

TOSHIBA Transistor Silicon NPN Epitaxial Planar Type

2SC3121

TV Tuner, UHF Oscillator Applications (common base)

TV Tuner, UHF Converter Applications (common base)

Unit: mm

- High transition frequency: $f_T = 1500$ MHz (typ.)
- Excellent linearity

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	30	V
Collector-emitter voltage	V_{CEO}	15	V
Emitter-base voltage	V_{EBO}	3	V
Collector current	I_C	25	mA
Base current	I_B	50	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature range	T_{stg}	$-55 \sim 125$	$^\circ\text{C}$

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

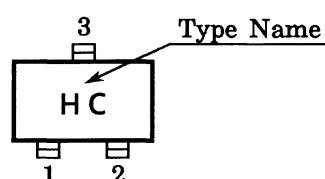
		1. BASE 2. EMITTER 3. COLLECTOR	
JEDEC	—		
JEITA	SC-59		
TOSHIBA	2-3F1A		

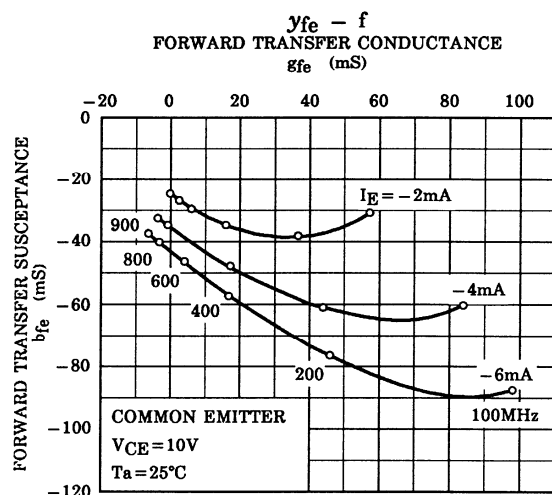
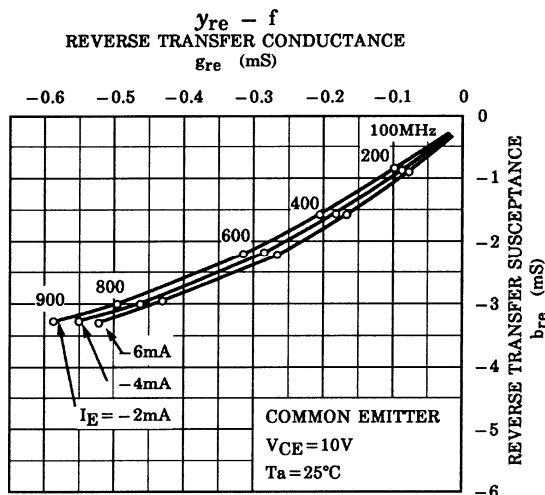
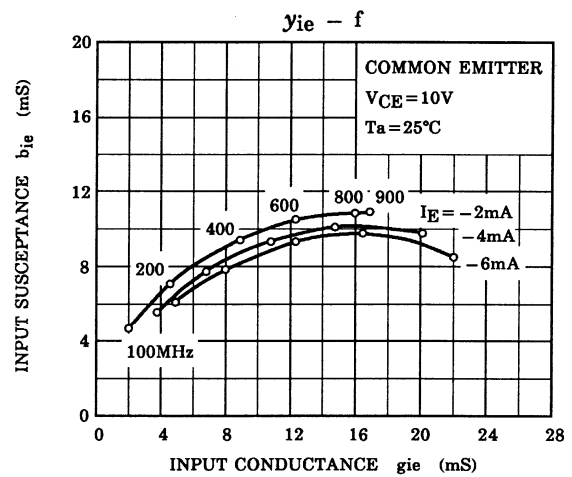
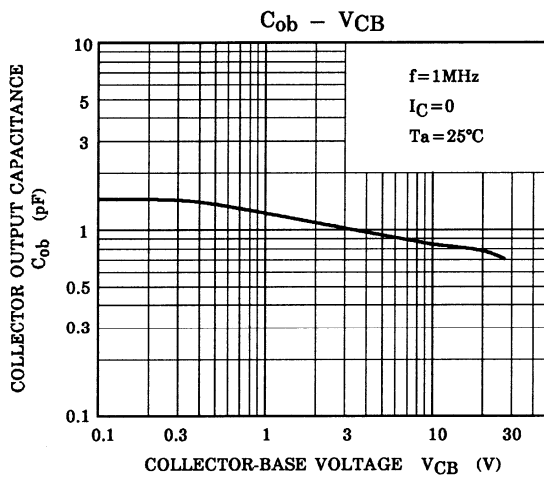
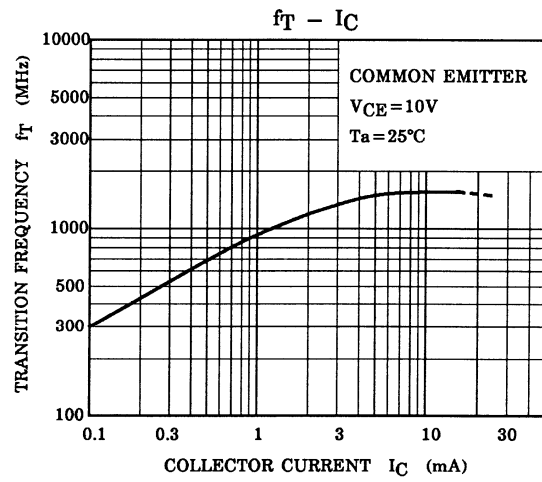
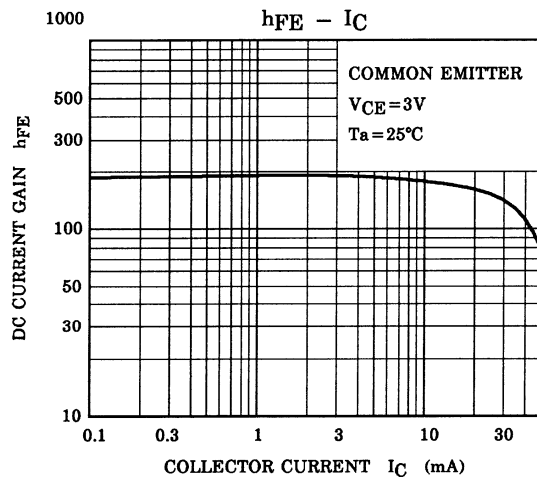
Weight: 0.012 g (typ.)

