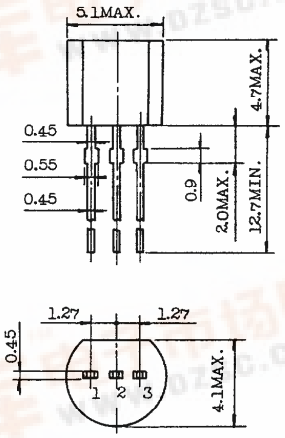
TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

2SC2216, 2SC2717

TV FINAL PICTURE IF AMPLIFIER APPLICATIONS.

Unit in mm

- High Gain : G_{pe} = 33dB (Typ.) (f = 45MHz)
- Good Linearity of h_{FE}.



1. BASE
2. EMITTER
3. COLLECTOR

JEDEC	TO-92
EIAJ	SC-43
TOSHIBA	2-5F1E

Weight : 0.21g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	2SC2216	V_{CBO}	50	V
	2SC2717		30	
Collector-Emitter Voltage	2SC2216	V_{CEO}	45	V
	2SC2717		25	
Emitter-Base Voltage		V_{EBO}	4	V
Collector Current		I_C	50	mA
Emitter Current		I_E	−50	mA
Collector Power Dissipation		P_C	300	mW
Junction Temperature		T_j	125	°C
Storage Temperature Range		T_{stg}	−55~125	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	2SC2216	I_{CBO}	V_{CB} = 50V, I_E = 0	—	—	0.1	μA
	2SC2717		V_{CB} = 30V, I_E = 0				
Emitter Cut-off Current		I_{EBO}	V_{EB} = 3V, I_C = 0	—	—	0.1	μA
Collector-Emitter Breakdown Voltage	2SC2216	$V_{(BR)CEO}$	I_C = 10mA, I_B = 0	45	—	—	V
	2SC2717			25	—	—	
DC Current Gain	2SC2216	h_{FE}	V_{CE} = 12.5V, I_C = 12.5mA	40	—	140	—
	2SC2717			40	—	240	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C = 15mA, I_B = 1.5mA	—	—	0.2	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	I_C = 15mA, I_B = 1.5mA	—	—	1.5	V
Collector Output Capacitance		C_{ob}	V_{CB} = 10V, I_E = 0, f = 30MHz	0.8	—	2.0	pF
Collector-Base Time Constant		$C_c \cdot rbb'$	V_{CB} = 10V, I_E = −1mA, f = 30MHz	—	—	25	ps
Transition Frequency		f_T	V_{CE} = 12.5V, I_C = 12.5mA	300	—	—	MHz
Power Gain (Fig.)	2SC2216	G_{pe}	V_{CC} = 12.5V, I_E = −12.5mA, f = 45MHz	29	—	36	dB
	2SC2717			28	—	36	

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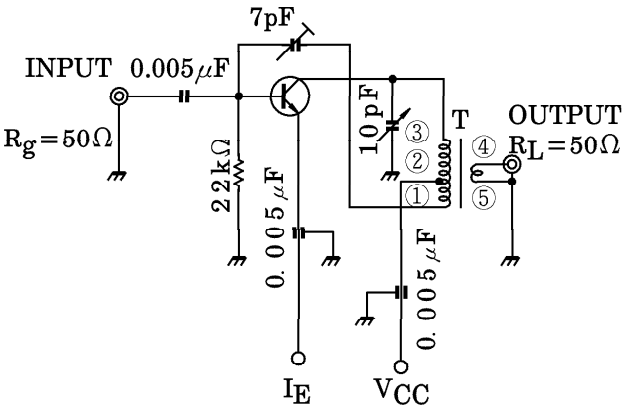


