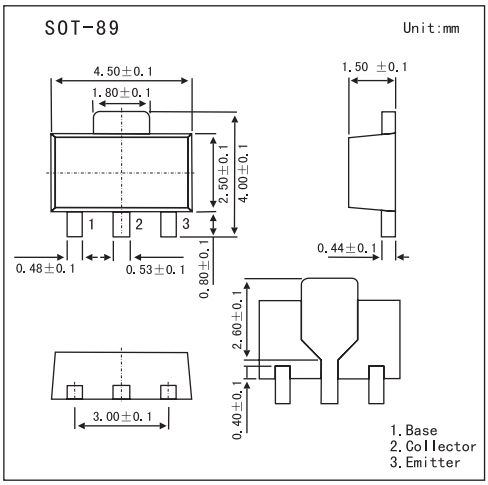
27MHz CB Transceiver Driver Applications

2SC4272



■ Features

● Small Size Making It Easy To Provide High-Density, Small-Sized Hybrid ICs.

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	75	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	1.0	A
Collector Current (Pulse)	I_{CP}	1.5	A
Collector Power Dissipation	P_C *	1.3	W
Jumction temperature	T_j	150	℃
Storage temperature Range	T_{stg}	-55 to +150	℃

* Mounted on ceramic board (250 mm^2 x 0.8 mm)

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector Cut-off Current	I_{CBO}	V_{CB} = 40V , I_E = 0			1.0	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 4V , I_C = 0			1.0	μA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 10uA , I_E = 0	75			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA , R_{BE} = ∞	45			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 10uA , I_C = 0	5			V
DC Current Gain	h_{FE}	V_{CE} = 5V , I_C = 500mA	60		320	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 500mA , I_B = 50mA		0.2	0.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 500mA , I_B = 50mA		0.9	1.2	V
Gain-Bandwidth Product	f_T	V_{CE} = 10V , I_C = 50mA	180	250		MHz
Collector Output Capacitance	C_{ob}	V_{CB} = 10V , f = 1MHz		15		pF
Output Power	P_O	V_{CC} = 12V , f = 27MHz , Pin = 35mW	1.0	1.8		W
Collector Efficiency	η_C	See Test Circuit.	60			%

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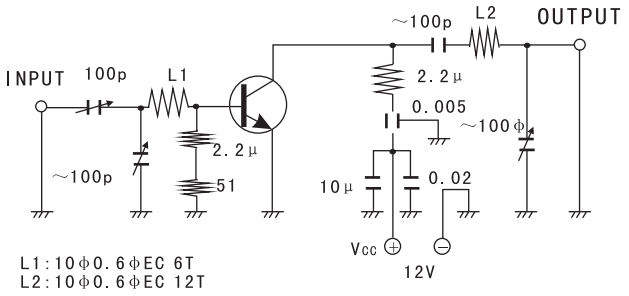
■ Test Circuit

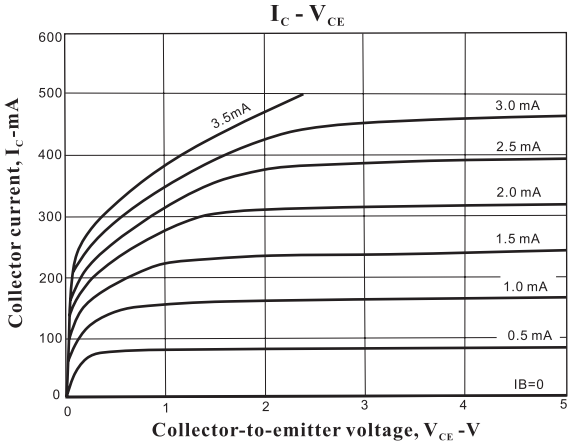


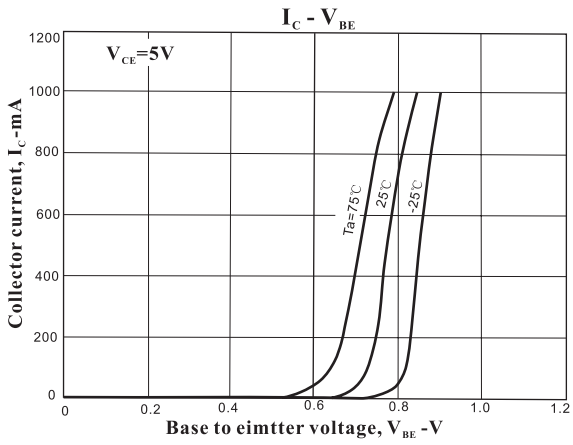
Unit(Resistance:Ω,Capacitance:F)

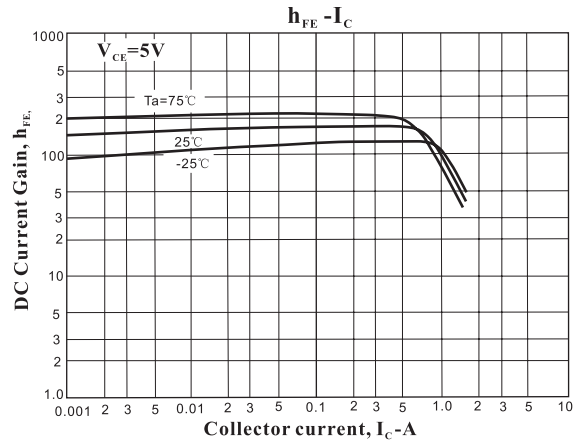
■ hFE Classification

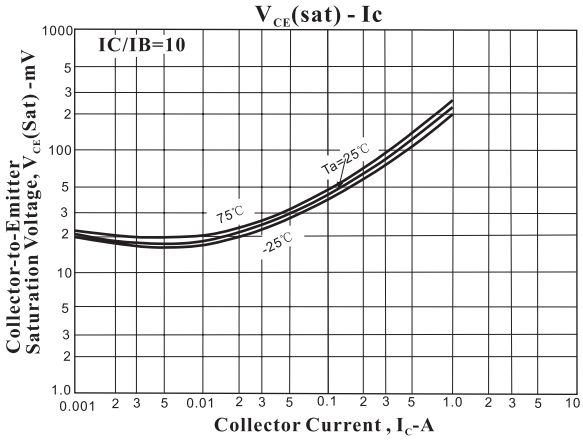
Marking	CH		
Rank	D	E	F
hFE	60 ～ 120	100 ～ 200	160 ～ 320

