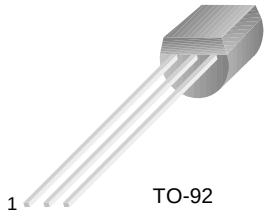
FAIRCHILD
SEMICONDUCTOR®

KSC1674

TV PIF Amplifier, FM Tuner RF Amplifier, Mixer, Oscillator

- High Current Gain Bandwidth Product : f_T=600MHz (TYP.)
- Suffix "-C" means Center Collector (1. Emitter 2. Collector 3. Base)



TO-92

1. Emitter 2. Base 3. Collector

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a=25°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	20	mA
P_C	Collector Power Dissipation	250	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C=10μA, I_E=0	30			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C=5mA, I_B=0	20			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E=10μA, I_C=0	4			V
I_{CBO}	Collector Cut-off Current	V_{CB}=30V, I_E=0			0.1	μA
I_{EBO}	Emitter Cut-off Current	V_{EB}=4V, I_C=0			0.1	μA
h_{FE}	DC Current Gain	V_{CE}=6V, I_C=1mA	40		240	
V_{BE}(on)	Base-Emitter On Voltage	V_{CE}=6V, I_C=1mA		0.72		V
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C=10mA, I_B=1mA		0.1	0.3	V
f_T	Current Gain Bandwidth Product	V_{CE}=6V, I_C=1mA	400	600		MHz
C_{ob}	Output Capacitance	V_{CB}=6V, I_E=0, f=1MHz		1.2		pF
$C_{c\cdot rbb'}$	Collector-Base Time Constant	V_{CE}=6V, I_C=1mA f=31.9MHz		12	15	ps
NF	Noise Figure	V_{CE}=6V, I_C=1mA R_S=50Ω, f=100MHz		3.0	5.0	dB

