



FUKUCOM COMPANY LTD.

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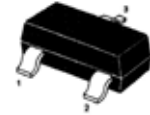
FLAT P, 3/F., EVEREST INDUSTRIAL CENTRE, 396 KWUN TONG ROAD,
KWUN TONG, KOWLOON, HONG KONG.

TEL: 852-2790 0314 FAX: 852-2790 0206

S9018

PNP Epitaxial Silicon Transistor
AM/FM IF AMPLIFIER, LOCAL OSCILATOR
OF FM.VHF TUNER

- **High Current Gain Bandwidth Product $f_T=1100\text{MHz}$**



1. Base 2. Emitter 3. Collector
SOT-23 Plastic Package

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

Symbol	Characteristic	Value	Units
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	15	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	50	mA
P_D	Collector Dissipation $T_a=25^\circ\text{C}^*$	225	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	Characteristic	Test Condition	Min.	Typ.	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 [#]	$I_C=1\text{mA}, I_B=0$	15			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=100\mu\text{A}, I_C=0$	5			V
I_{CBO}	Collector-Base Cutoff Current	$V_{CB}=12\text{V}, I_E=0\text{V}$			50	ηA
h_{FE}	DC Current Gain	$V_{CE}=5\text{V}, I_C=1\text{mA}$				
	Group G		72		108	
	Group H		97		146	
	Group I		132		198	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=10\text{mA}, I_B=1\text{mA}$			0.5	V
C_{OB}	Collector-Base Capacitance	$V_{CB}=10\text{V}; I_E=0$ $f=1\text{MHz}$		1.3	1.7	pF
f_T	Current Gain-Bandwidth Product	$V_{CE}=5\text{V}; I_C=5\text{mA}$	700	1100		MHz

Marking : J8(Group)

* Total Device Dissipation : $FR=1 \times 0.75 \times 0.062$ in Board, Derate 25°C

Pulse Test : Pulse Width $\leq 300\mu\text{s}$, Duty cycle $\leq 2\%$



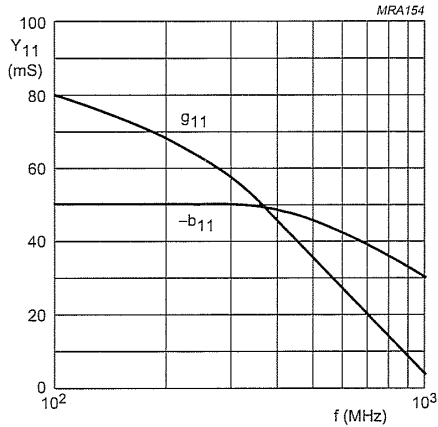
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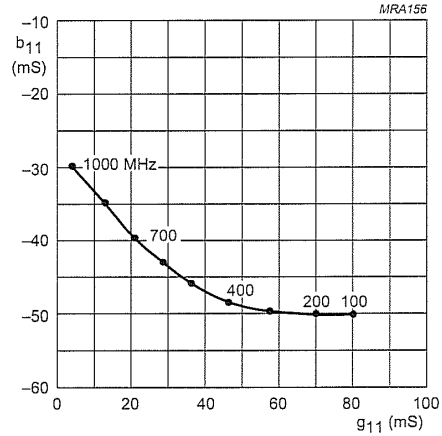
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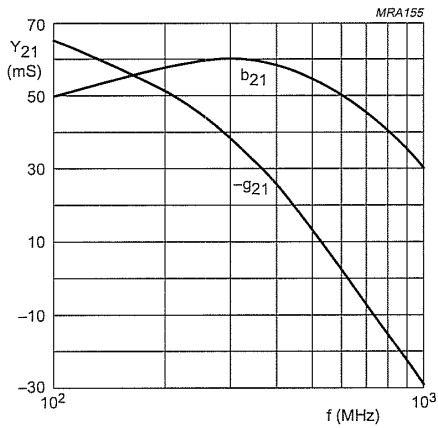
V_{CB} = 10 V; I_C = 4 mA.

Fig.2 Common base input admittance (Y₁₁) as a function of frequency.



