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FAIRCHILD SEMICONDUCTOR®

KSC388

TV Final Picture IF Amplifier Applications

- G_{PE}= 33dB (TYP) at f=45MHz
- 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	Value	Units
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current	50	mA
P_C	Collector Power Dissipation	300	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	25			V
I_{CBO}	Collector Cut-off Current	V_{CB}=30V, I_E=0			0.1	μA
I_{EBO}	Emitter Cut-off Current	V_{EB}=3V, I_C=0			0.1	μA
h_{FE}	DC Current Gain	V_{CE}=12.5V, I_C=12.5mA	20		200	
V_{CE} (sat)	Collector-Emitter Saturation Voltage	I_C=15mA, I_B=1.5mA			0.2	V
V_{BE} (sat)	Base-Emitter Saturation Voltage	I_C=15mA, I_B=1.5mA			1.5	V
C_{ob}	Output Capacitance	V_{CB}=10V, I_E=0, f=1MHz	0.8		2	pF
$C_{c\cdot rbb'}$	Collector-Base Time Constant	V_{CB}=10V, I_C=1mA f=30MHz			25	ps
f_T	Current Gain Bandwidth Product	V_{CE}=12.5V, I_C=12.5mA	300			MHz
G_{PE}	Power Gain	V_{CC}=12.5V, I_C=12.5mA f=45MHz	28	33	36	dB

