PRELIMINARY

Notice : This is not a final specification
Some parametric are subject to change.

INC5004AC1

FOR HIGH CURRENT DRIVE APPLICATION
SILICON NPN EPITAXIAL TYPE

DESCRIPTION

INC5004AC1 is a silicon NPN epitaxial type transistor.
It is designed with high collector current and small $V_{CE(sat)}$.

FEATURE

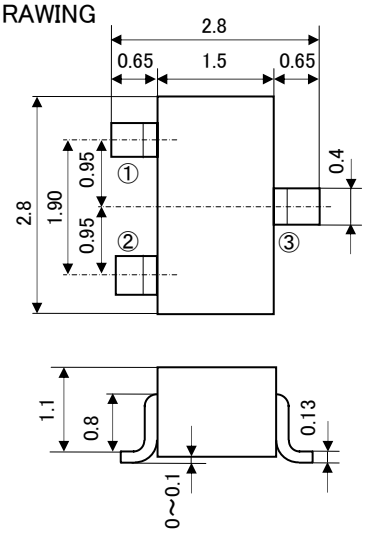
- Super mini package for easy mounting
- High collector current(I_C=2A)
- Low collector saturation voltage
  ($V_{CE(sat)}$<0.15V_{max} ; I_C=1.5A、I_B=30mA)

APPLICATION

Switching, Small type motor drive

OUTLINE DRAWING

UNIT : mm



Terminal Connector
①: Base
②: Emitter
③: Collector

JEITA:SC-59
JEDEC: Similar to TO-236

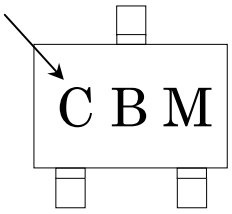
MAXIMUM RATING (Ta=25℃)

SYMBOL	PARAMETER	RATING	UNIT
V_{CEO}	Collector to Emitter voltage	20	V
V_{CBO}	Collector to Base voltage	50	V
V_{EBO}	Emitter to Base voltage	9	V
I_C	Collector current	5	A
P_C	Collector dissipation(Ta=25℃)	200	mW
		900(*)	
T_j	Junction temperature	+150	℃
T_{stg}	Storage temperature	−55～+150	℃

*Mounted on ceramic board(46mm × 19mm × 1mm)

MARKING

Type Name

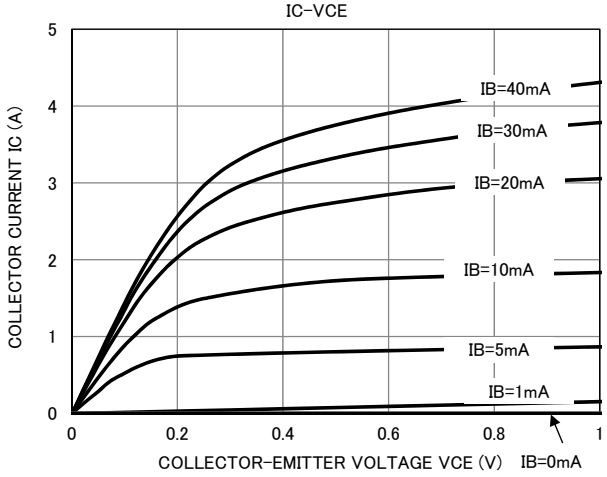


ELECTRICAL CHARACTERISTICS (Ta=25℃)

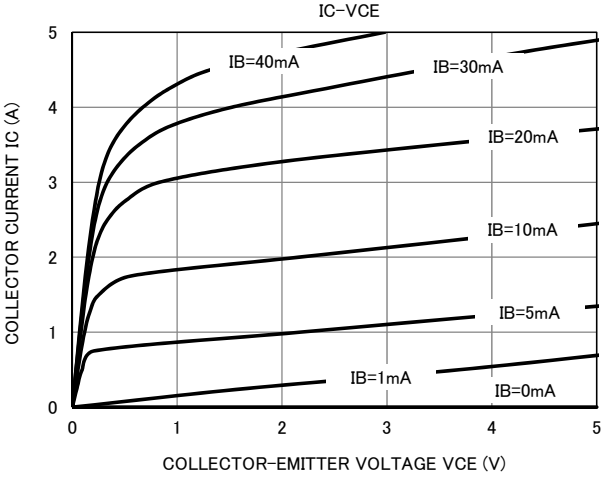
SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS			UNIT
			MIN	TYP	MAX	
$V_{(BR)CEO}$	C to E break down voltage	I_C=1mA, I_B=0mA	20	−	−	V
$V_{(BR)CBO}$	C to B break down voltage	I_C=10μA, I_E=0mA	50	−	−	V
$V_{(BR)EBO}$	E to B break down voltage	I_E=10μA, I_C=0mA	9	−	−	V
I_{CBO}	Collector cut off current	V_{CB}=40V, I_E=0mA	−	−	0.1	μA
I_{EBO}	Emitter cut off current	V_{EB}=7V, I_C=0mA	−	−	0.1	μA
h_{FE1}	DC forward current gain1	V_{CE}=2V, I_C=500mA	230	−	600	−
h_{FE2}	DC forward current gain2	V_{CE}=2V, I_C=2A	150	−	−	−
$V_{CE(sat)}$	C to E saturation voltage	I_C=1.5A, I_B=30mA	−	0.12	0.15	V
f_T	Gain bandwidth product	V_{CE}=6V, I_E=−50mA, f=100MHz	−	150	−	MHz
Cob	Collector output capacitance	V_{CB}=10V, f=1MHz	−	−	50	pF

