Ordering number: EN 3195

SANYO

No.3195

2SC4400

NPN Epitaxial Planar Silicon Transistor

High-Frequency General-Purpose Amp 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

Absolute Maximum Ratings at Ta = 25°C

			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	Tj	150	°C
Storage Temperature	Tstg	−55 to +150	°C

Electrical Characteristics at Ta = 25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=18V,I_E=0			0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=2V,I_C=0			0.1	μA
DC Current Gain	h_{FE}	V_{CE}=10V,I_C=5mA	60※		270※	
Gain-Bandwidth Product	f_T	V_{CE}=10V,I_C=5mA		750		MHz
Output Capacitance	c_{ob}	V_{CB}=10V,f=1MHz		0.7	1.2	pF
Reverse Transfer Capacitance	c_{re}	V_{CB}=10V,f=1MHz		0.45		pF
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=10mA,I_B=1mA			0.2	V
B-C Time Constant	$r_{bb}'c_c$	V_{CE}=10V,I_C=5mA,f=31.9MHz			23	ps
Power Gain	PG	V_{CE}=10V,I_C=10mA,f=100MHz	28			dB

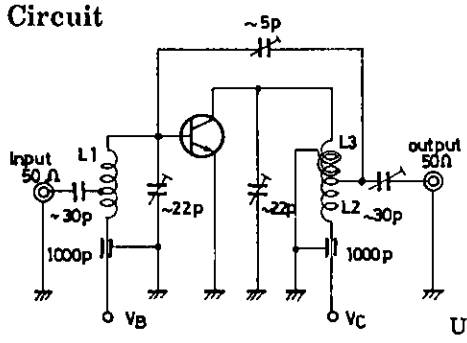
※ : The 2SC4400 is classified by 5mA h_{FE} as follows.

60 3 120	90 4 180	135 5 270

Marking : RT

h_{FE} rank : 3,4,5

PG Test Circuit



Unit (Capacitance : F)

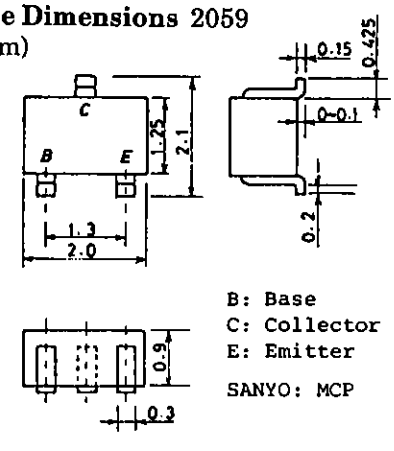
L_1 : 1mmø plated wire, 10mmø 5T, pitch 15mm, tap : 2T from base side

L_2 : 1mmø plated wire, 10mmø 7T, pitch 10mm, tap : 2T from V_C side

L_3 : 1mmø enamel wire, 10mmø 3T, pitch 10mm

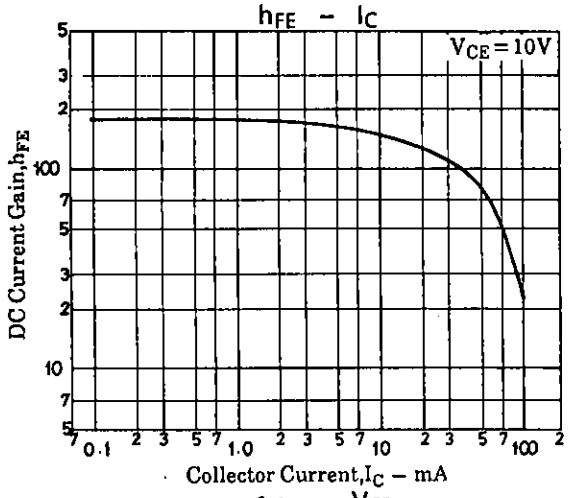
Package Dimensions 2059

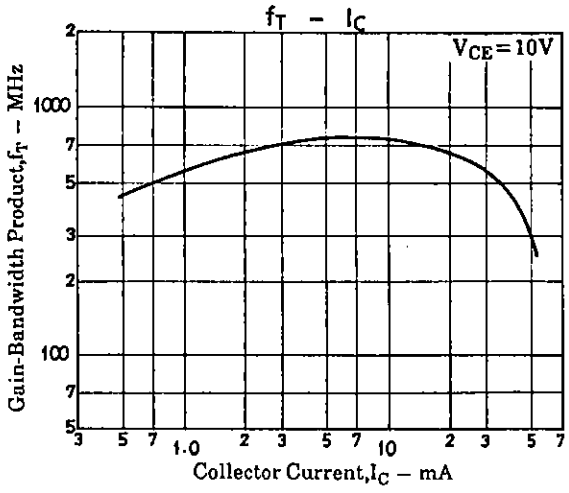
(unit : mm)

