



FUKUCOM COMPANY LTD.

福 靈 有 限 公 司

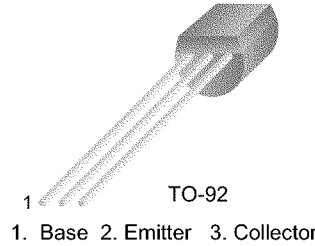
FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,
KWUN TONG, KOWLOON, HONG KONG.
TEL: 2790-0314 FAX: 2790-0206

KSP10

FAIRCHILD
SEMICONDUCTOR®

KSP10

VHF/UHF transistor



NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_a=25^\circ\text{C}$ 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	3.0	V
P_C	Collector Power Dissipation ($T_a=25^\circ\text{C}$)	350	mW
	Derate above 25°C	2.8	mW/ $^\circ\text{C}$
P_C	Collector Power Dissipation ($T_C=25^\circ\text{C}$)	1.0	W
	Derate above 25°C	8.0	W/ $^\circ\text{C}$
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55~150	$^\circ\text{C}$
$R_{th(j-c)}$	Thermal Resistance, Junction to Case	125	$^\circ\text{C}/\text{W}$
$R_{th(j-a)}$	Thermal Resistance, Junction to Ambient	357	$^\circ\text{C}/\text{W}$

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

Symbol	Parameter	Test Condition	Min.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C=100\mu\text{A}, I_E=0$	30		V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C=1\text{mA}, I_B=0$	25		V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=10\mu\text{A}, I_C=0$	3.0		V
I_{CBO}	Collector Cut-off Current	$V_{CB}=25\text{V}, I_E=0$		100	nA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=2\text{V}, I_C=0$		100	nA
h_{FE}	DC Current Gain	$V_{CE}=10\text{V}, I_C=4\text{mA}$	60		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=4\text{mA}, I_B=0.4\text{mA}$		0.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE}=10\text{V}, I_C=4\text{mA}$		0.95	V
f_T	Current Gain Bandwidth Product	$V_{CE}=10\text{V}, I_C=4\text{mA}, f=100\text{MHz}$	650		MHz
C_{ob}	Output Capacitance	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		0.7	pF
C_{rb}	Collector Base Feedback Capacitance	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$	0.35	0.65	pF
C_{c-rbb}	Collector Base Time Constant	$V_{CB}=10\text{V}, I_C=4\text{mA}, f=31.8\text{MHz}$		9.0	ps

