

TOSHIBA Transistor Silicon NPN Epitaxial Planar Type

2SC4253

TV Final Picture IF Amplifier Applications

Unit: mm

- Good linearity of f_T

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

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	30	V
Collector-emitter voltage	V_{CEO}	25	V
Emitter-base voltage	V_{EBO}	4	V
Collector current	I_C	50	mA
Base current	I_B	25	mA
Collector power dissipation	P_C	100	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55~125	$^\circ\text{C}$

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).

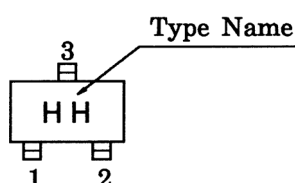
		1. BASE 2. EMITTER 3. COLLECTOR	
JEDEC	—		
JEITA	SC-70		
TOSHIBA	2-2E1A		

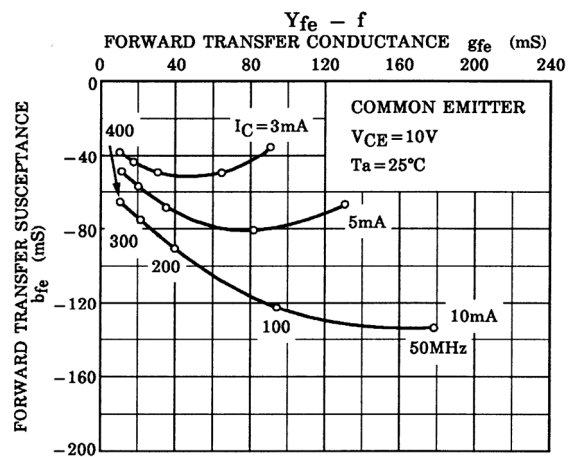
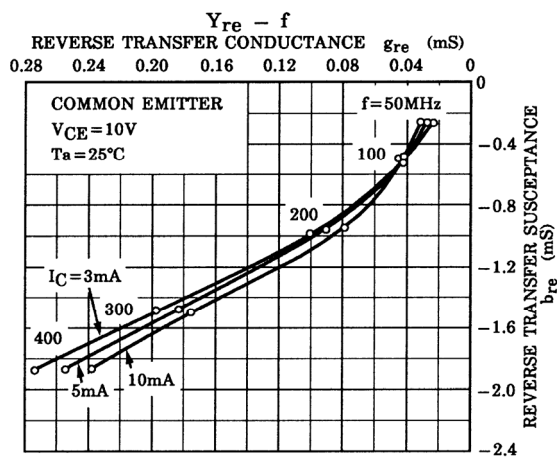
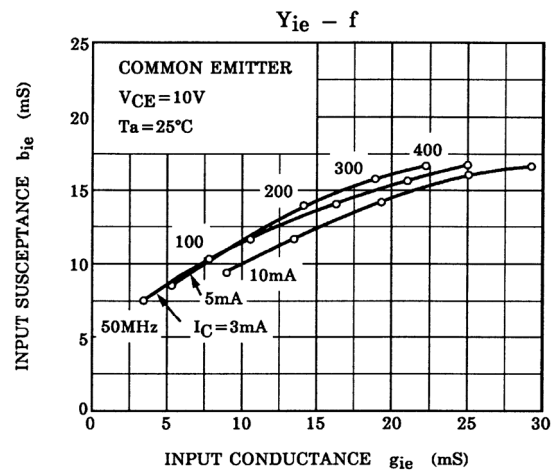
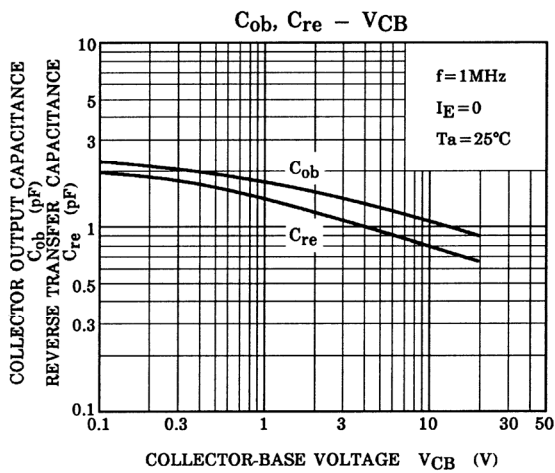
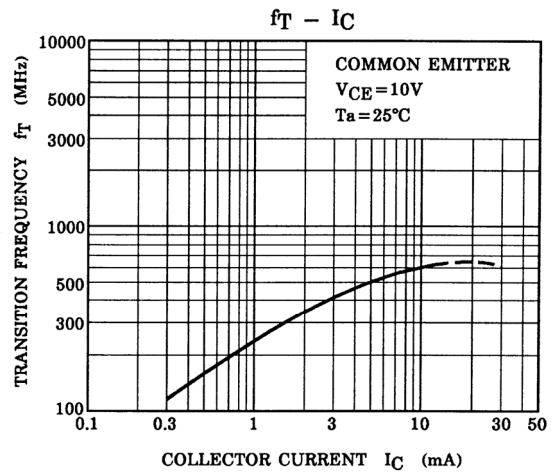
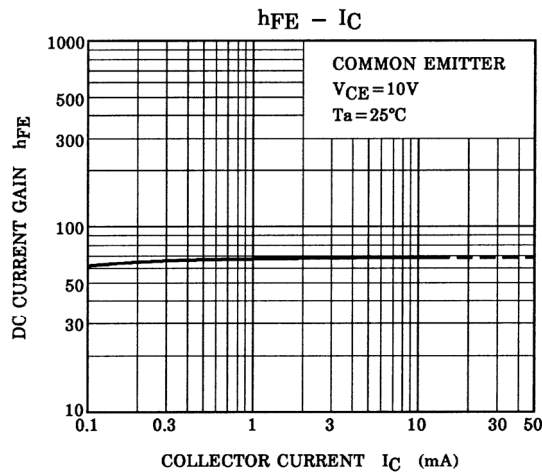
Weight: 0.006 g (typ.)

