain :  $G_{PE}=24\text{dB}$  (TYP.) at  $f=45\text{MHz}$



## NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Ratings	Units
$V_{CBO}$	Collector-Base Voltage	30	V
$V_{CEO}$	Collector-Emitter Voltage	20	V
$V_{EBO}$	Emitter-Base Voltage	4	V
$I_C$	Collector Current	30	mA
$P_C$	Collector Power Dissipation	250	mW
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

### Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C=10\mu\text{A}, I_E=0$	30			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C=5\text{mA}, I_B=0$	25			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=10\mu\text{A}, I_C=0$	4			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=20\text{V}, I_E=0$			0.1	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$V_{CE}=10\text{V}, I_C=2\text{mA}$	40		240	
$f_T$	Current Gain Bandwidth Product	$V_{CE}=10\text{V}, I_C=3\text{mA}$	400	700		MHz
$C_{RE}$	Reverse Transfer Capacitance	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		0.6		pF
$G_{PE}$	Power Gain	$V_{CE}=10\text{V}, I_C=3\text{mA}$ $f=45\text{MHz}$	20	24		dB
$V_{AGC}$	AGC Voltage	$G_R=30\text{dB}, f=45\text{MHz}$	4.4	5.2	6.0	V

### $h_{FE}$ Classification

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

# Typical Characteristics

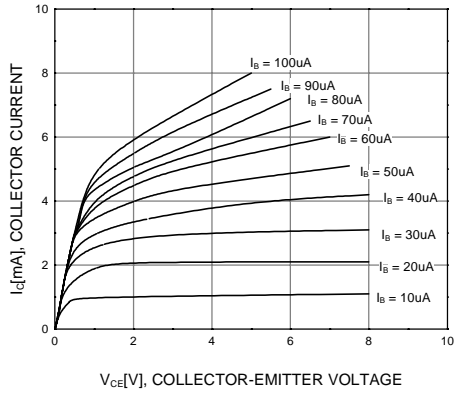


Figure 1. Static Characteristic

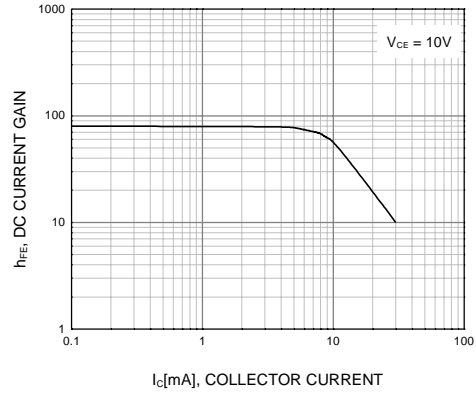


Figure 2. DC current Gain

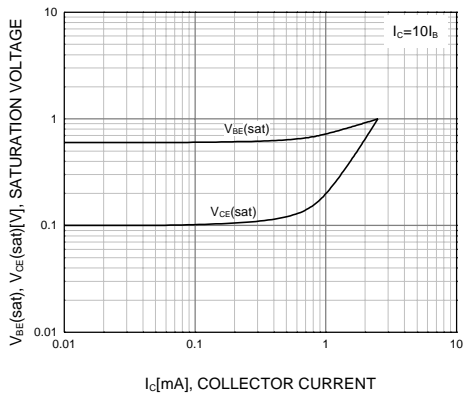


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

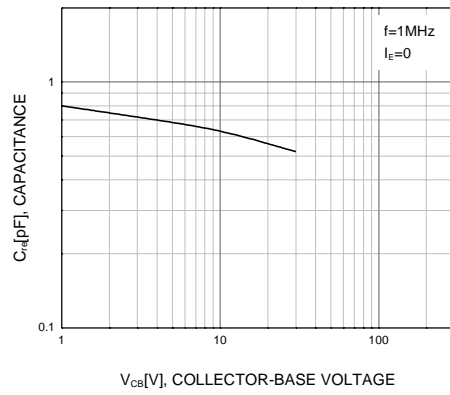


Figure 4. Reverse Capacitance

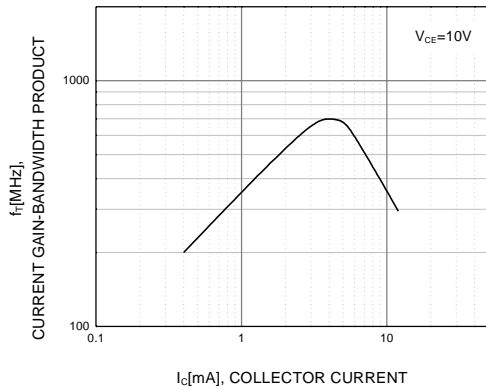


Figure 5. Current Gain Bandwidth Product

# Package Dimensions

## TO-92



Dimensions in Millimeters

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