Ordering number: EN4644

SANYO

No.4644

2SA1857

PNP Epitaxial Planar Silicon Transistor

FM, RF, MIX, IF Amp, High-Frequency General-Purpose Amp Applications

Features

- High power gain : PG = 25dB typ (f = 100MHz)
- High cutoff frequency : f_T = 750MHz typ.
- Low collector to emitter saturation voltage.
- Complementary pair with the 2SC4400.

Absolute Maximum Ratings at Ta = 25°C

			unit
Collector to Base Voltage	V_{CBO}	−15	V
Collector to Emitter Voltage	V_{CEO}	−12	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} = −12V, 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	Cob	V_{CB} = −10V, f = 1MHz		1.2	1.6	pF
Reverse Transfer Capacitance	Cre	V_{CB} = −10V, f = 1MHz		0.9		pF
C-E Saturation Voltage	$V_{CE(sat)}$	I_C = −10mA, I_B = −1mA		−0.1	−0.3	V
Power Gain	PG	V_{CE} = −10V, I_C = −10mA, f = 100MHz		25		dB

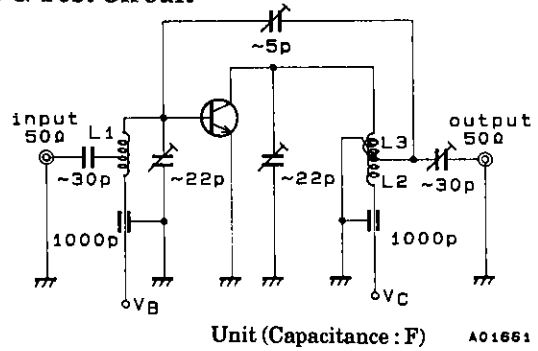
※ The 2SA1857 is classified by 5mA h_{FE} as follows:

60 3 120	90 4 180	135 5 270

Marking : JS

h_{FE} rank : 3, 4, 5

PG Test Circuit



Unit (Capacitance : F) A01661

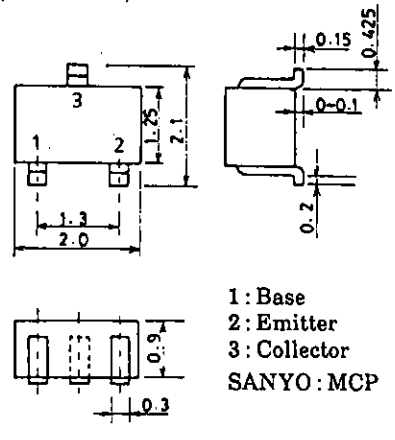
L1 : 1mmϕ plated wire 10mmϕ 5T, pitch 15mm, tap : 2T from base side

L2 : 1mmϕ plated wire 10mmϕ 7T, pitch 10mm, tap : 2T from V_C side

L3 : 1mmϕ enamel wire 10mmϕ 3T, pitch 10mm

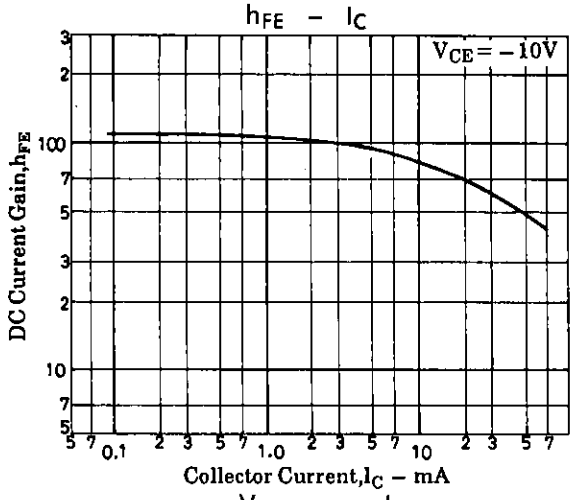
Package Dimensions 2059A

(unit : mm)