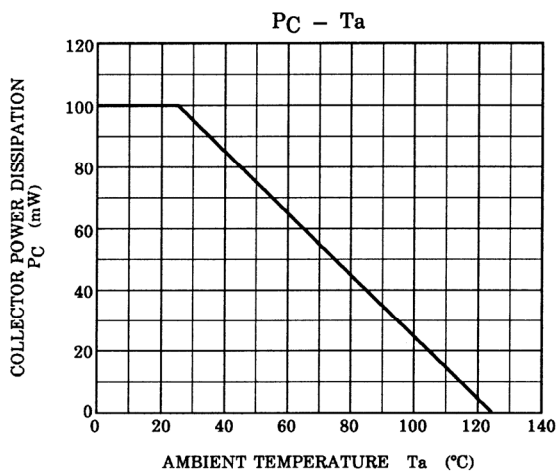
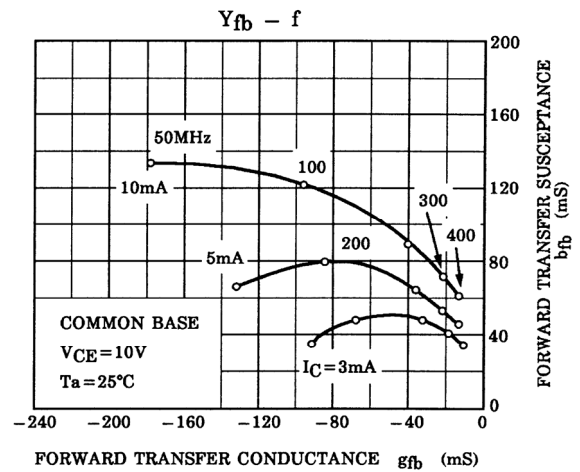
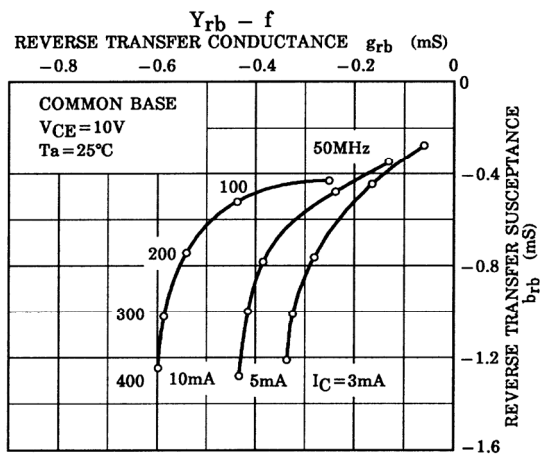
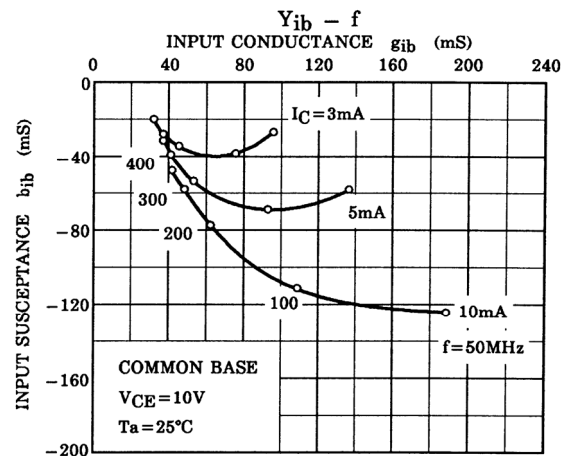
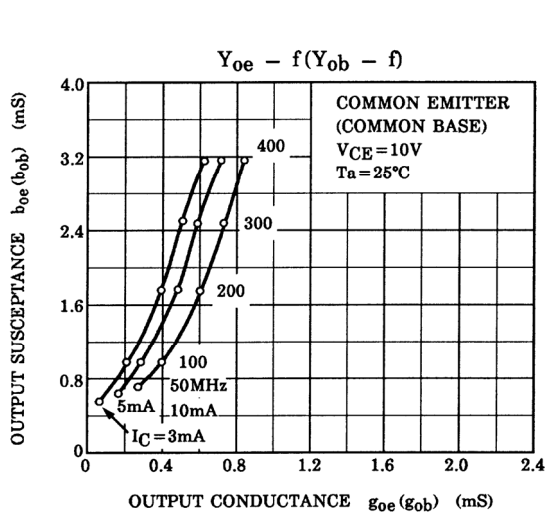
Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		I_{CBO}	$V_{CB} = 30\text{ V}, I_E = 0$	—	—	0.1	μA
Emitter cut-off current		I_{EBO}	$V_{EB} = 3\text{ V}, I_C = 0$	—	—	0.1	μA
Collector-emitter breakdown voltage		$V_{(BR) CEO}$	$I_C = 1\text{ mA}, I_B = 0$	25	—	—	V
DC current gain		h_{FE}	$V_{CE} = 10\text{ V}, I_C = 10\text{ mA}$	20	70	200	
Saturation voltage	Collector-emitter	$V_{CE(sat)}$	$I_C = 15\text{ mA}, I_B = 1.5\text{ mA}$	—	—	0.2	V
	Base-emitter	$V_{BE(sat)}$		—	—	1.5	
Collector output capacitance		C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	1.1	1.6	pF
Collector-base time constant		$C_{c.rbb'}$	$V_{CB} = 10\text{ V}, I_C = 1\text{ mA}, f = 30\text{ MHz}$	—	—	25	ps
Transition frequency		f_T	$V_{CE} = 10\text{ V}, I_C = 10\text{ mA}$	250	600	—	MHz

Marking







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20070701-EN GENERAL

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