

**2SC4400**

## High-Frequency General-Purpose Amplifier Applications

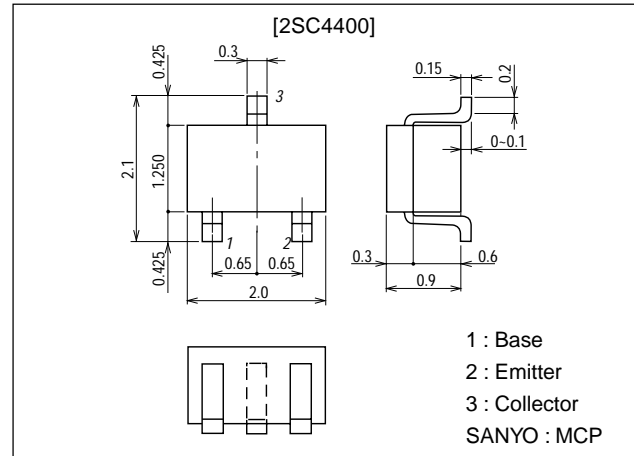
### Features

- High power gain.
- High cutoff frequency.
- Small  $C_{ob}$ ,  $C_{re}$ .
- Very small-sized package permitting the 2SC4400-applied sets to be made small and slim.

### Package Dimensions

unit:mm

2059B



### Specifications

#### Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		40	V
Collector-to-Emitter Voltage	$V_{CEO}$		18	V
Emitter-to-Base Voltage	$V_{EBO}$		3	V
Collector Current	$I_C$		50	mA
Collector Dissipation	$P_C$		150	mW
Junction Temperature	$T_J$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

#### Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=18\text{V}, I_E=0$			0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=2\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=10\text{V}, I_C=5\text{mA}$	60*		270*	
Gain-Bandwidth Product	$f_T$	$V_{CE}=10\text{V}, I_C=5\text{mA}$		750		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}, f=1\text{MHz}$		0.7	1.2	pF
Reverse transfer Capacitance	$C_{re}$	$V_{CB}=10\text{V}, f=1\text{MHz}$		0.45		pF

\* : The 2SC4400 is classified by 5mA  $h_{FE}$  as follows :

60	3	120	90	4	180	135	5	270
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Marking : RT

 $h_{FE}$  rank : 3, 4, 5

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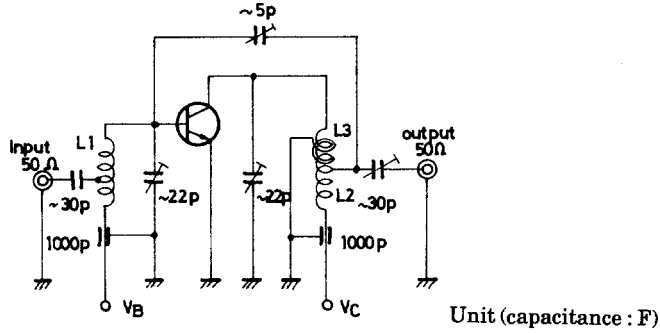
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

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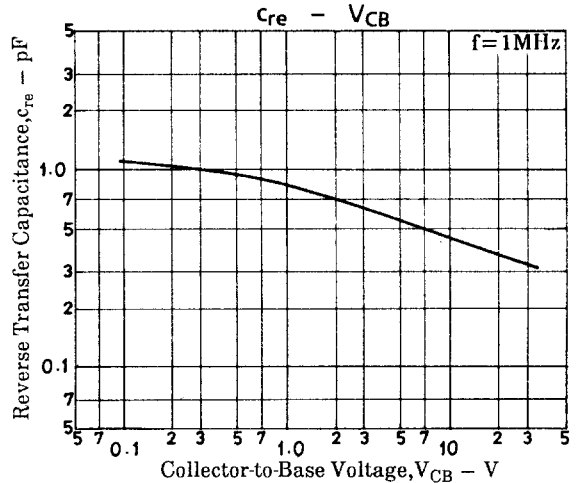
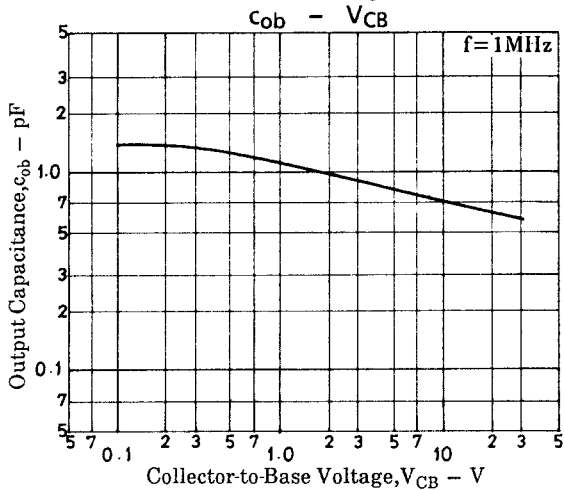
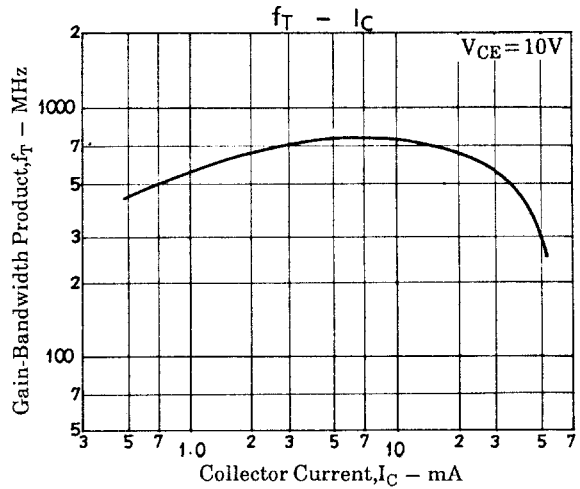
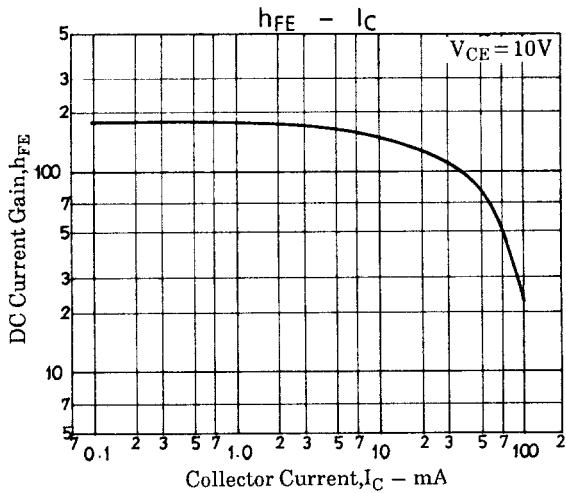
# 2SC4400

