KTC3121

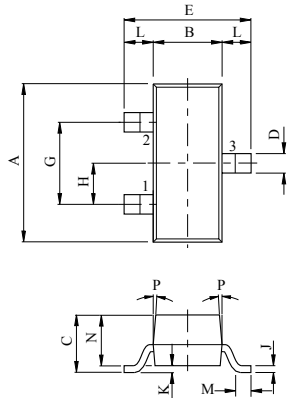
EPITAXIAL PLANAR NPN TRANSISTOR

TV TUNER, UHF OSCILLATOR APPLICATION.
(COMMON BASE)
TV TUNER, UHF CONVERTER APPLICATION.
(COMMON BASE)

FEATURES

· High Transition Frequency : f_T=1500MHz (Typ.).

· Excellent h_{FE} Linearity.



DIM	MILLIMETERS
A	2.93±0.20
B	1.30+0.20/-0.15
C	1.30 MAX
D	0.45+0.15/-0.05
E	2.40+0.30/-0.20
G	1.90
H	0.95
J	0.13+0.10/-0.05
K	0.00 ~ 0.10
L	0.55
M	0.20 MIN
N	1.00+0.20/-0.10
P	7 °

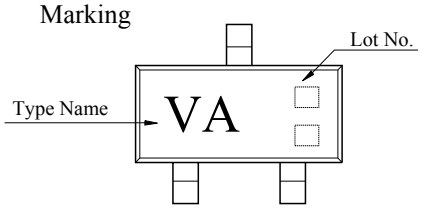
1. EMITTER
2. BASE
3. COLLECTOR

SOT-23

MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	15	V
Emitter-Base Voltage	V_{EBO}	3	V
Base Current	I_B	25	mA
Collector Current	I_C	50	mA
Collector Power Dissipation	P_C	150	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55 ~ 150	℃

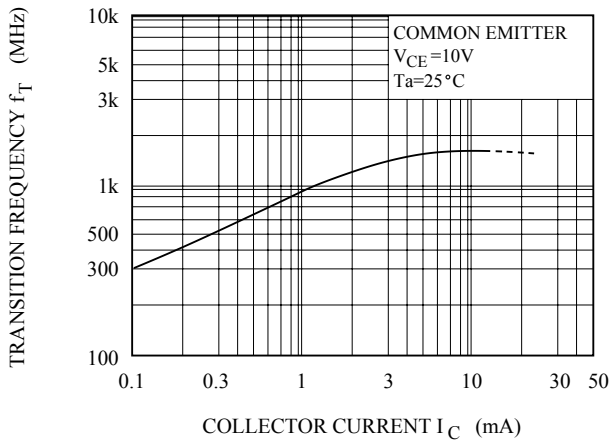
Marking



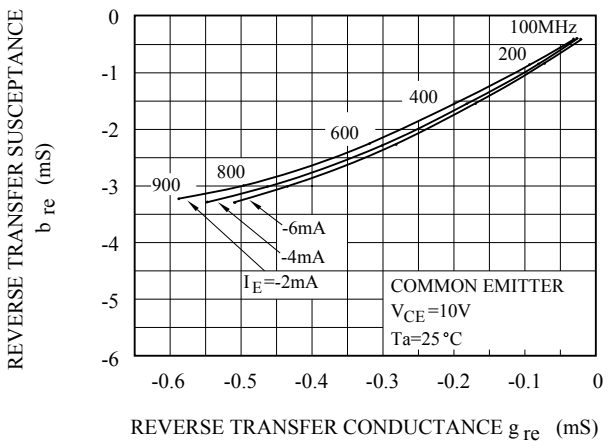
ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB}=15V, I_E=0	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=3V, I_C=0	-	-	1.0	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0	15	-	-	V
DC Current Gain	h_{FE}	V_{CE}=3V, I_C=8mA	60	150	320	
Transition Frequency	f_T	V_{CE}=10V, I_C=8mA	1100	1500	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V, I_E=2mA, f=1MHz	-	0.9	1.3	pF
Collector-Base Time Constant	C_C · rbb'	V_{CB}=10V, I_E=-8mA, f=30MHz	-	7.0	12	pS