TYPICAL CHARACTERISTICS

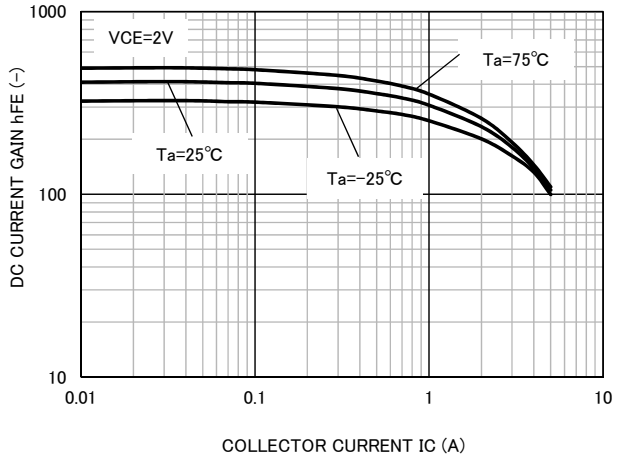
IC-VCE



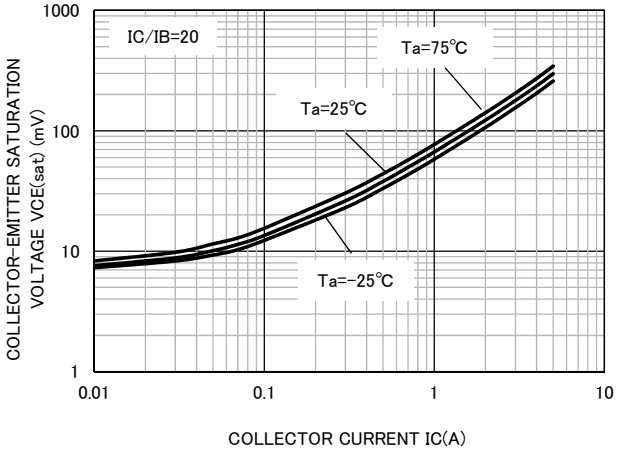
IC-VCE



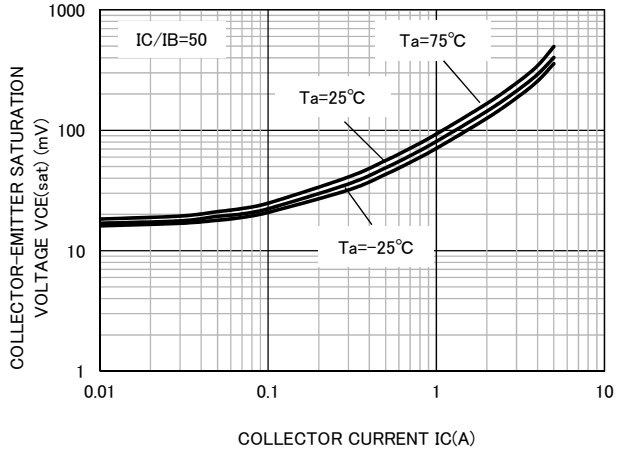
hFE-IC



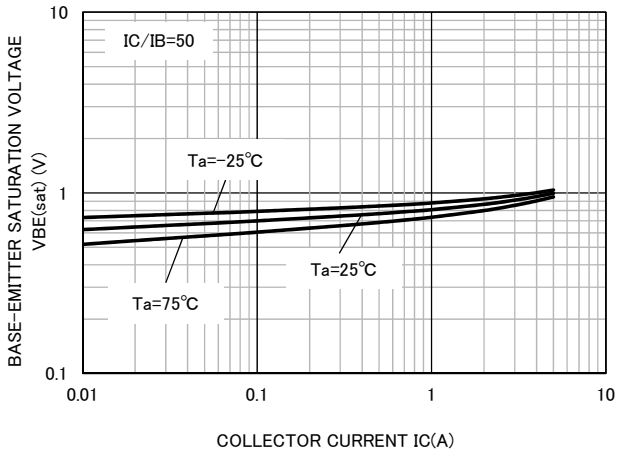
VCE(sat)-IC



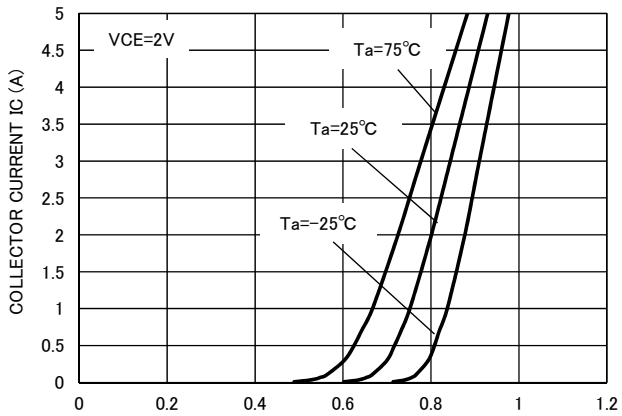
VCE(sat)-IC