COIL DATA

0.20mmϕ Cu WIRE

L=1.2μH WITH M-5 CORE

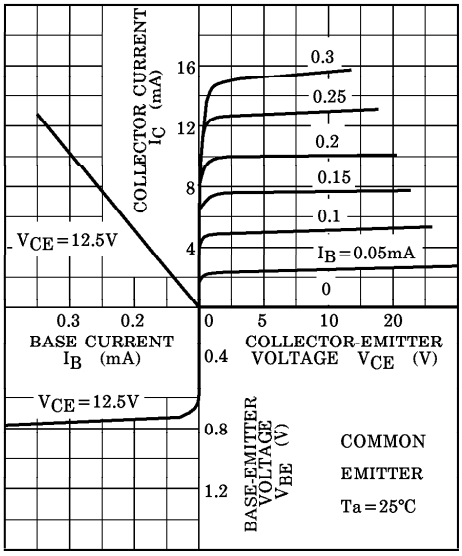
T : ①-② 3.0T

②-③ 8.0T

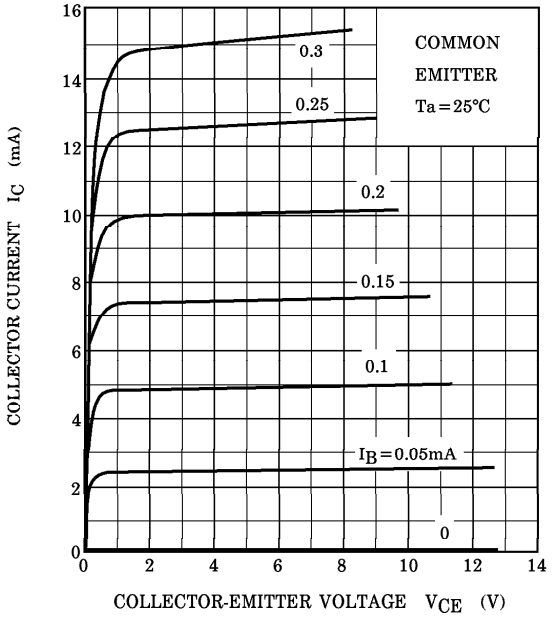
④-⑤ 1.0T

Fig. 45MHz G_{pe} TEST CIRCUIT

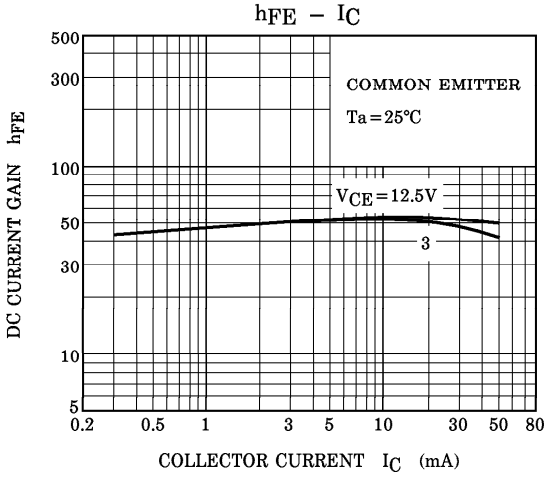
STATIC CHARACTERISTICS



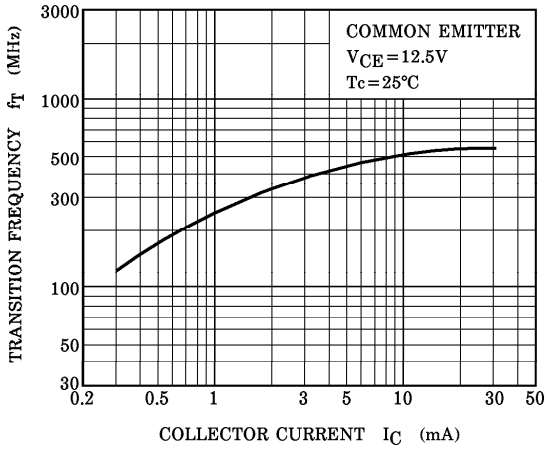
I_C – V_{CE}



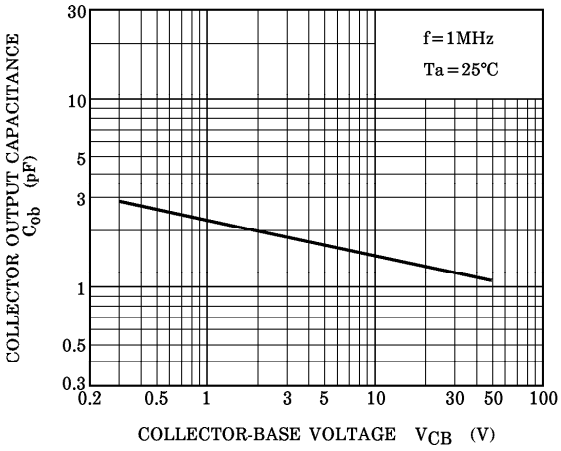
h_{FE} – I_C



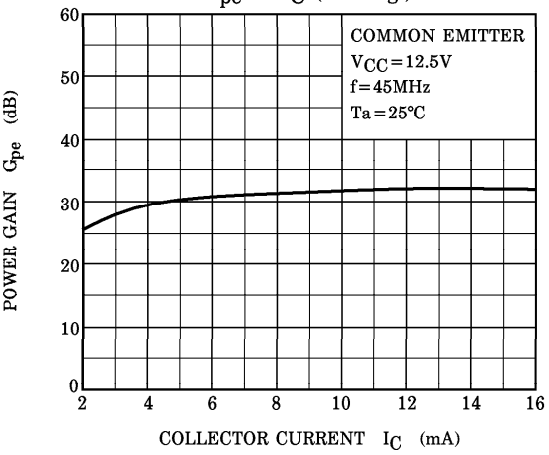
f_T – I_C



C_{ob} – V_{CB}



G_{pe} – I_C (See Fig.)



P_C – Ta