TRANSISTOR (NPN)

SOT-323

1.BASE
2.EMITTER
3.COLLECTOR

FEATURES

- For high-frequency Amplification Complementary to 2SA1532
- Optimum for RF amplification of FM/AM radios
- High transition frequency f_T

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	30	mA
P_C	Collector Power Dissipation	150	mW
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

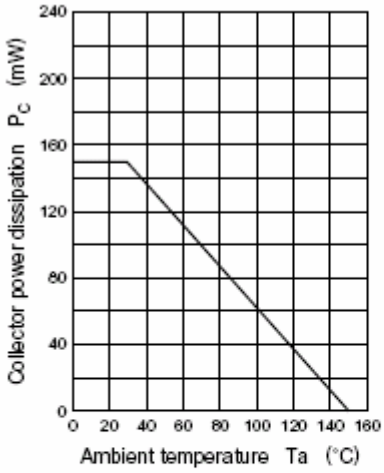
ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA, I_E=0	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= 100μA, I_B=0	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= 100μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=10V,I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_C=0			0.1	μA
DC current gain	h_{FE}	V_{CE}=10V,I_C=1mA	70		220	
Transition frequency	f_T	V_{CE}=10V,I_E=1mA, f=200MHZ	150			MHz
Common emitter reverse transfer capacitance	Cre	V_{CB}=10V,I_C=1mA, f=10.7MHZ			1.5	pF
Noise figure	NF	V_{CB}=10V,I_C=1mA, f=5MHz			4	dB
Reverse transfer impedance	Z_{rb}	V_{CB}=10V,I_C=1mA, f=2MHz			50	Ω

