Ordering number: EN 2970

SANYO

No.2970

2SC4272

NPN Epitaxial Planar Silicon Transistor

27MHz CB Transceiver Driver Applications

Features

- Small size making it easy to provide high-density, small-sized hybrid ICs.

Absolute Maximum Ratings at Ta = 25°C

				unit
Collector to Base Voltage	V_{CBO}		75	V
Collector to Emitter Voltage	V_{CER}	R_{BE} = 150Ω	75	V
Collector to Emitter Voltage	V_{CEO}		45	V
Emitter to Base Voltage	V_{EBO}		5	V
Collector Current	I_C		1.0	A
Collector Current(Pulse)	I_{CP}		1.5	A
Collector Dissipation	P_C	Mounted on ceramic board(250mm² × 0.8mm)	1.3	W
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} = 40V, I_E = 0			1.0	μA
Emitter Cutoff Current	I_{EBO}	V_{EB} = 4V, I_C = 0			1.0	μA
DC Current Gain	h_{FE}※	V_{CE} = 5V, I_C = 500mA	60※		320※	
Gain-Bandwidth Product	f_T	V_{CE} = 10V, I_C = 50mA	180	250		MHz
Output Capacitance	c_{ob}	V_{CB} = 10V, f = 1MHz		15		pF
Output Power	Po	V_{CC} = 12V, f = 27MHz Pin = 35mW	1.0	1.8		W
Collector Efficiency	η_c	See specified Test Circuit.	60			%
C-E Saturation Voltage	$V_{CE(sat)}$	I_C = 500mA, I_B = 50mA		0.2	0.6	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C = 500mA, I_B = 50mA		0.9	1.2	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C = 10μA, I_E = 0	75			V
C-E Breakdown Voltage	$V_{(BR)CER}$	I_C = 1mA, R_{BE} = 150Ω	75			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA, R_{BE} = ∞	45			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E = 10μA, I_C = 0	5			V

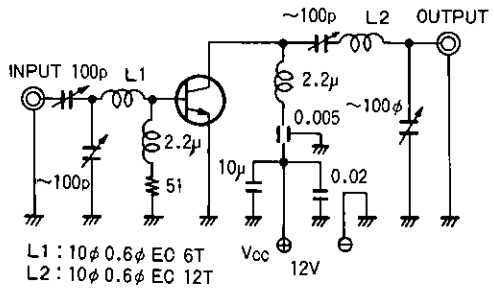
※ : The 2SC4272 is classified by 500mA h_{FE} as follows :

60 D 120	100 E 200	160 F 320

Marking : CH

h_{FE} rank : D,E,F

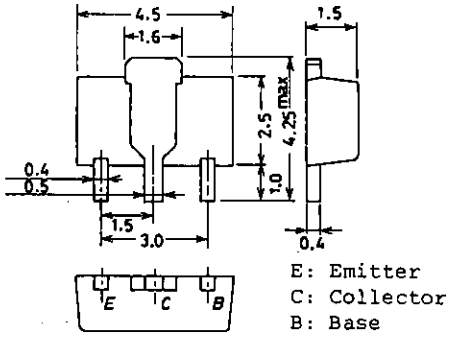
Collector Efficiency Test Circuit



Unit (Resistance : Ω, Capacitance : F)

Package Dimensions 2038

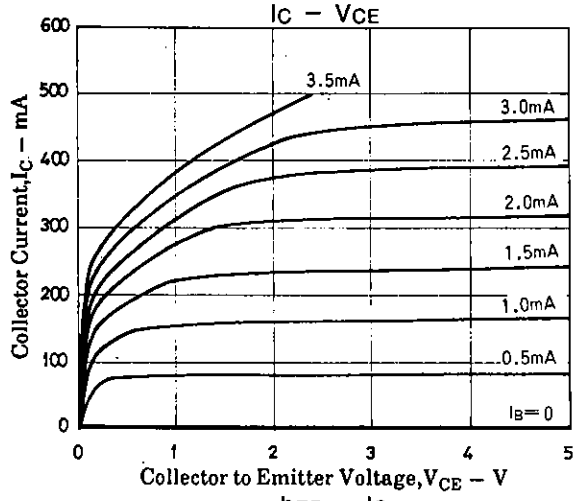
(unit : mm)

