

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 : $f_T=750\text{MHz}$ typ.
- Low collector to emitter saturation voltage.
- Complementary pair with the 2SC4400.

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

			unit
Collector to Base Voltage	V_{CB0}	-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	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = -12\text{V}, I_E = 0$			-0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -2\text{V}, I_C = 0$			-0.1	μA
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}	$V_{CB} = -10\text{V}, f = 1\text{MHz}$		1.2	1.6	pF
Reverse Transfer Capacitance	C_{re}	$V_{CB} = -10\text{V}, f = 1\text{MHz}$		0.9		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = -10\text{mA}, I_B = -1\text{mA}$	-0.1		-0.3	V
Power Gain	PG	$V_{CE} = -10\text{V}, I_C = -10\text{mA}, f = 100\text{MHz}$		25		dB

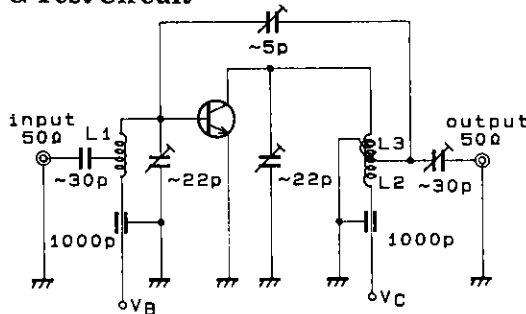
* The 2SA1857 is classified by 5mA h_{FE} as follows:

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

h_{FE} rank : 3, 4, 5

PG Test Circuit



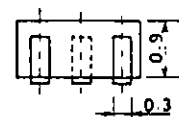
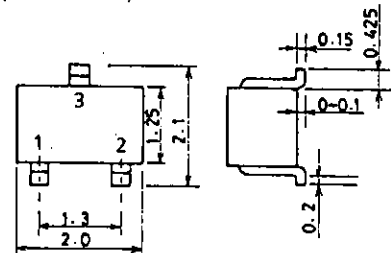
Unit (Capacitance : F) A01661

