TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

2SC3125

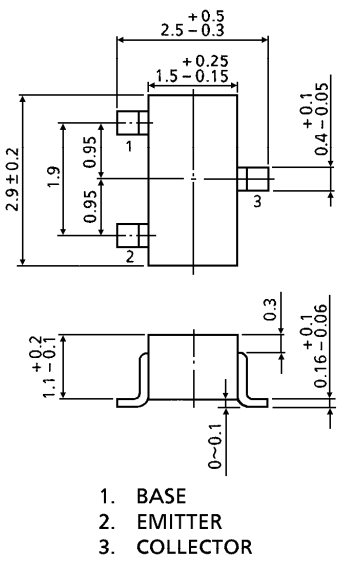
TV FINAL PICTURE IF AMPLIFIER APPLICATIONS

Unit in mm

- Good Lineality of f_T

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	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	150	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	−55~125	°C

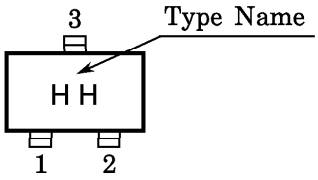


1. BASE
2. EMITTER
3. COLLECTOR

JEDEC	—
EIAJ	SC-59
TOSHIBA	2-3F1A

Weight : 0.012g

Marking



ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=30V, I_E=0	—	—	0.1	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=3V, I_C=0	—	—	0.1	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	I_C=10mA, I_B=0	25	—	—	V
DC Current Gain		h_{FE}	V_{CE}=10V, I_C=10mA	20	70	200	—
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	I_C=15mA, I_B=1.5mA	—	—	0.2	V
	Base-Emitter	$V_{BE(sat)}$		—	—	1.5	
Collector Output Capacitance		C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	—	1.1	1.6	pF
Collector-Base Time Constant		C_c . rbb'	V_{CB}=10V, I_C=1mA, f=30MHz	—	—	25	ps
Transition Frequency		f_T	V_{CE}=10V, I_C=10mA	250	600	—	MHz

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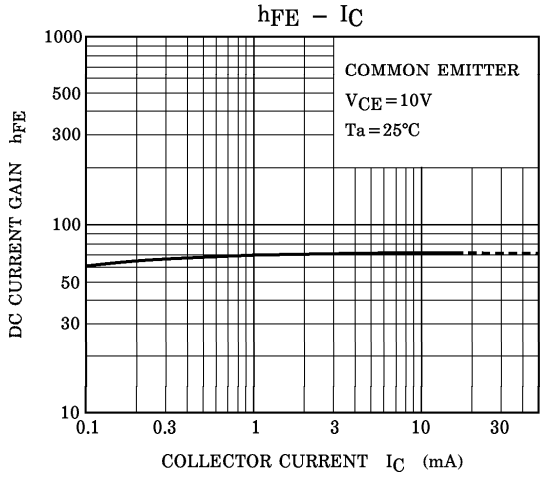
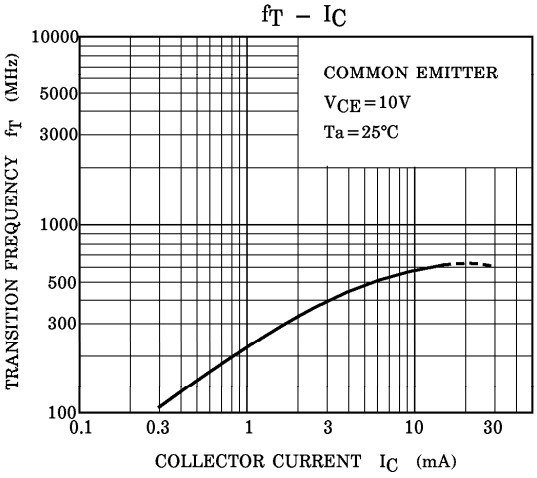
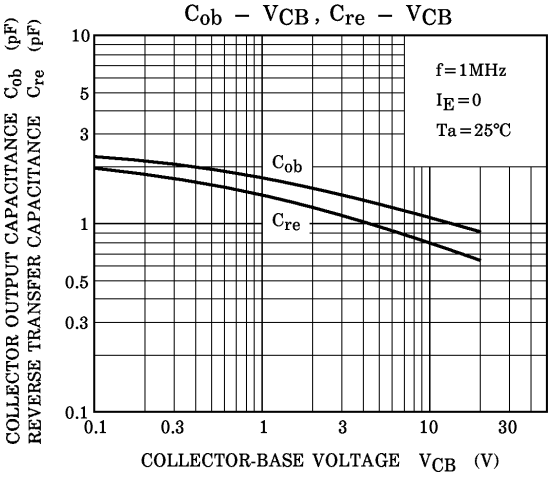
h_{FE} – I_C