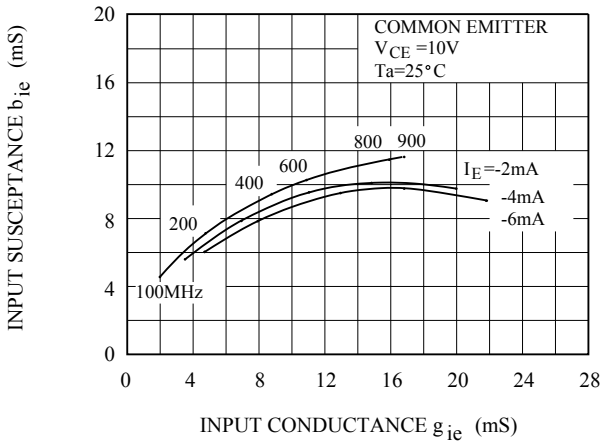
f_T - I_C



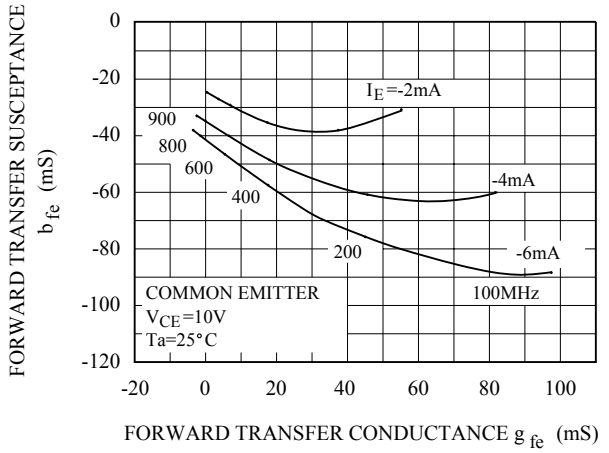
y_{re} - f



y_{ie} - f

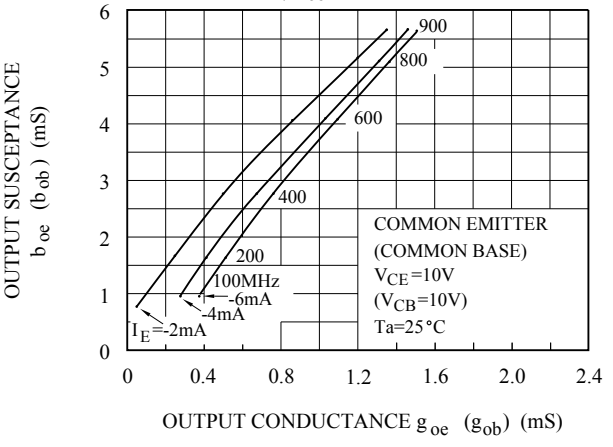


y_{fe} - f

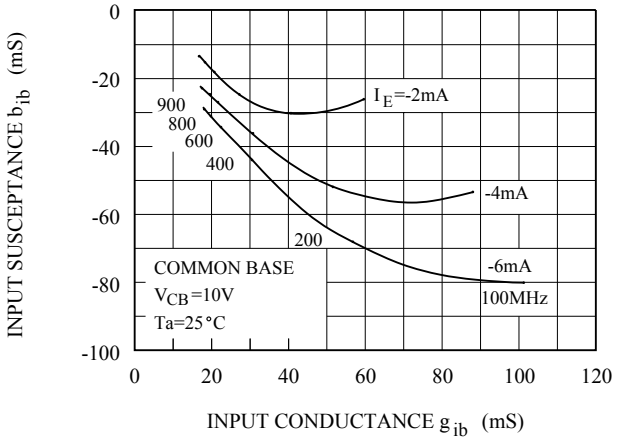


y_{oe} - f

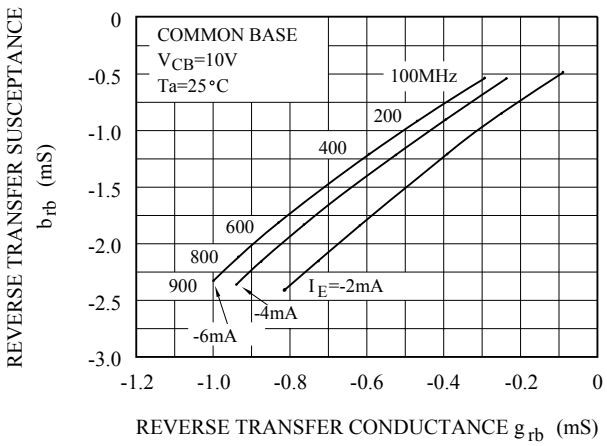
(y_{ob} - f)



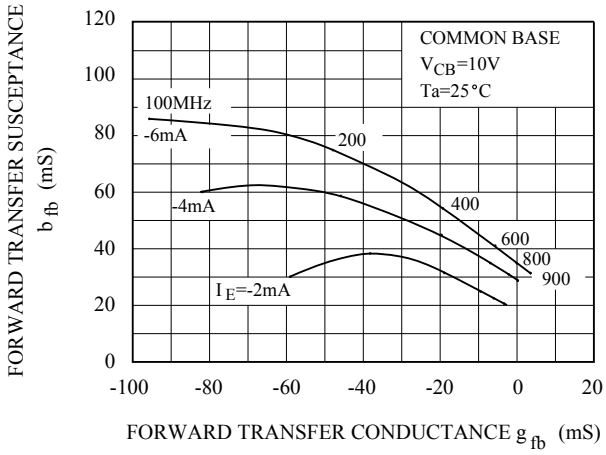
y_{ib} - f



y_{rb} - f


COMMON BASE
V_{CB}=10V
Ta=25°C
100MHz
200
400
600
800
900
I_E=-2mA
-4mA
-6mA
REVERSE TRANSFER SUSCEPTANCE b_{rb} (mS)
REVERSE TRANSFER CONDUCTANCE g_{rb} (mS)
0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-1.2
-1.0
-0.8
-0.6
-0.4
-0.2
0

y_{fb} - f


COMMON BASE
V_{CB}=10V
Ta=25°C
100MHz
-6mA
200
-4mA
400
600
800
900
I_E=-2mA
FORWARD TRANSFER SUSCEPTANCE b_{fb} (mS)
FORWARD TRANSFER CONDUCTANCE g_{fb} (mS)
120
100
80
60
40
20
0
-100
-80
-60
-40
-20
0
20