

KSC1187

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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	μA
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

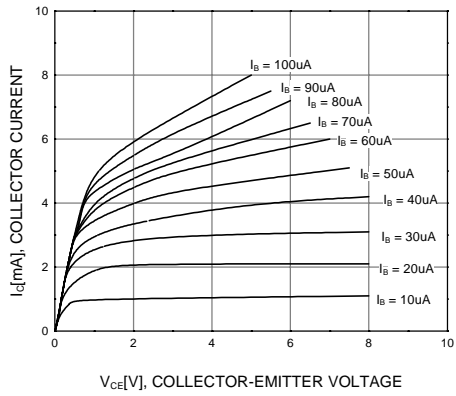


Figure 1. Static Characteristic

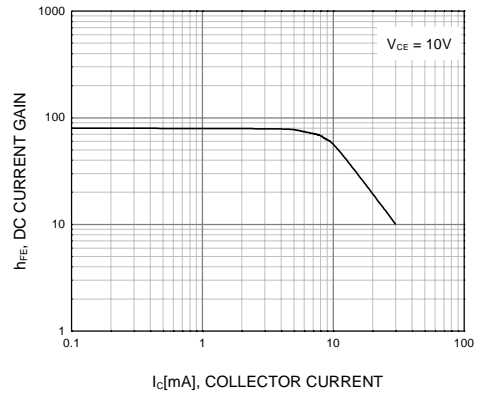


Figure 2. DC current Gain

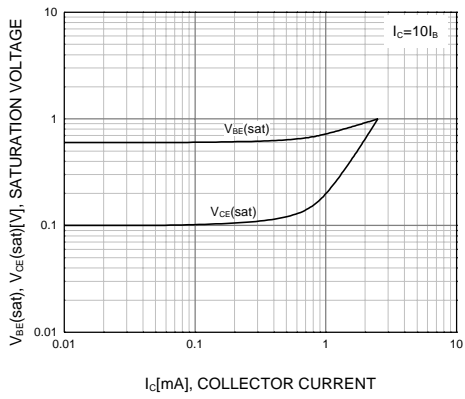


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

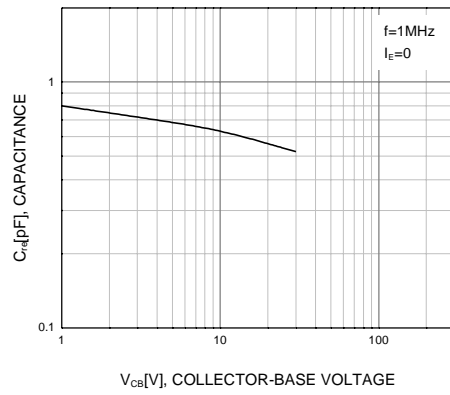


Figure 4. Reverse Capacitance

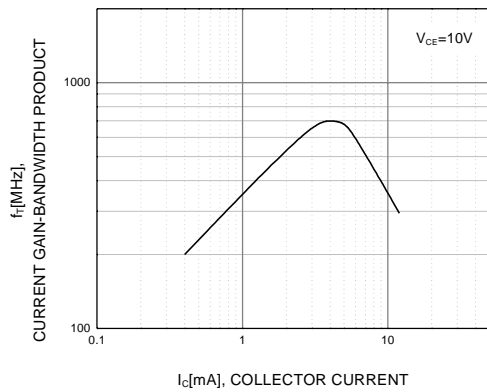


Figure 5. Current Gain Bandwidth Product

Package Dimensions

TO-92



Dimensions in Millimeters

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Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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NPN Epitaxial Silicon Transistor

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Features

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Product status/pricing/packaging

Product	Product status	Pricing*	Package type	Leads	Packing method
KSC1187OBU	Full Production	\$0.05	TO-92	3	BULK
KSC1187YTA	Full Production	\$0.05	TO-92	3	TAPE REEL
KSC1187OTA	Full Production	\$0.05	TO-92	3	TAPE REEL
KSC1187YBU	Full Production	\$0.05	TO-92	3	BULK

* 1,000 piece Budgetary Pricing

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