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Typical Characteristics

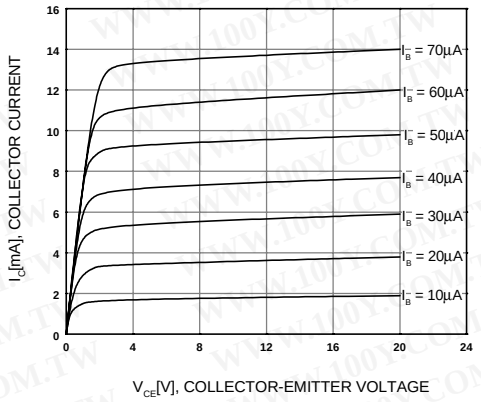

Figure 1. Static Characteristic

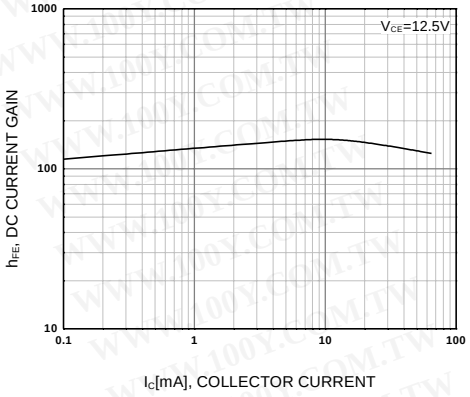

Figure 2. DC current Gain

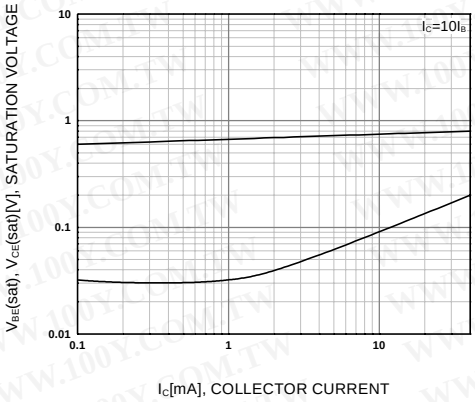

Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

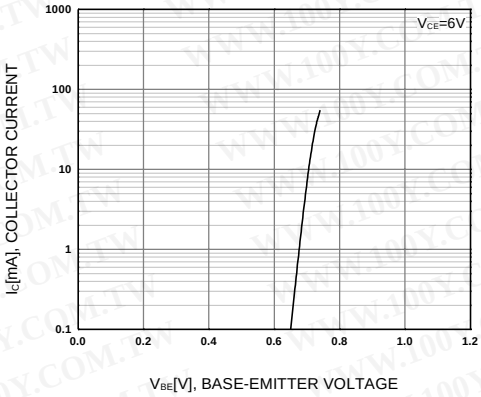

Figure 4. Base-Emitter On Voltage

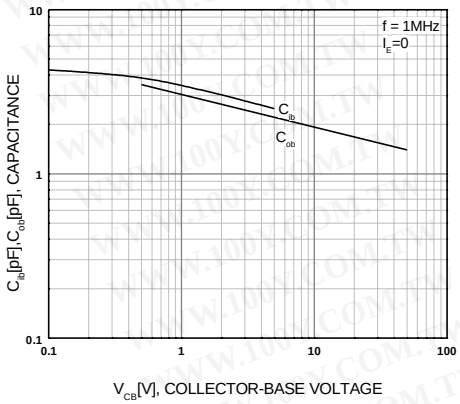

Figure 5. Collector Input Capacitance Collector Output Capacitance

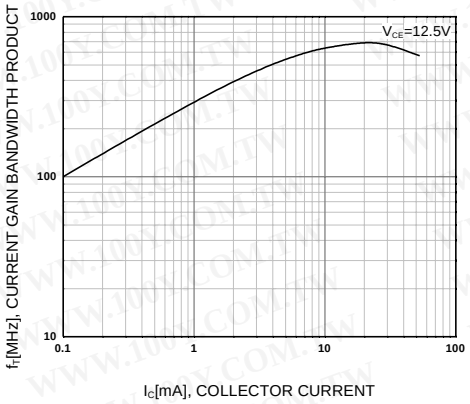

Figure 6. Current Gain Bandwidth Product

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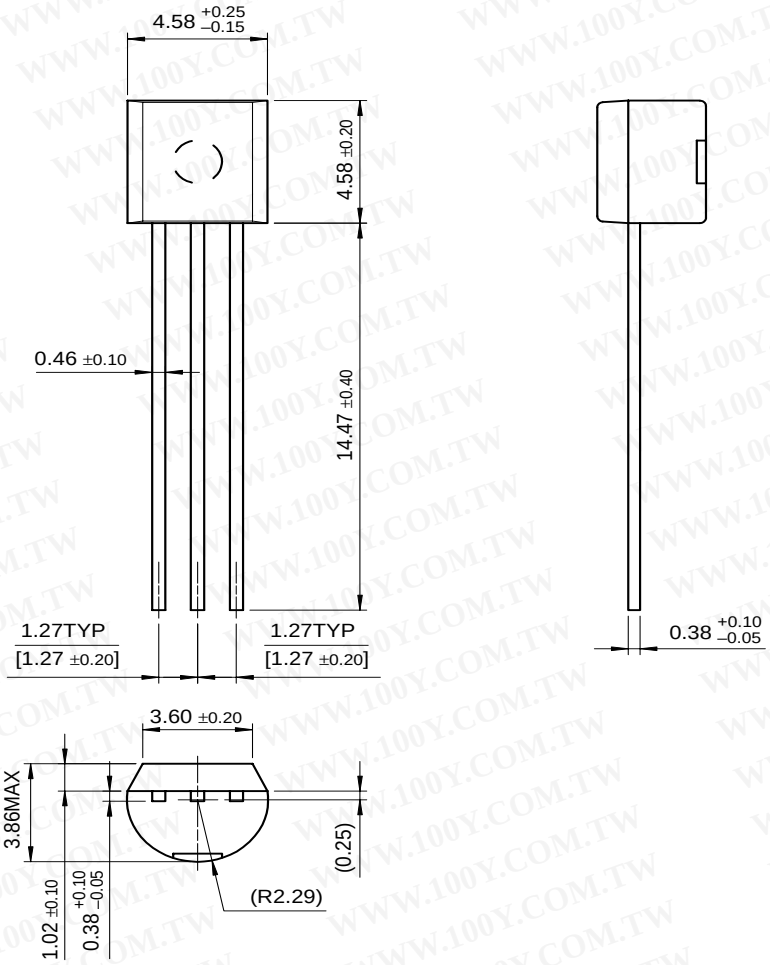
Package Dimensions

TO-92



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
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EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
Across the board. Around the world.™		OCXPro™	RapidConnect™	UltraFET®
The Power Franchise™		OPTOLOGIC®	SILENT SWITCHER®	VCX™
Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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Definition of Terms

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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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