h_{FE} Classification

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

Typical Characteristics

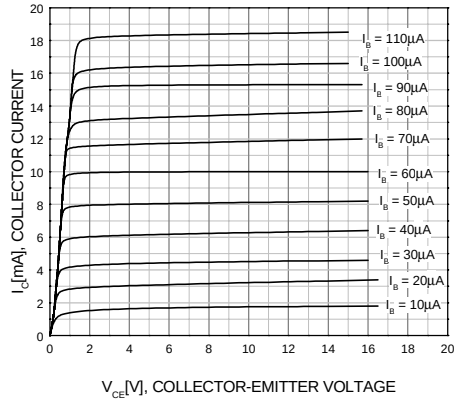


Figure 1. Static Characteristic

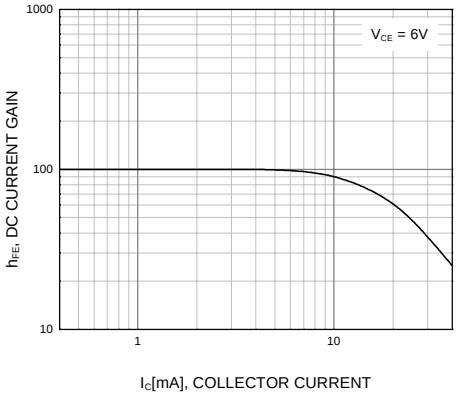


Figure 2. DC current Gain

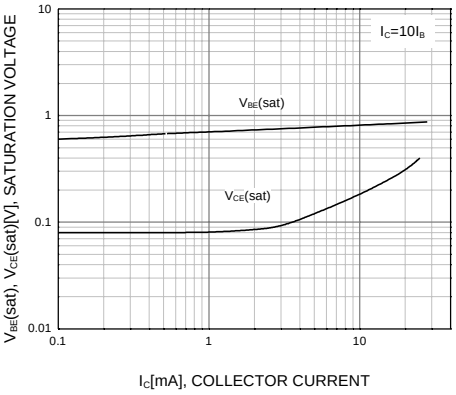


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

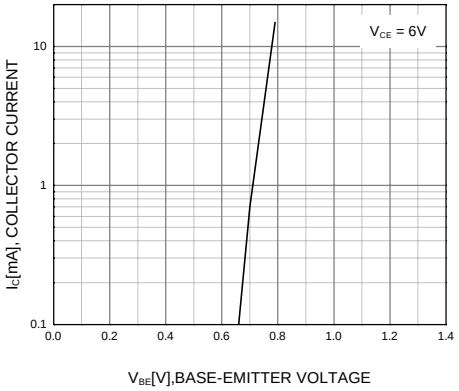


Figure 4. Base-Emitter On Voltage

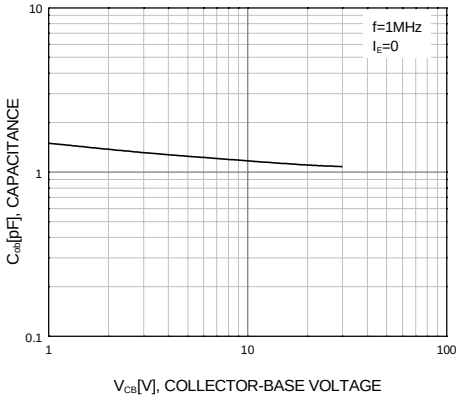


Figure 5. Collector Output Capacitance

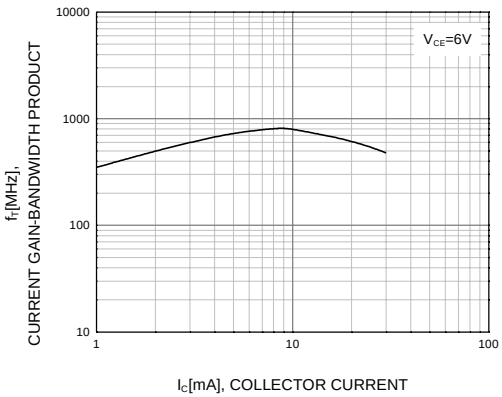
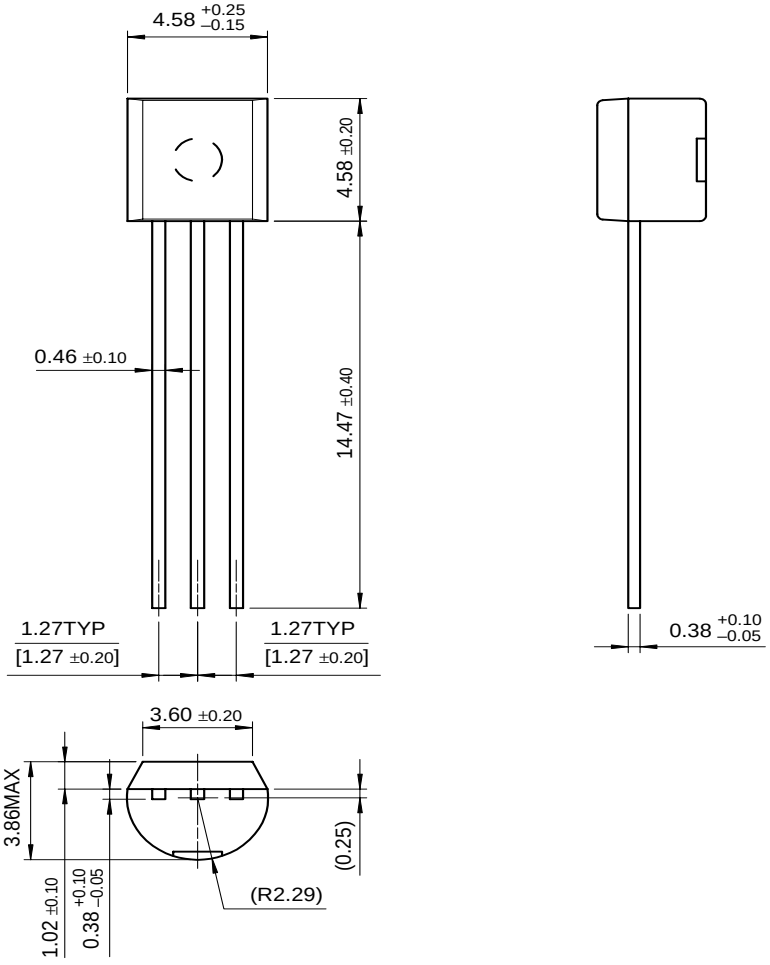


Figure 6. Current Gain Bandwidth Product

Package Dimensions

TO-92



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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PRODUCT STATUS DEFINITIONS

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