* Pulse Test: $PW \leq 300\mu\text{s}$, Duty Cycles $\leq 2\%$



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Typical Characteristics

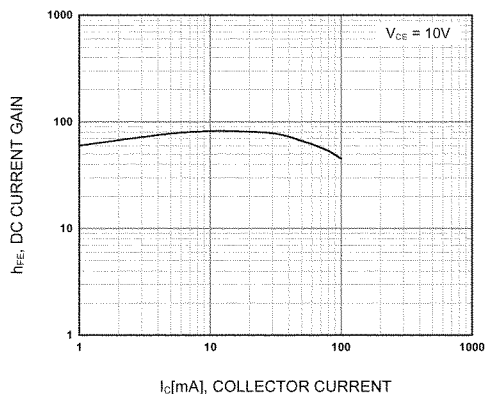


Figure 1. DC current Gain

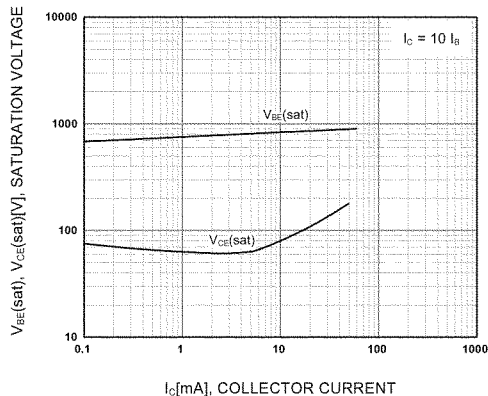


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

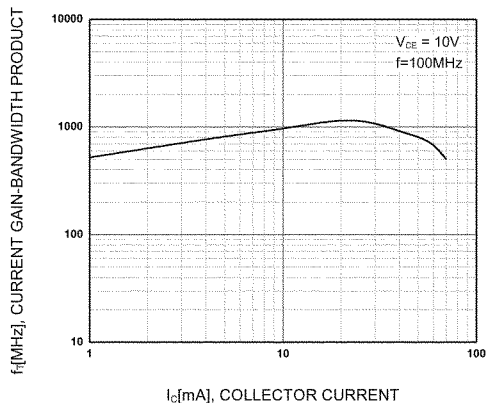


Figure 3. Current Gain Bandwidth Product

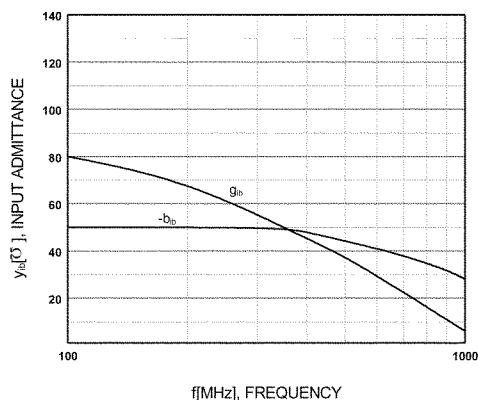


Figure 4. Rectangular Form

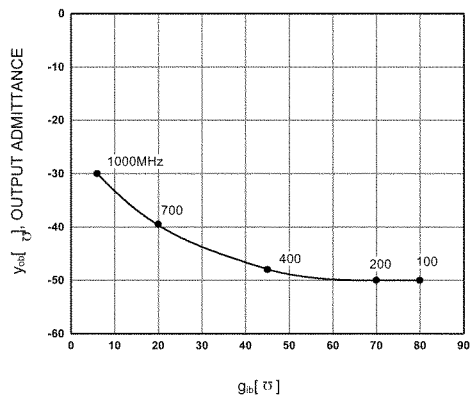


Figure 5. Polar Form

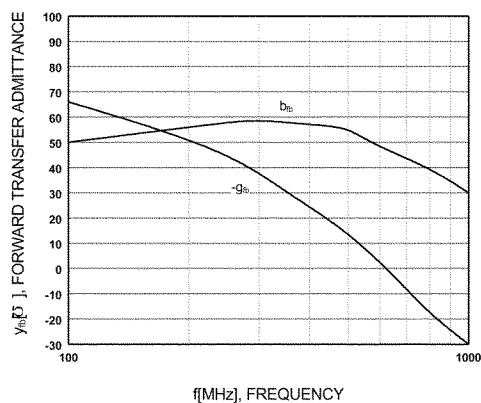


Figure 6. Rectangular Form



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Typical Characteristics (Continued)