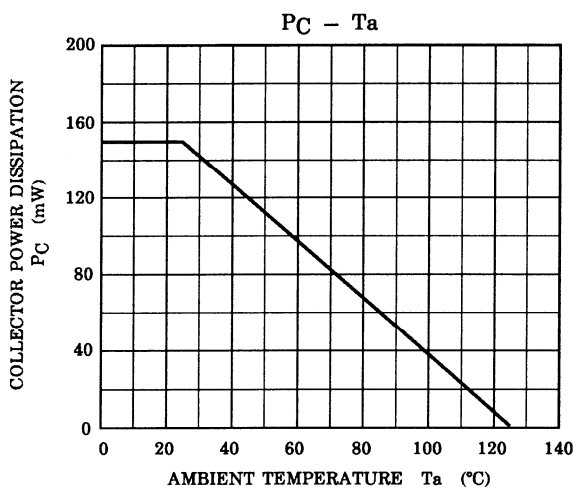
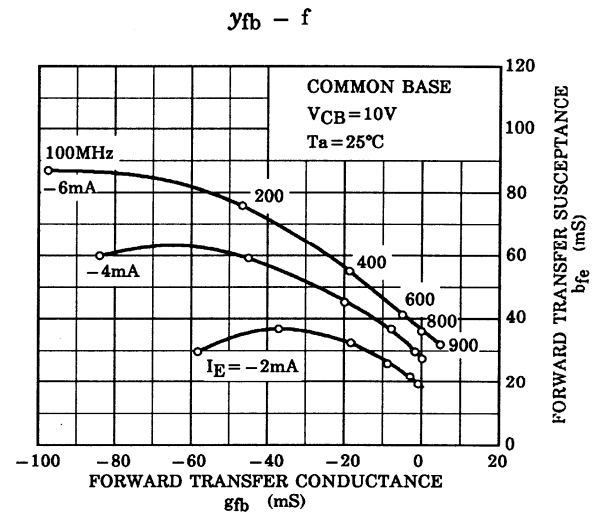
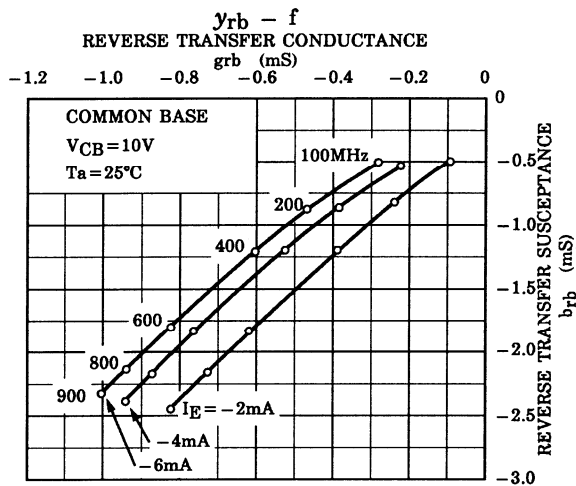
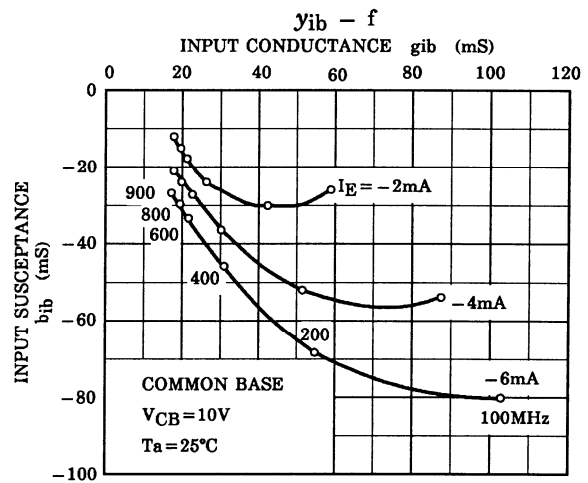
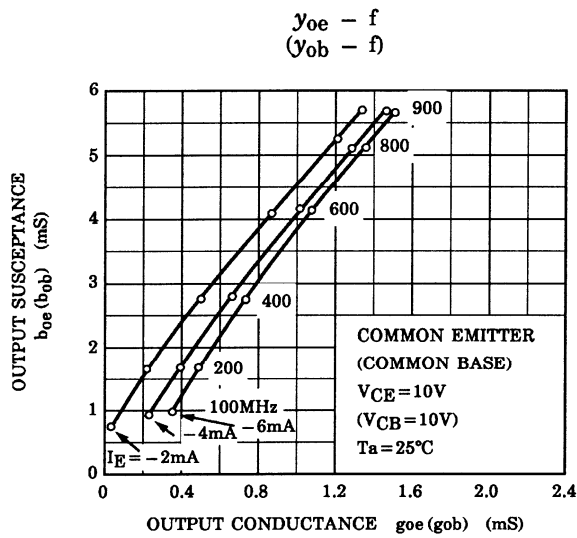
Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 15$ V, $I_E = 0$	—	—	0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 3$ V, $I_C = 0$	—	—	1.0	μA
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1$ mA, $I_B = 0$	15	—	—	V
DC current gain	h_{FE}	$V_{CE} = 3$ V, $I_C = 8$ mA	60	150	320	
Transition frequency	f_T	$V_{CE} = 10$ V, $I_C = 8$ mA	1100	1500	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10$ V, $I_E = 0$, $f = 1$ MHz	—	0.9	1.3	pF
Collector-base time constant	$C_{c-rbb'}$	$V_{CB} = 10$ V, $I_C = 8$ mA, $f = 30$ MHz	—	7	12	ps

Marking







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