SSCP005GN3

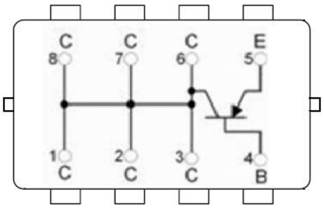
High Frequency High Gain PNP Power BJT

- **Features**

PNP BJT			
VCE	VBE	Vcesat typ	Ic
-40v	-6v	-150mv	-3A

- **Applications**
  - ➢ battery powered circuits
  - ➢ low in-line power dissipation circuits

- **Pin configuration**

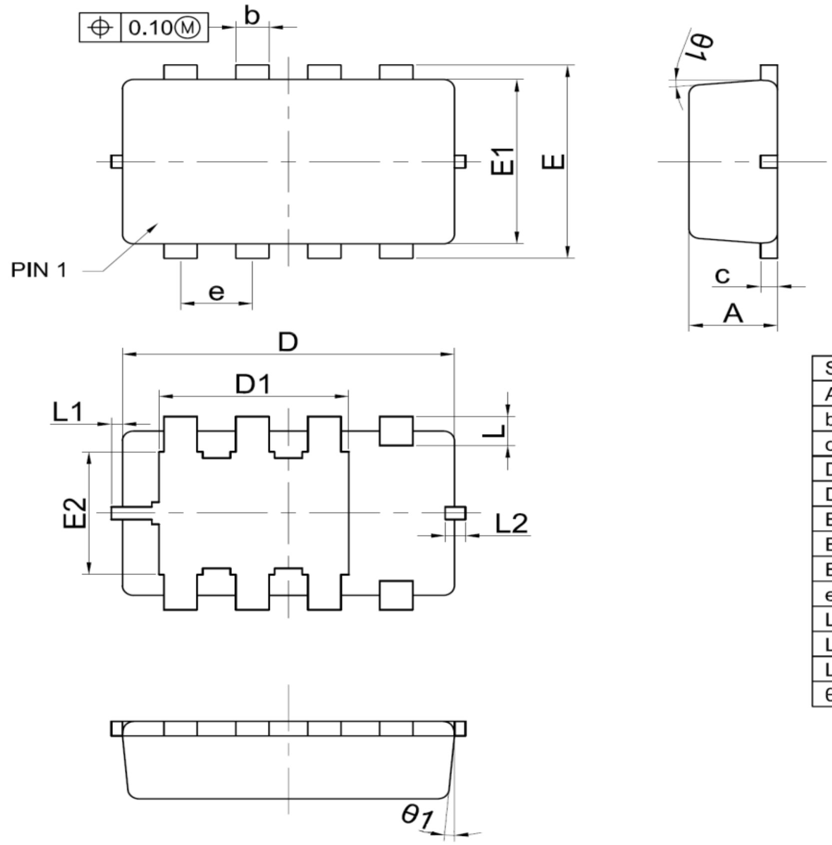


Pin configuration(Top view)

- **General Description**

This device is produced with advanced high carrier density technology, which is especially used to minimize saturation voltage drop. This device particularly suits low voltage applications such as portable equipment, power management and other battery powered circuits, and low in-line power dissipation are needed in a very small outline surface mount package. Excellent thermal and electrical capabilities.

- **Package Information**



COMMON DIMENSIONS
(UNITS OF MEASURE=MILLIMETER)

SYMBOL	MIN	NOM	MAX
A	0.70	0.80	0.90
b	0.24	0.30	0.35
c	0.08	0.15	0.20
D	2.90	3.00	3.05
D1	1.52	1.62	1.72
E	1.90	2.00	2.10
E1	1.60	1.70	1.75
E2	1.07	1.17	1.27
e		0.65 BCS	
L	0.20	0.30	0.40
L1	0.00	——	0.10
L2		0.184 MAX	
θ1	0°	5°	8°

● Absolute Maximum Ratings @ TA = 25°C unless otherwise specified

Parameter	Symbol	P-channel	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current T_A = 25°C (Note 1)	I_C	-3	A
Collector Current T_A = 70°C (Note 2)		-2	
Pulse collector current(Note3)	I_{CM}	-6	A
Power Dissipation Derating above T_A = 25°C(Note 1)	P_d	3.0	W
Power Dissipation Derating above T_A = 70°C(Note 2)		1.5	
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-55 to +150	°C

Note1. Surface mounted on FR-4 Board using 1 square inch pad size, 1oz copper.