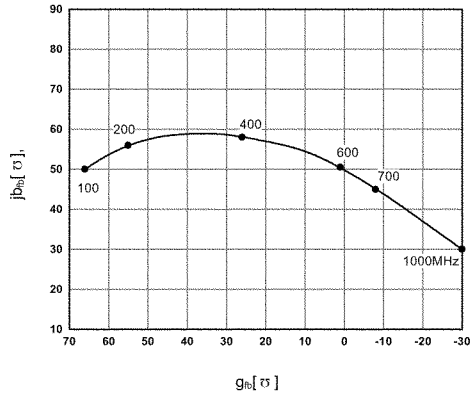


Figure 7. Polar Form

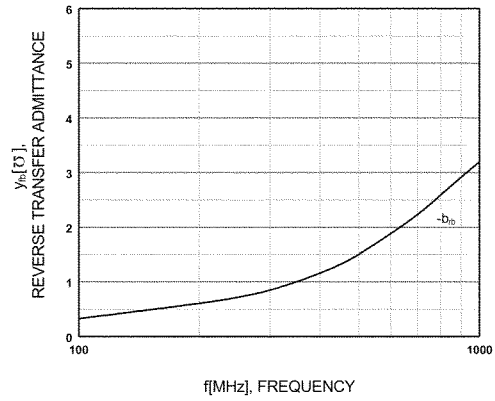


Figure 8. Rectangular Form

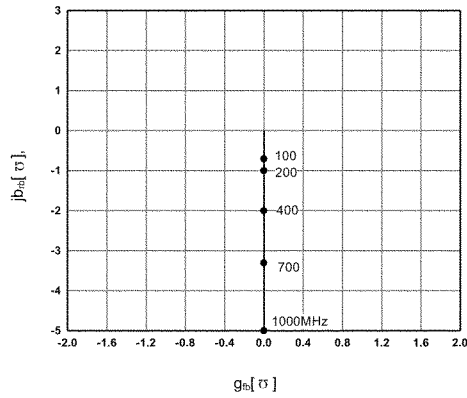


Figure 9. Polar Form

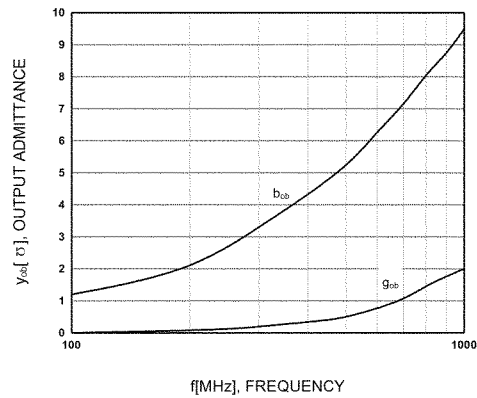


Figure 10. Rectangular Form

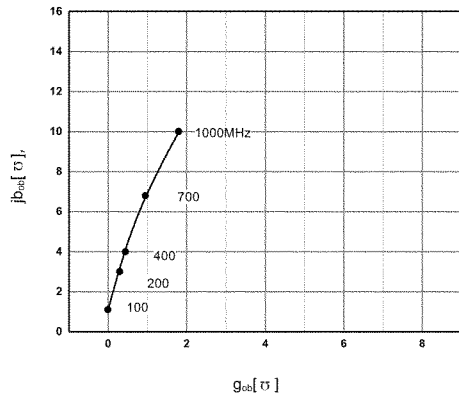


Figure 11. Polar Form



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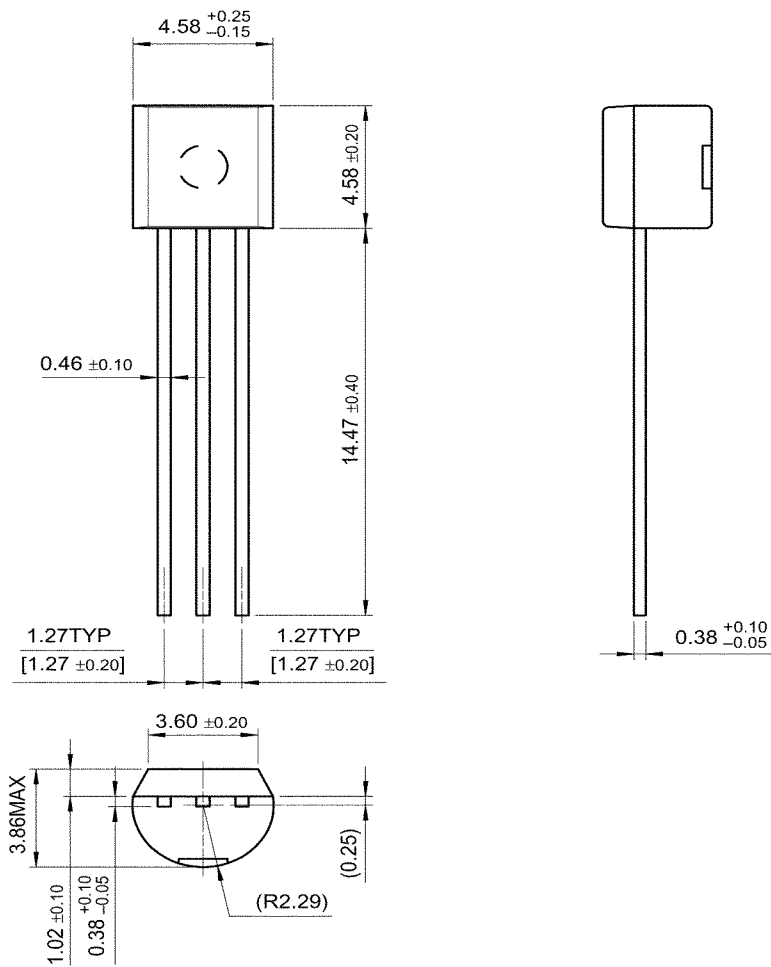
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Package Demensions

KSP10

TO-92



Dimensions in Millimeters