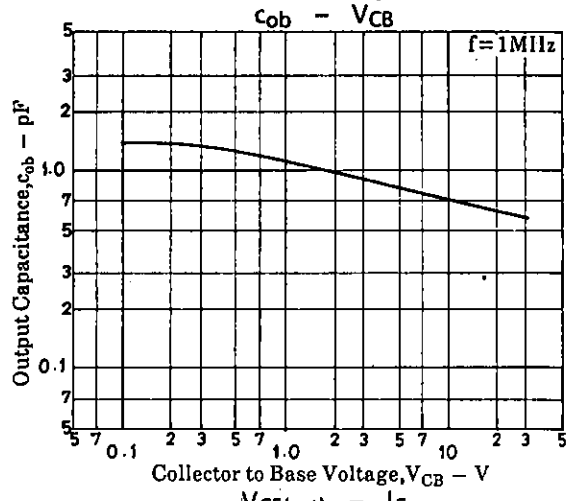


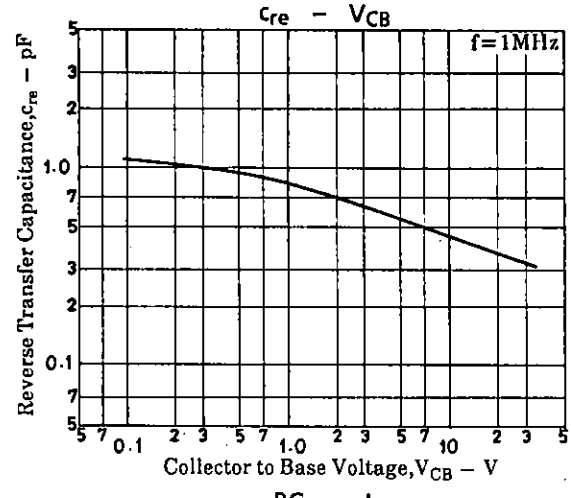
B: Base
C: Collector
E: Emitter

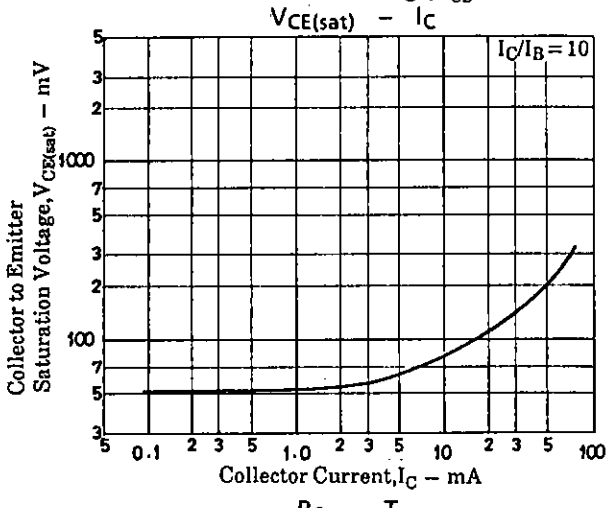
SANYO: MCP

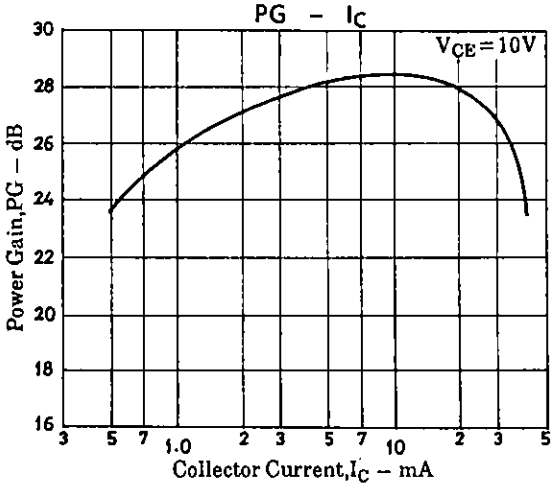

h_{FE} – I_C
V_{CE}=10V
DC Current Gain,h_{FE}
Collector Current,I_C – mA

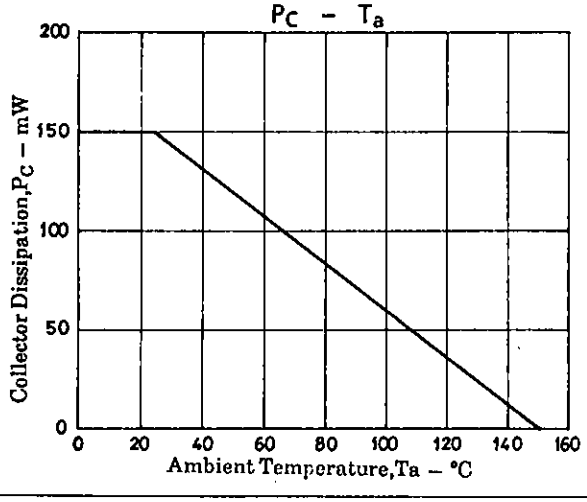

f_T – I_C
V_{CE}=10V
Gain-Bandwidth Product,f_T – MHz
Collector Current,I_C – mA


C_{ob} – V_{CB}
f=1MHz
Output Capacitance,C_{ob} – pF
Collector to Base Voltage,V_{CB} – V


C_{re} – V_{CB}
f=1MHz
Reverse Transfer Capacitance,C_{re} – pF
Collector to Base Voltage,V_{CB} – V


$V_{CE(sat)}$ – I_C
I_C/I_B=10
Collector to Emitter Saturation Voltage,$V_{CE(sat)}$ – mV
Collector Current,I_C – mA


PG – I_C
V_{CE}=10V
Power Gain,PG – dB
Collector Current,I_C – mA


P_C – T_a
Collector Dissipation,P_C – mW
Ambient Temperature,Ta – °C