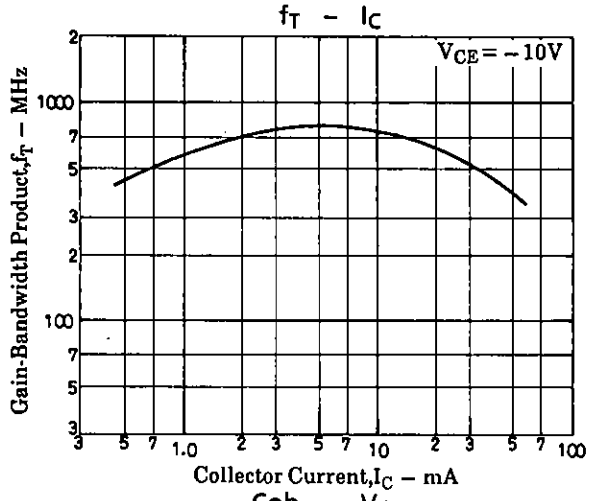


1 : Base
2 : Emitter
3 : Collector
SANYO : MCP

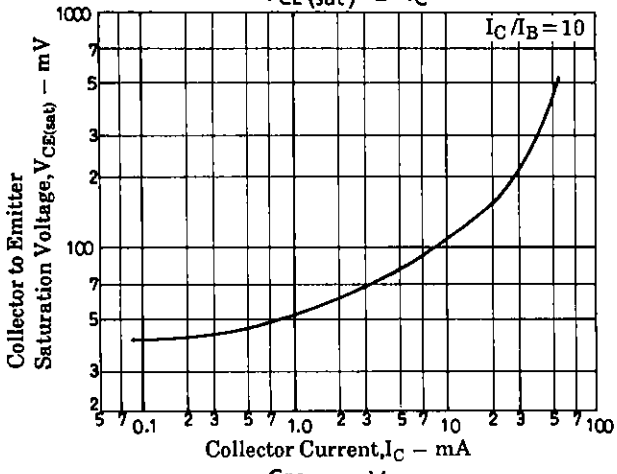
h_{FE} – I_C



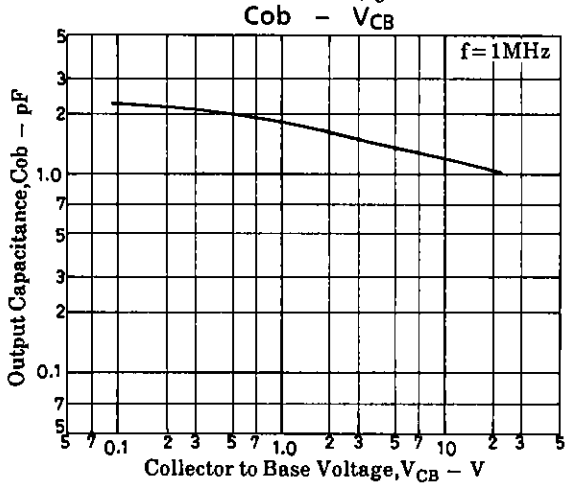
f_T – I_C



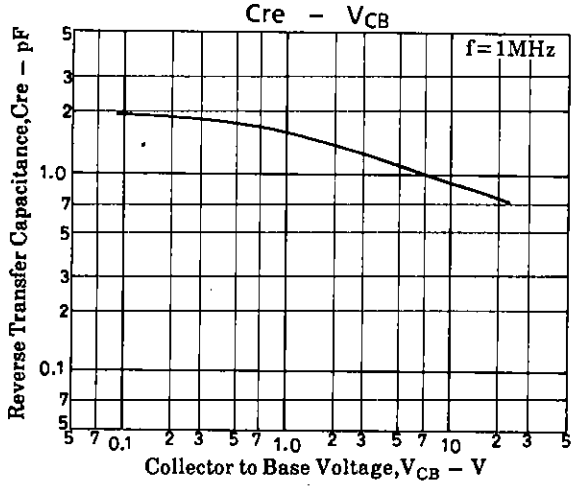
$V_{CE(sat)}$ – I_C



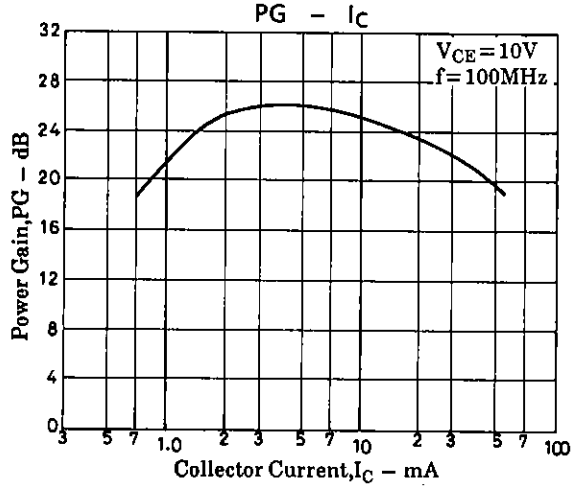
Cob – V_{CB}



Cre – V_{CB}



PG – I_C



P_C – Ta