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

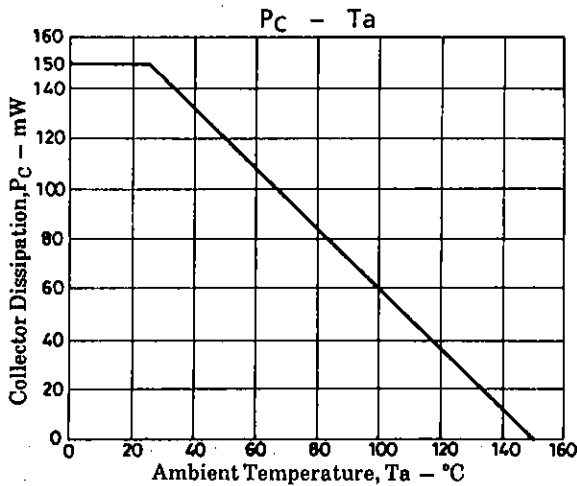
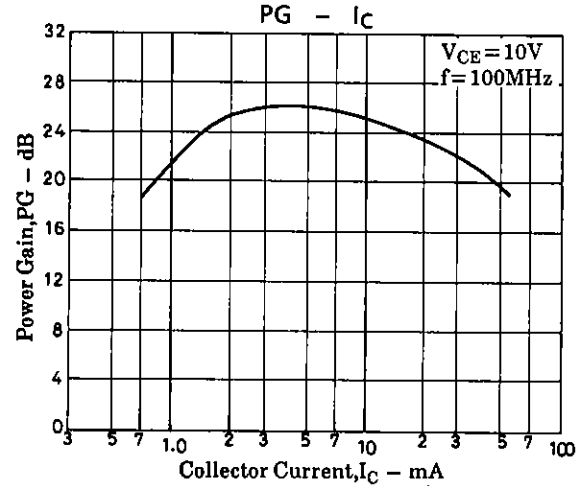
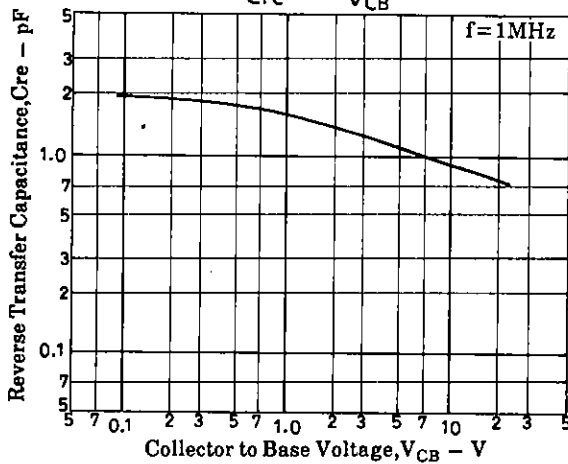
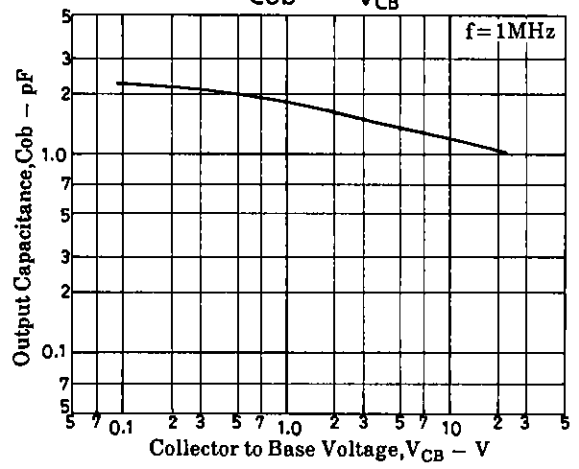
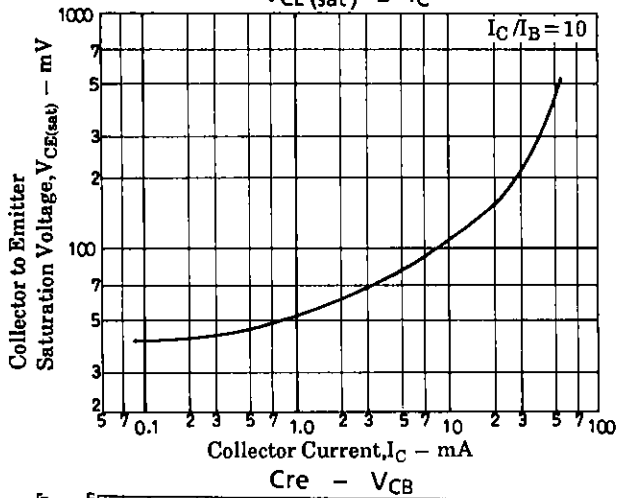
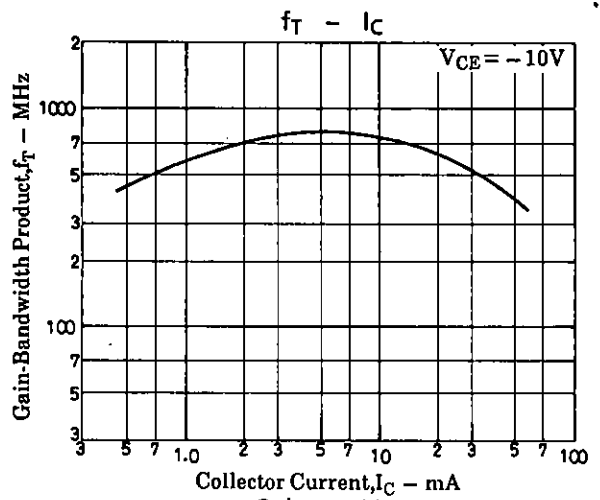
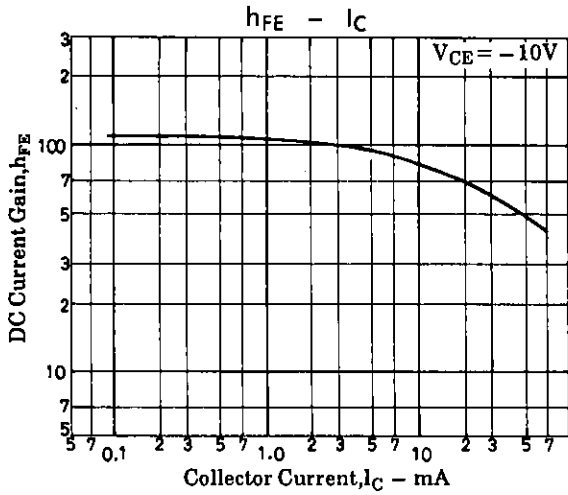
L2 : 1mm ϕ plated wire 10mm ϕ 7T, pitch 10mm, tap : 2T from V_C side

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

Package Dimensions 2059A
(unit : mm)



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



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