■ Electrical Characteristics Curves









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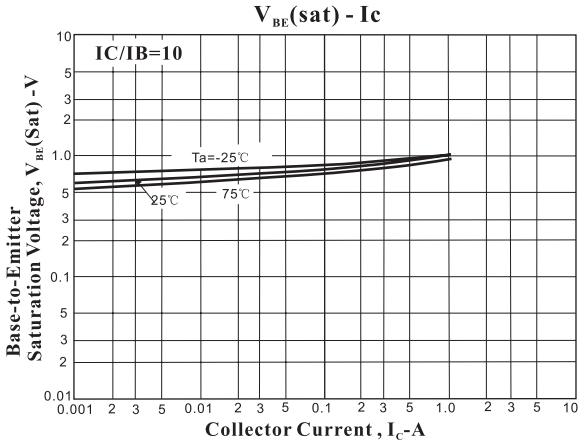
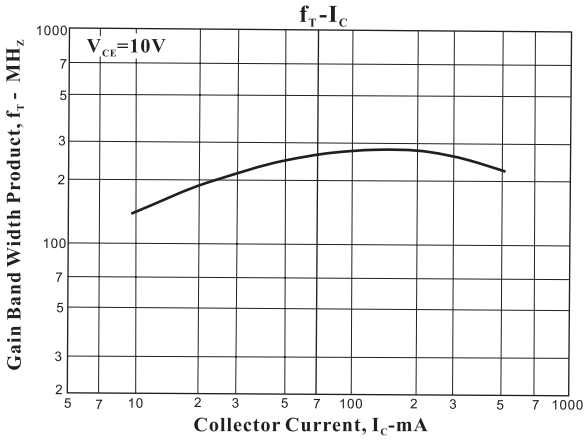
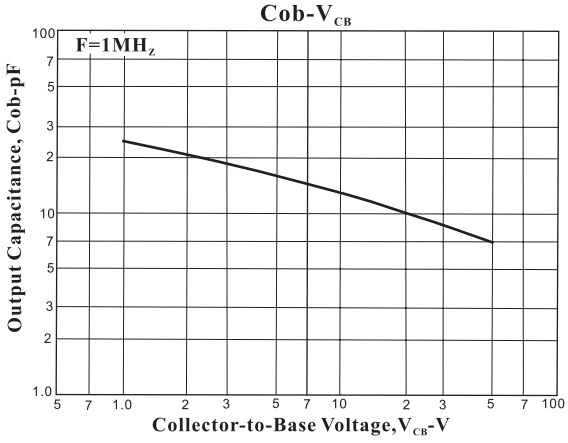
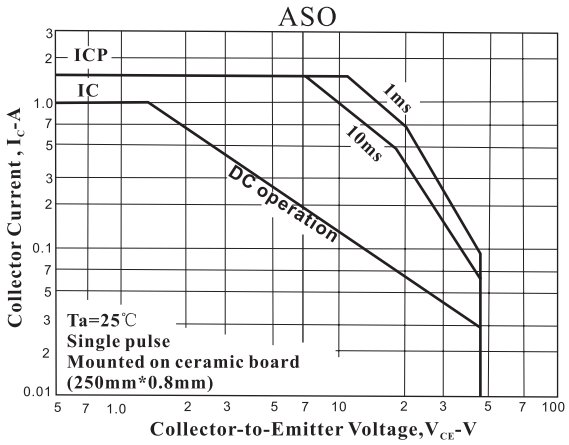
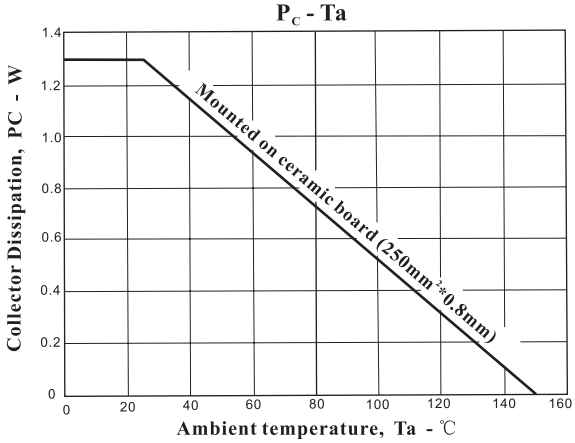

V_{BE}(sat) - Ic
IC/IB=10
Ta=-25℃
25℃
75℃
Base-to-Emitter Saturation Voltage, V_{BE}(Sat) -V
Collector Current , I_C-A


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


Cob-V_{CB}
F=1MHz
Output Capacitance, Cob-pF
Collector-to-Base Voltage,V_{CB}-V


ASO
ICP
IC
1ms
10ms
DC operation
Ta=25℃
Single pulse
Mounted on ceramic board
(250mm*0.8mm)
Collector Current , I_C-A
Collector-to-Emitter Voltage,V_{CE}-V


P_C - Ta
Mounted on ceramic board (250mm²*0.8mm)
Collector Dissipation, PC - W
Ambient temperature, Ta - ℃