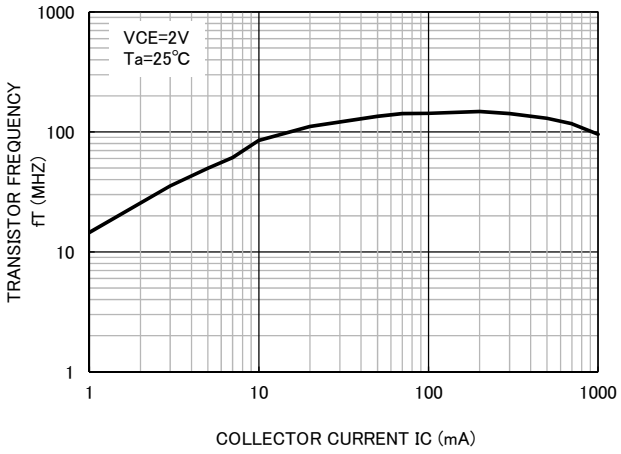
VBE(sat)-IC



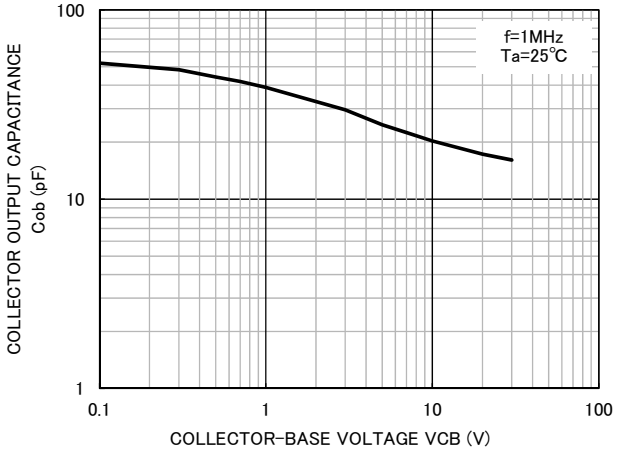
IC–VBE



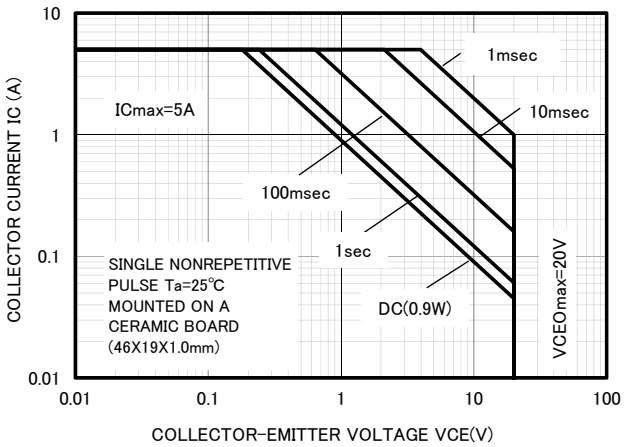
fT–IC



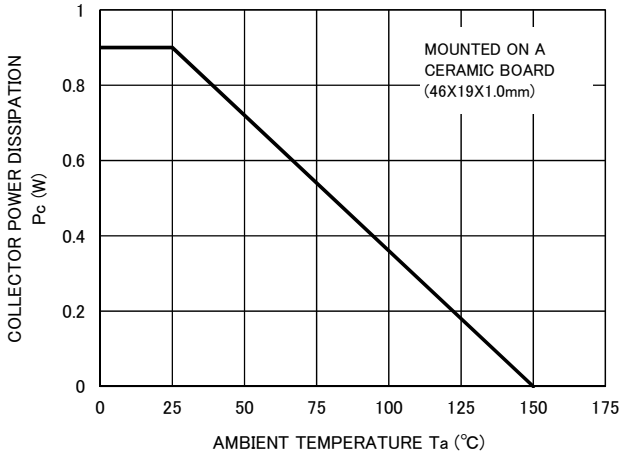
Cob–VCB



SAFE OPERATING AREA



Pc – Ta



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