Note2. Surface mounted on FR-4 board using minimum pad size, 1oz copper

Note3. Pulse width=300μs, Duty Cycle

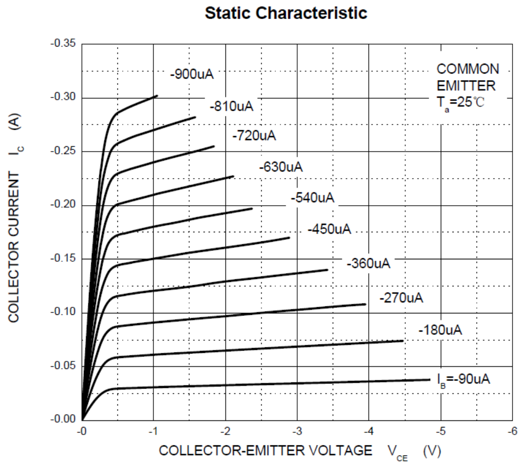
● Electrical Characteristics @ TA = 25°C unless otherwise specified

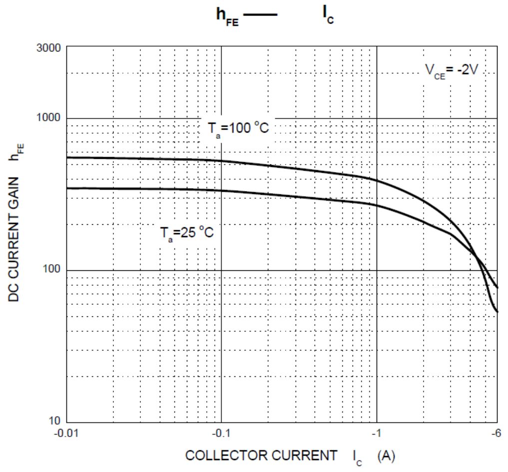
Parameter (Note 4)	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=-50uA，I_B=0mA	-40			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=-1mA，I_B=0mA	-40			V
Emitter-Base Breakdown Voltage	BV_{EBO}	I_E=-1uA，I_C=0mA	-8			V
Collector cut off current	I_{CBO}	V_{CB}=-20V,I_E=0mA			1	uA
Emitter cut off current	I_{EBO}	V_{EB}=-4V,I_C=0mA			1	uA
DC Current Gain	HFE	VCE=-2V,IC=-500mA	100	200	350	
Collector-Emitter Saturation Voltage	V_{CESAT}	IC=-1.5A,IB=-80mA		-0.15	-0.2	V

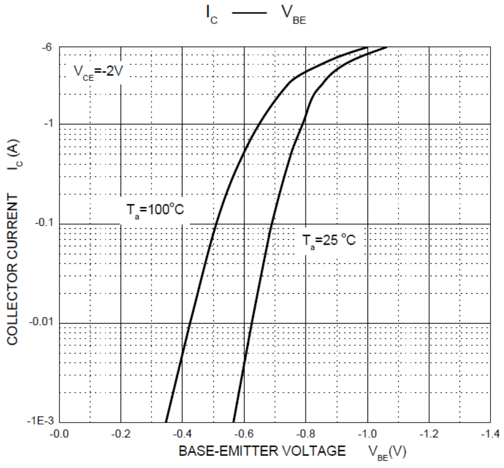
Note 4.

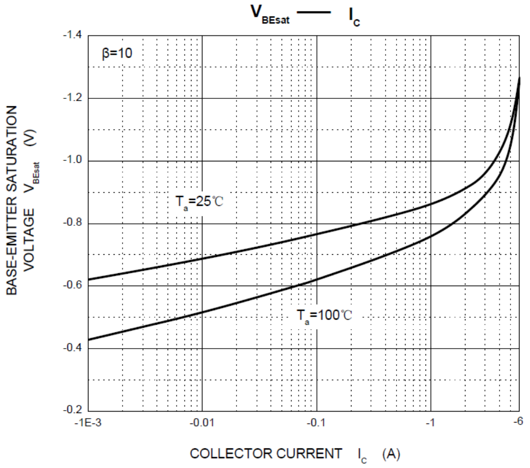
Surface Mounted on FR4 Board, t < 10 sec.
Pulse Test: Pulse Width < 300μs, Duty Cycle < 2%