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$			0.2	V
Base-to-Collector Time Constant	$r_{bb}C_C$	$V_{CB}=10V, I_C=5mA, f=31.9MHz$			23	ps
Power Gain	PG	$V_{CB}=10V, I_C=10mA, f=100MHz$		28		dB

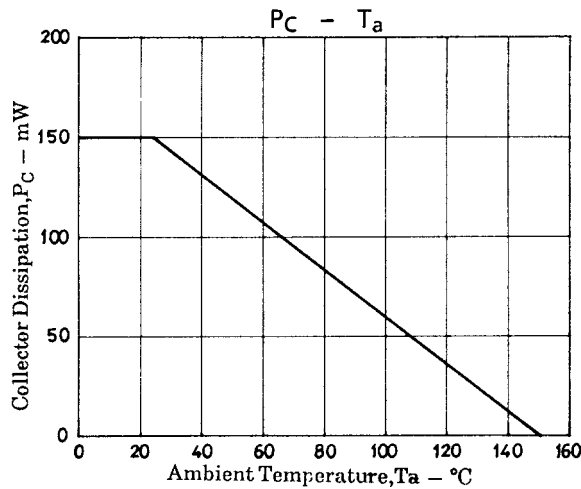
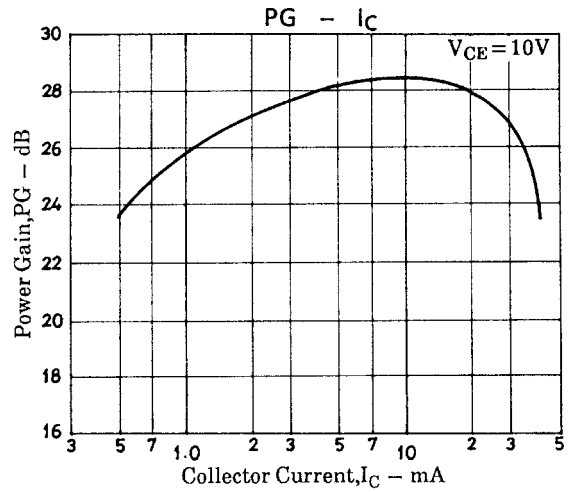
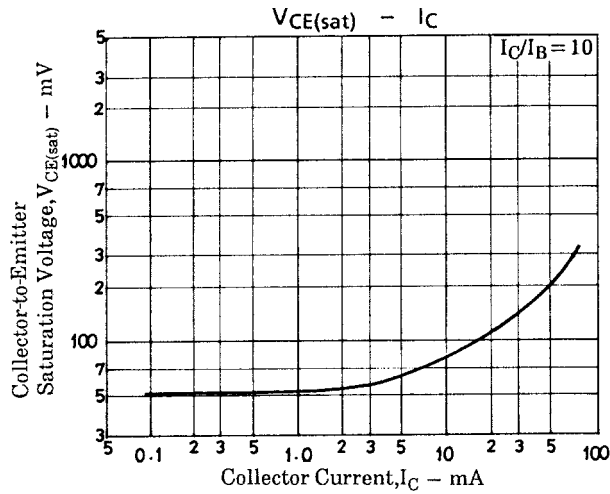
## PG Test Circuit



- $L_1$  : 1mm $\phi$  plated wire, 10mm $\phi$  5T, pitch 15mm, tap : 2T from base side
- $L_2$  : 1mm $\phi$  plated wire, 10mm $\phi$  7T, pitch 10mm, tap : 2T from  $V_C$  side
- $L_3$  : 1mm $\phi$  enamel wire, 10mm $\phi$  3T, pitch 10mm



## 2SC4400



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