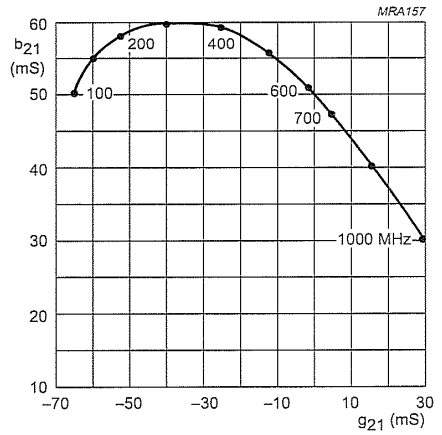
V_{CB} = 10 V; I_C = 4 mA.

Fig.3 Common base input admittance (Y₁₁).



V_{CB} = 10 V; I_C = 4 mA.

Fig.4 Common base forward transfer admittance (Y₂₁) as a function of frequency.



V_{CB} = 10 V; I_C = 4 mA.

Fig.5 Common base forward transfer admittance (Y₂₁).



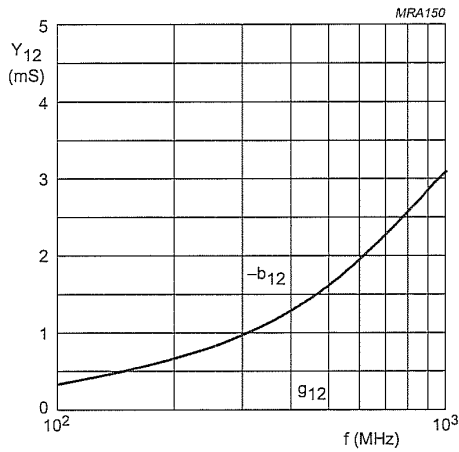
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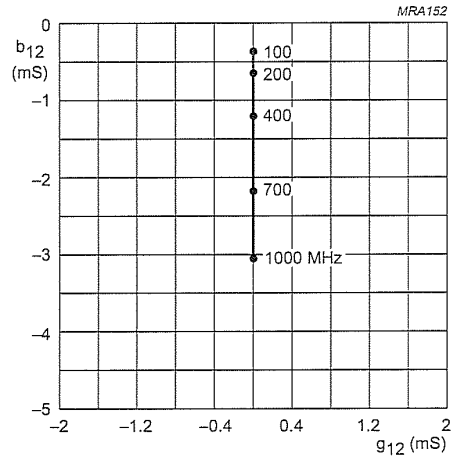
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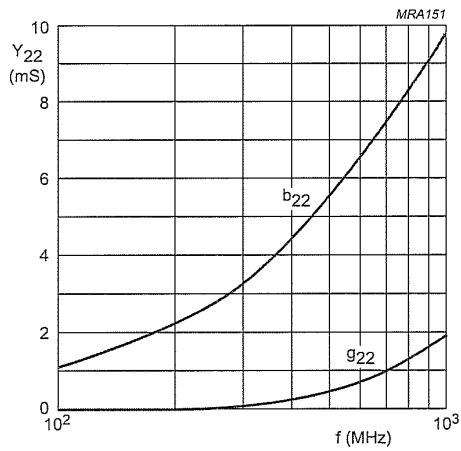
$V_{CB} = 10\text{ V}; I_C = 4\text{ mA}$.

Fig.6 Common base reverse transfer admittance (Y_{12}) as a function of frequency.



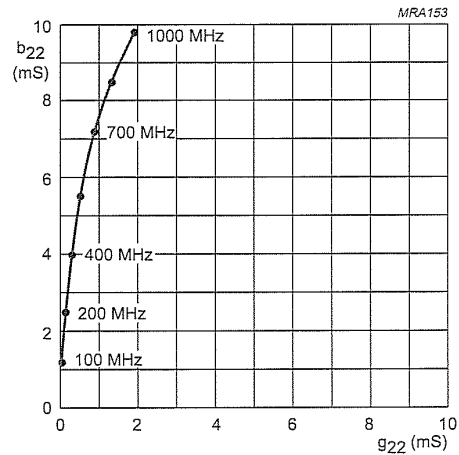
$V_{CB} = 10\text{ V}; I_C = 4\text{ mA}$.

Fig.7 Common base reverse transfer admittance (Y_{12}).



$V_{CB} = 10\text{ V}; I_C = 4\text{ mA}$.

Fig.8 Common base reverse admittance (Y_{22}) as a function of frequency.



$V_{CB} = 10\text{ V}; I_C = 4\text{ mA}$.

Fig.9 Common base reverse admittance (Y_{22}).