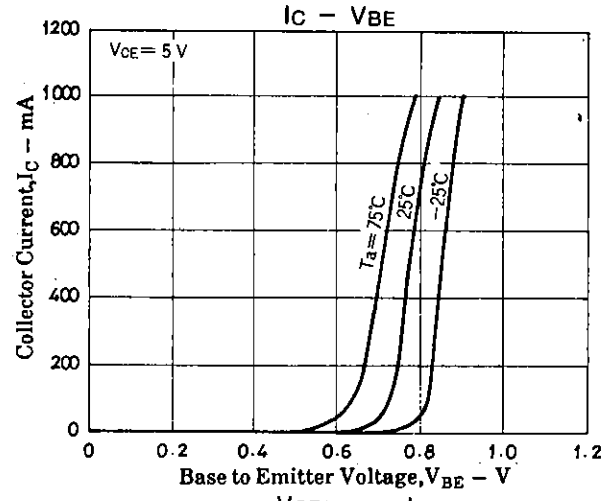


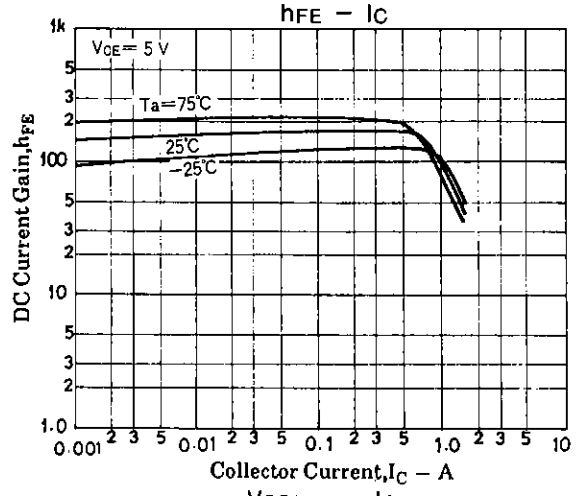
E: Emitter
C: Collector
B: Base

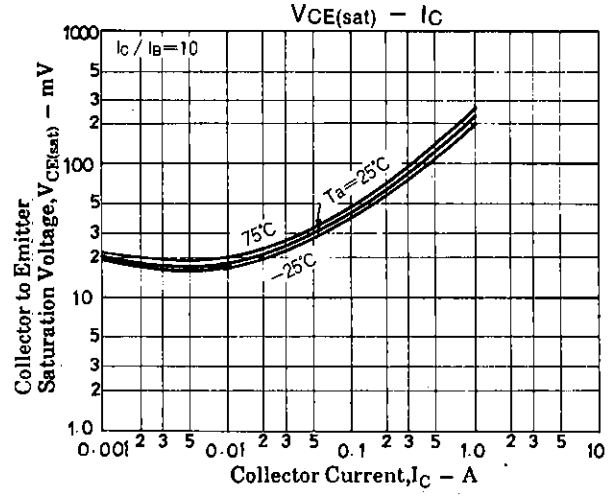
SANYO: PCP

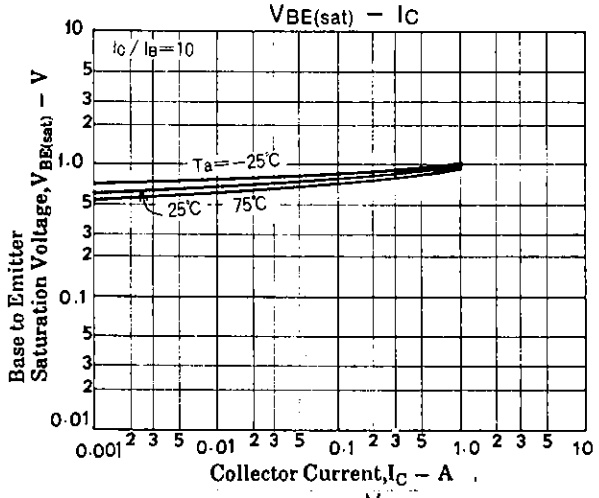
(Bottom View)