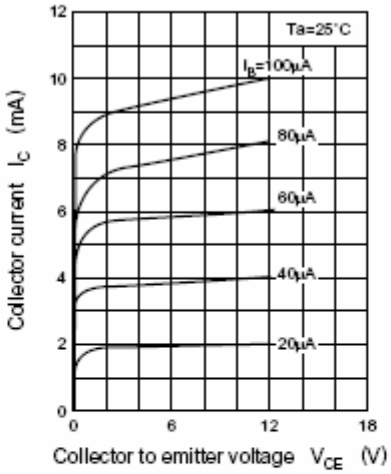
CLASSIFICATION OF $h_{FE(1)}$

Marking	VB	VC
Range	70-140	110-220

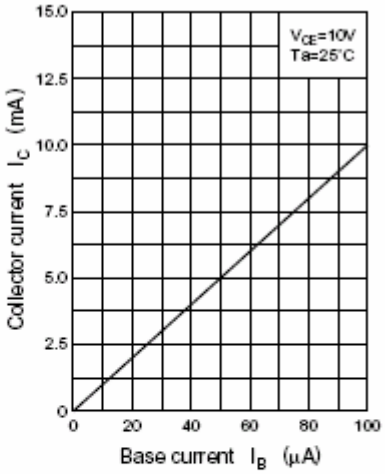
P_C — Ta



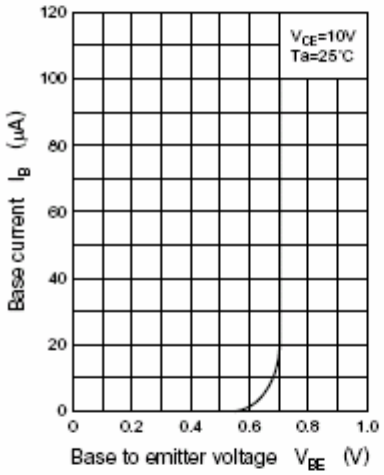
I_C — V_{CE}



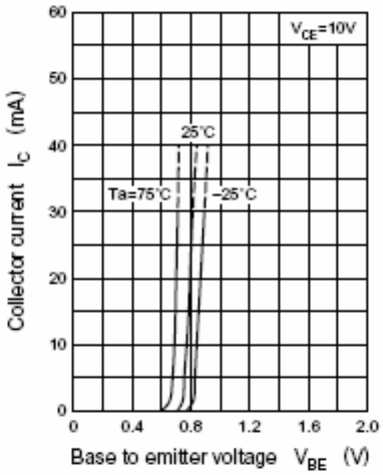
I_C — I_B



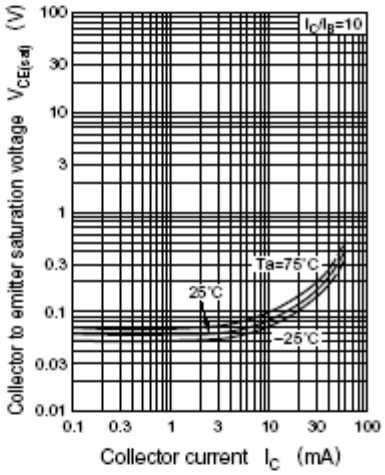
I_B — V_{BE}



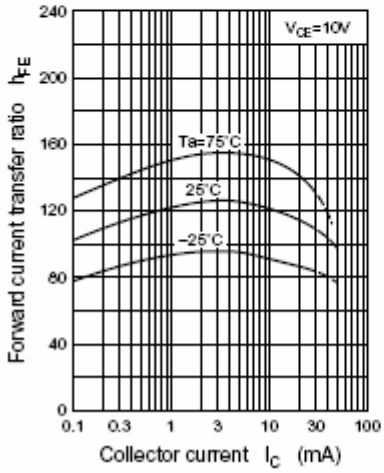
I_C — V_{BE}



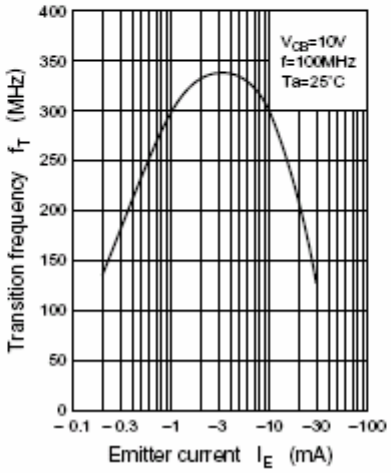
$V_{CE(sat)}$ — I_C



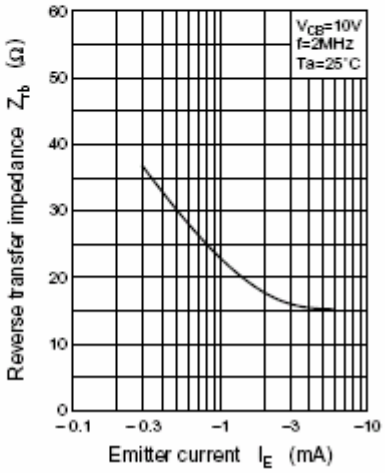
h_{FE} — I_C



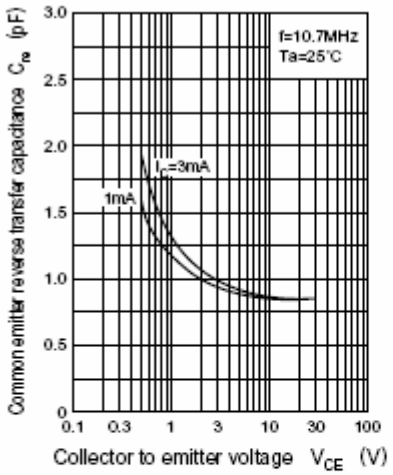
f_T — I_E



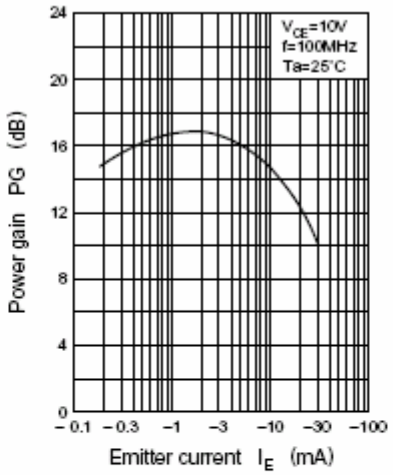
Z_{rb} — I_E



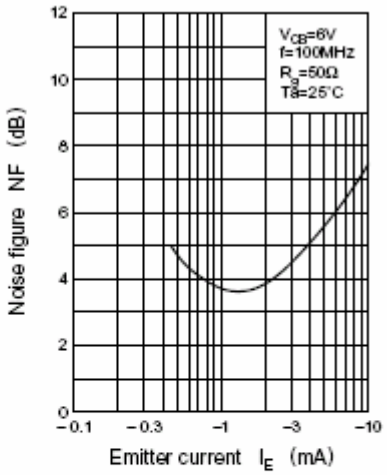
$C_{re} — V_{CE}$



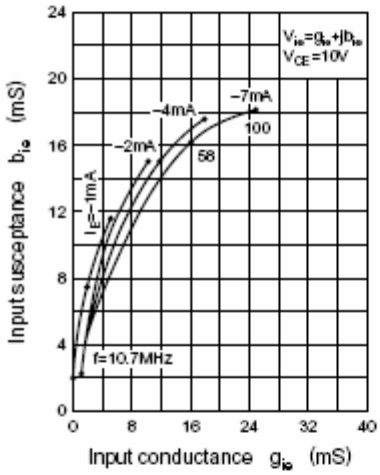
$PG — I_E$



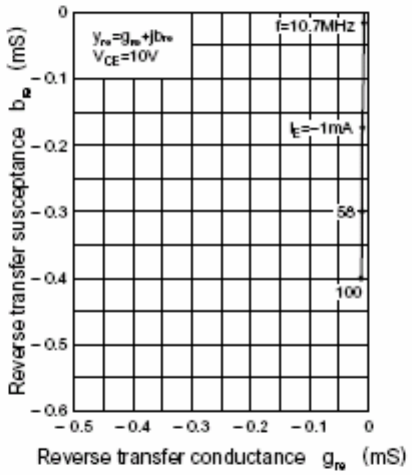
$NF — I_E$



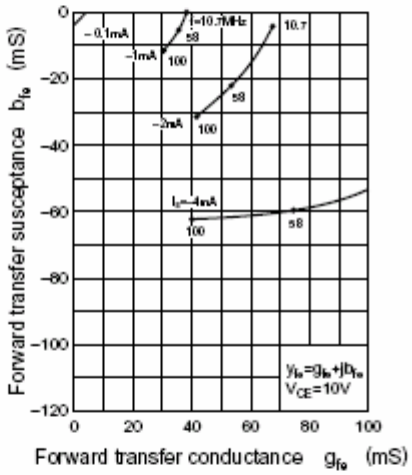
$b_{ie} — g_{ie}$



$b_{re} — g_{re}$



$b_{fe} — g_{fe}$



$b_{oe} — g_{oe}$