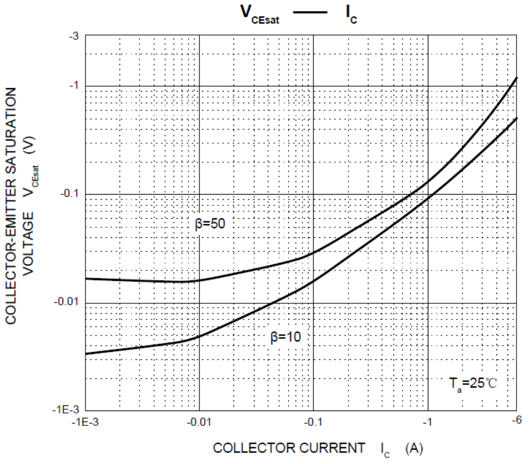
Typical Performance Characteristics

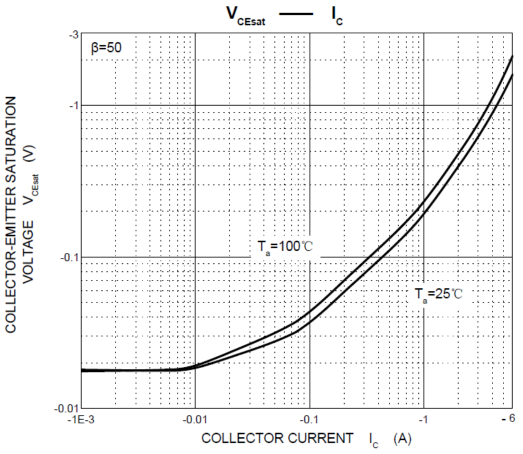

Static Characteristic

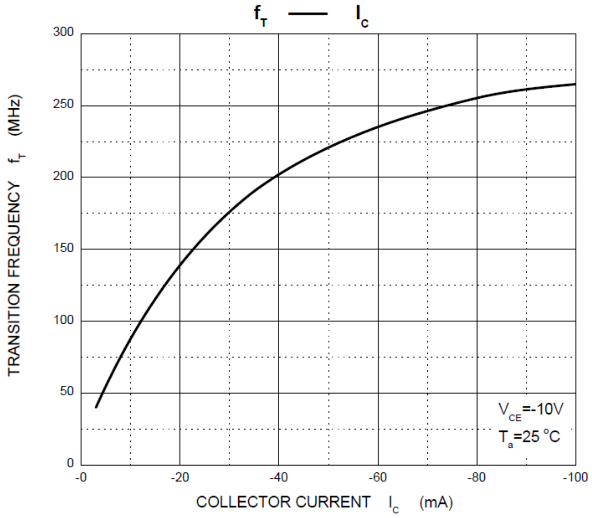

h_{FE} —— I_C

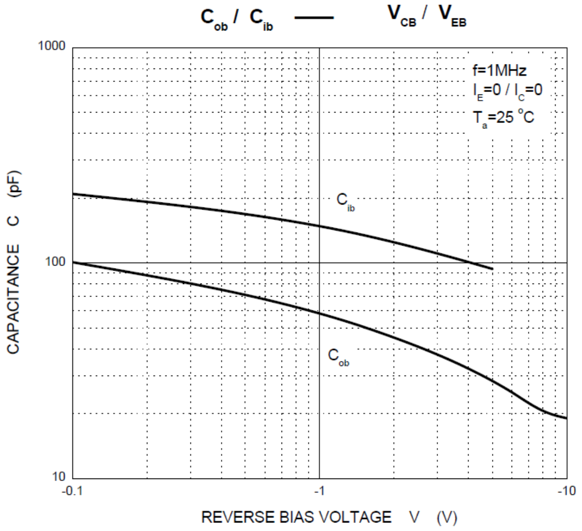

I_C —— V_{BE}

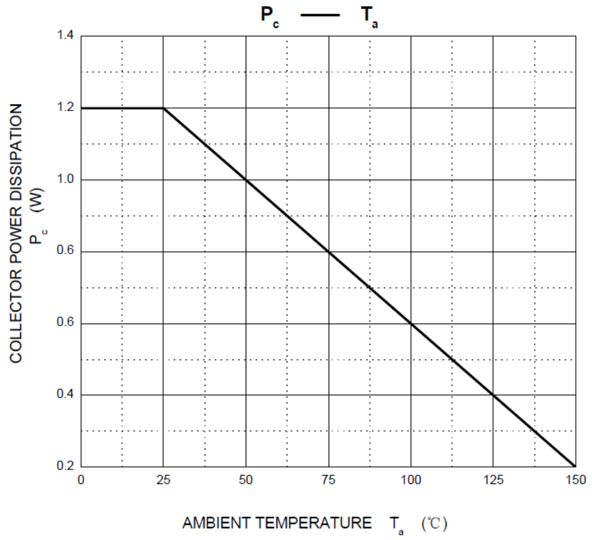

V_{BEsat} —— I_C


V_{CEsat} —— I_C


V_{CEsat} —— I_C


f_T —— I_C
TRANSITION FREQUENCY f_T (MHz)
300
250
200
150
100
50
0
-0
-20
-40
-60
-80
-100
COLLECTOR CURRENT I_C (mA)
V_{CE}=-10V
T_a=25 °C


C_{ob} / C_{ib} —— V_{CB} / V_{EB}
CAPACITANCE C (pF)
1000
100
10
-0.1
-1
-10
REVERSE BIAS VOLTAGE V (V)
f=1MHz
I_E=0 / I_C=0
T_a=25 °C
C_{ib}
C_{ob}


P_c —— T_a
COLLECTOR POWER DISSIPATION P_c (W)
1.4
1.2
1.0
0.6
0.6
0.4
0.2
0
25
50
75
100
125
150
AMBIENT TEMPERATURE T_a (℃)

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