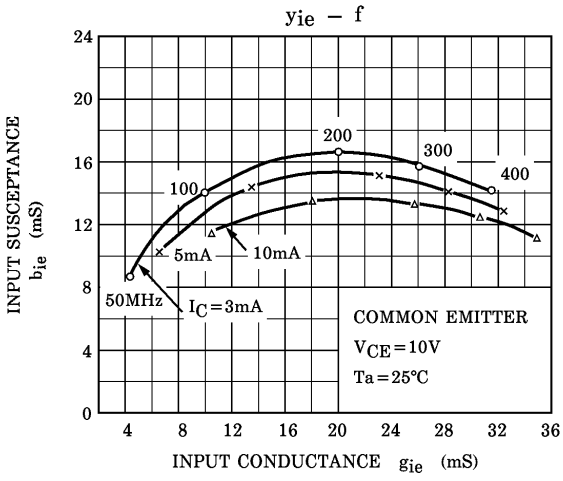
f_T – I_C



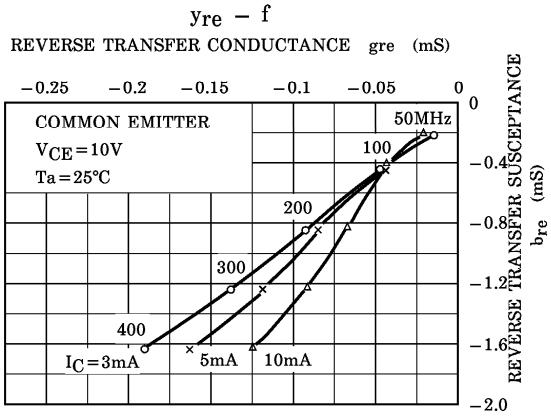
C_{ob} – V_{CB}, C_{re} – V_{CB}



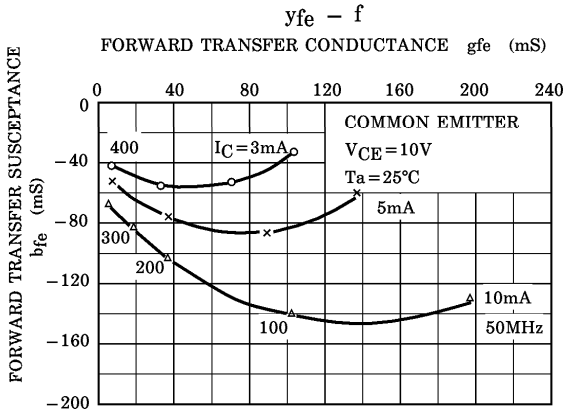
y_{ie} – f



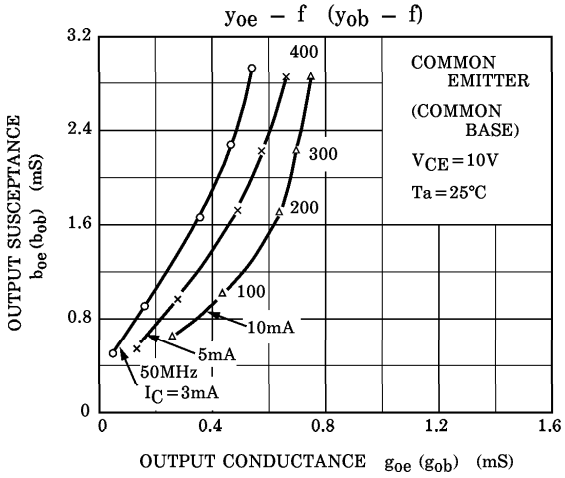
y_{re} – f



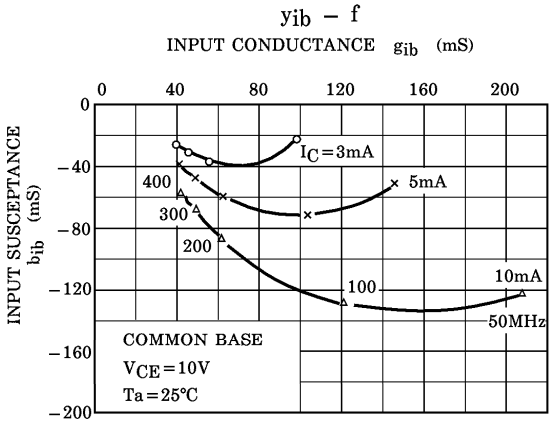
y_{fe} – f



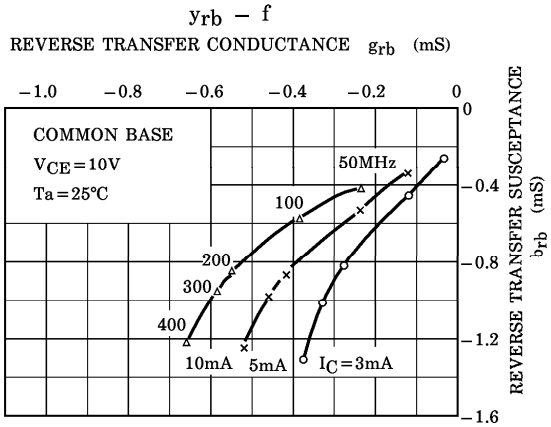
y_{oe} – f (y_{ob} – f)



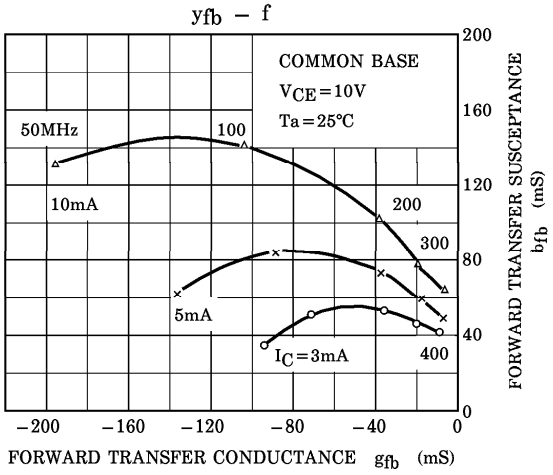
y_{ib} – f



y_{rb} – f



y_{fb} – f



P_C – Ta