

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL PLANAR TYPE

# 2SC383TM, 2SC388ATM

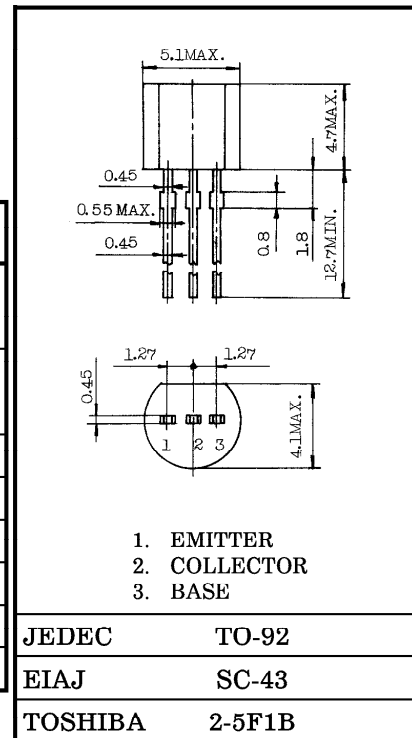
TV FINAL PICTURE IF AMPLIFIER APPLICATIONS.

Unit in mm

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

MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector Base Voltage	$V_{CB0}$	50	V
		30	
Collector Emitter Voltage	$V_{CE0}$	45	V
		25	
Emitter-Base Voltage	$V_{EB0}$	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	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55~125	$^\circ\text{C}$



ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

Weight : 0.21g

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 50\text{V}, I_E = 0$	—	—	0.1	$\mu\text{A}$	
		$V_{CB} = 30\text{V}, I_E = 0$					
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 3\text{V}, I_C = 0$	—	—	0.1		
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	45	—	—	V	
			25	—	—		
DC Current Gain	$h_{FE}$	$V_{CE} = 12.5\text{V}, I_C = 12.5\text{mA}$	20	—	100	—	
			20	—	200		
Saturation Voltage	Collector-Emitter	$I_C = 15\text{mA}, I_B = 1.5\text{mA}$	$V_{CE(sat)}$	—	—	0.2	V
	Base-Emitter		$V_{BE(sat)}$	—	—	1.5	
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10\text{V}, I_E = 0, f = \text{MHz}$	0.8	—	2.0	pF	
Collector-Base Time Constant	$C_{c,rbb'}$	$V_{CB} = 10\text{V}, I_E = -1\text{mA}, f = 30\text{MHz}$	—	—	25	ps	
Transition Frequency	$f_T$	$V_{CE} = 12.5\text{V}, I_C = 12.5\text{mA}$	300	—	—	MHz	
Power Gain (Fig.1)	$G_{pe}$	$V_{CC} = 12.5\text{V}, I_E = -12.5\text{mA}, f = 45\text{MHz}$	29	—	36	dB	
			28	—	36		

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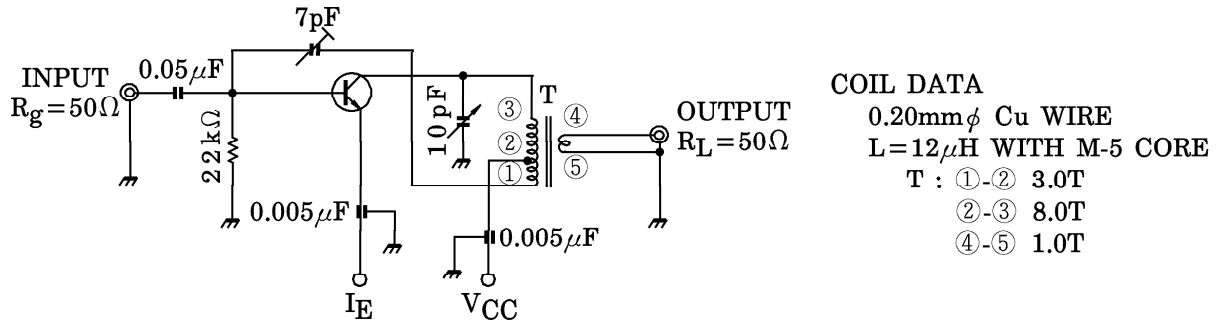
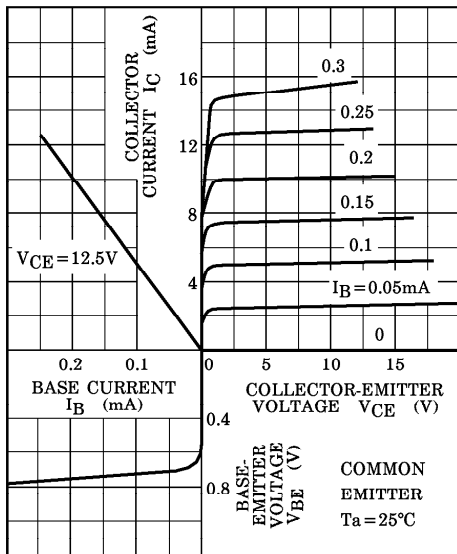
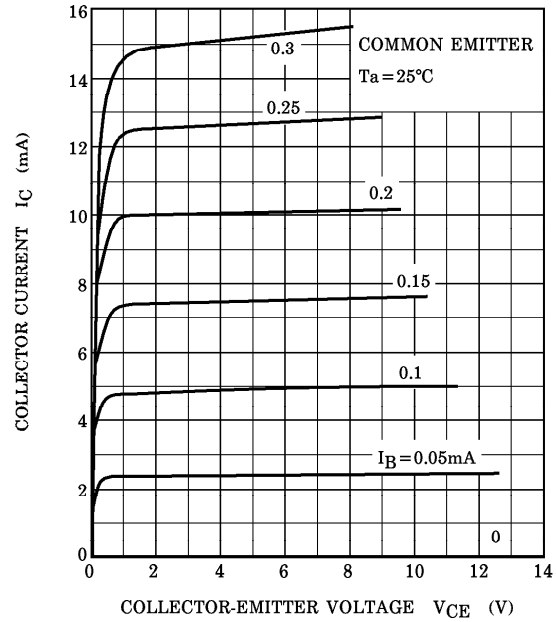


Fig.1 45MHz  $G_{pe}$  TEST CIRCUIT

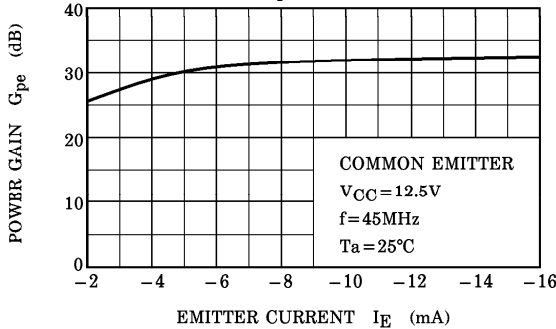
STATIC CHARACTERISTICS



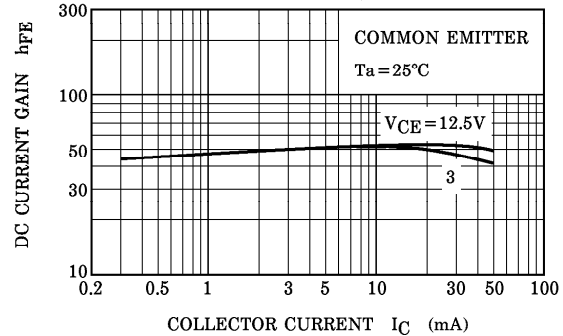
$I_C - V_{CE}$



$G_{pe} - I_E$  (See Fig.1)



$h_{FE} - I_C$



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