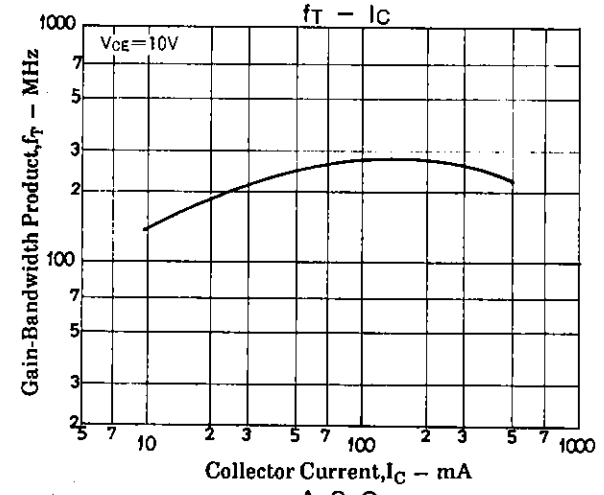

IC – VCE
3.5mA
3.0mA
2.5mA
2.0mA
1.5mA
1.0mA
0.5mA
IB=0
Collector Current,IC – mA
Collector to Emitter Voltage,VCE – V

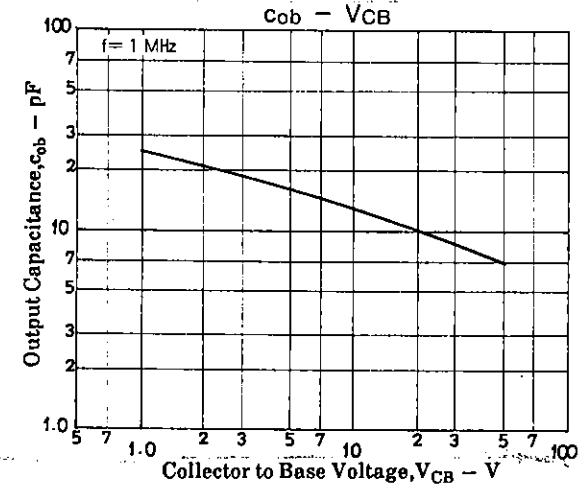

IC – VBE
VCE= 5 V
Ta=75°C
25°C
–25°C
Collector Current,IC – mA
Base to Emitter Voltage,VBE – V

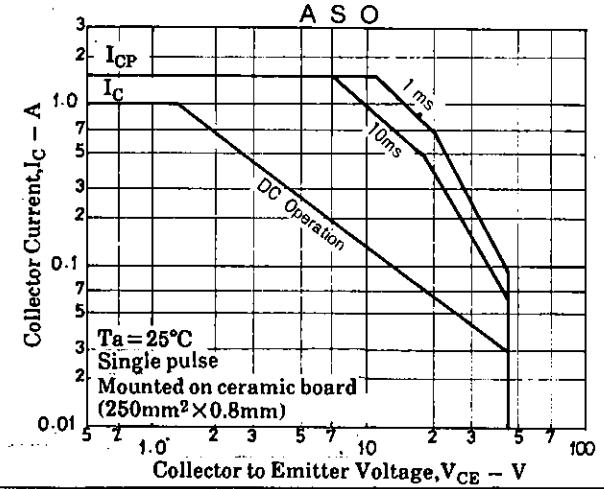

hFE – IC
VCE= 5 V
Ta=75°C
25°C
–25°C
DC Current Gain,hFE
Collector Current,IC – A


VCE(sat) – IC
IC / IB=10
Ta=25°C
75°C
–25°C
Collector to Emitter Saturation Voltage,VCE(sat) – mV
Collector Current,IC – A


VBE(sat) – IC
IC / IB=10
Ta=–25°C
25°C
75°C
Base to Emitter Saturation Voltage,VBE(sat) – V
Collector Current,IC – A


fT – IC
VCE=10V
Gain-Bandwidth Product,fT – MHz
Collector Current,IC – mA


Cob – VCB
f= 1 MHz
Output Capacitance,Cob – pF
Collector to Base Voltage,VCB – V


A S O
ICP
IC
1ms
10ms
DC Operation
Ta=25°C
Single pulse
Mounted on ceramic board
(250mm²×0.8mm)
Collector Current,IC – A
Collector to Emitter Voltage,VCE – V