2SC2405

Silicon NPN epitaxial planar type

For low-frequency and low-noise amplification
Complementary to 2SA1034

■ Features

- Low noise voltage NV
- High forward current transfer ratio h_{FE}
- Mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing.

■ Package

- Code
  Mini3-G1
- Pin Name
  1. Base
  2. Emitter
  3. Collector

■ Marking Symbol: S

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	35	V
Collector-emitter voltage (Base open)	V_{CEO}	35	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	50	mA
Peak collector current	I_{CP}	100	mA
Collector power dissipation	P_C	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	–55 to +150	°C

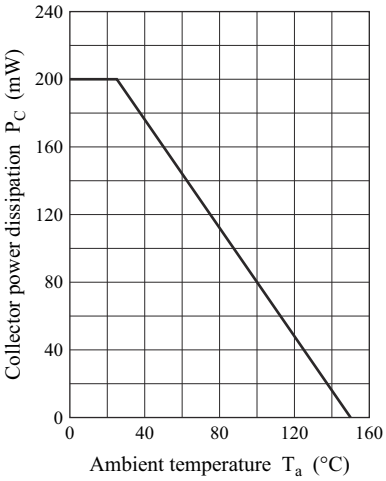
■ Electrical Characteristics $T_a = 25°C±3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = 10\ \mu A$, $I_E = 0$	35			V
Collector-emitter voltage (Base open)	V_{CEO}	$I_C = 2\ mA$, $I_B = 0$	35			V
Emitter-base voltage (Collector open)	V_{EBO}	$I_E = 10\ \mu A$, $I_C = 0$	5			V
Base-emitter voltage	V_{BE}	$V_{CE} = 1\ V$, $I_C = 100\ mA$		0.7	1.0	V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 10\ V$, $I_E = 0$			0.1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CB} = 10\ V$, $I_B = 0$			1	μA
Forward current transfer ratio *	h_{FE}	$V_{CE} = 5\ V$, $I_C = 2\ mA$	180		700	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100\ mA$, $I_B = 10\ mA$			0.6	V
Transition frequency	f_T	$V_{CB} = 5\ V$, $I_E = –2\ mA$, $f = 200\ MHz$		200		MHz
Noise voltage	NV	$V_{CB} = 10\ V$, $I_C = 1\ mA$, $G_V = 80\ dB$, $R_g = 100\ k\Omega$, Function = FLAT		110		mV

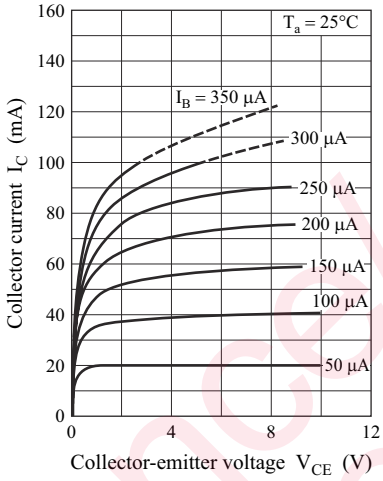
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Rank classification

Rank	R	S	T
h_{FE}	180 to 360	260 to 520	360 to 700
Merking symbol	TR	TS	TT

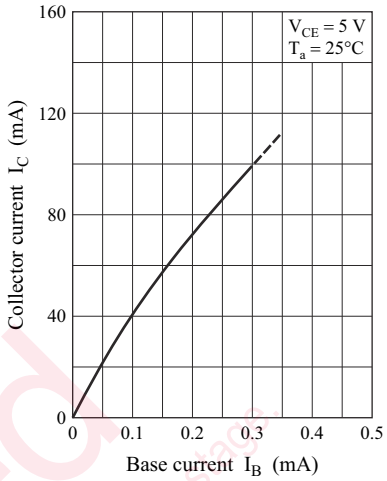
P_C — T_a



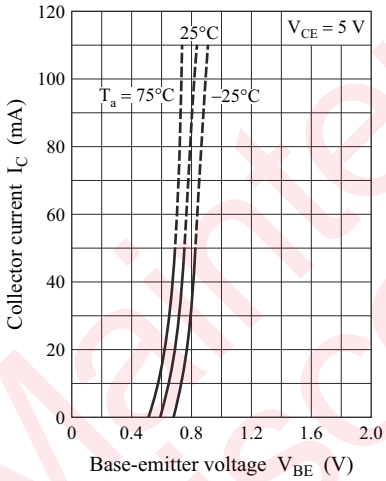
I_C — V_{CE}



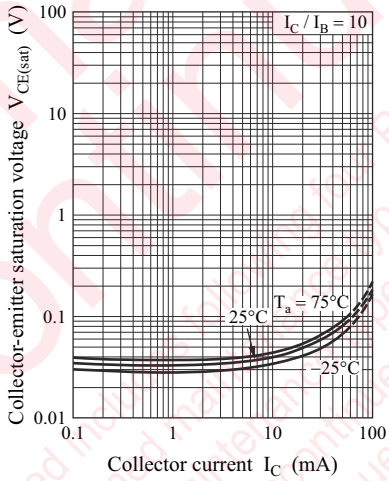
I_C — I_B



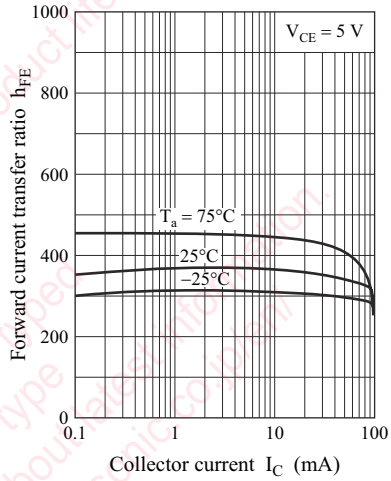
I_C — V_{BE}



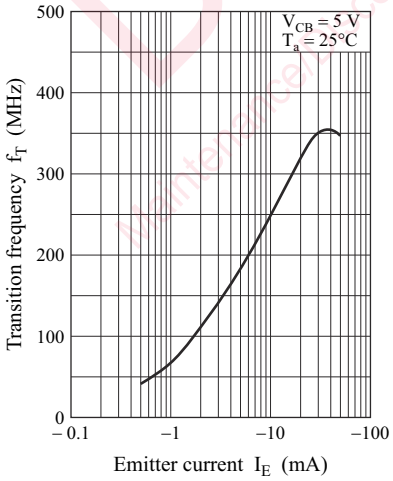
$V_{CE(sat)}$ — I_C



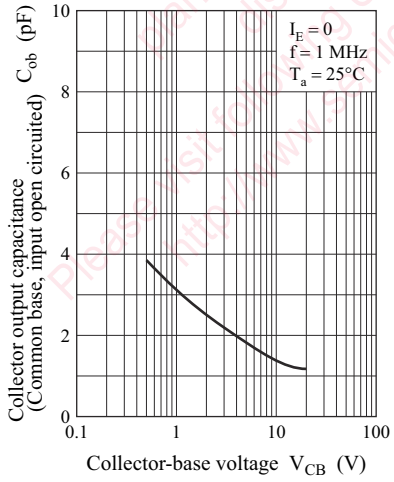
h_{FE} — I_C



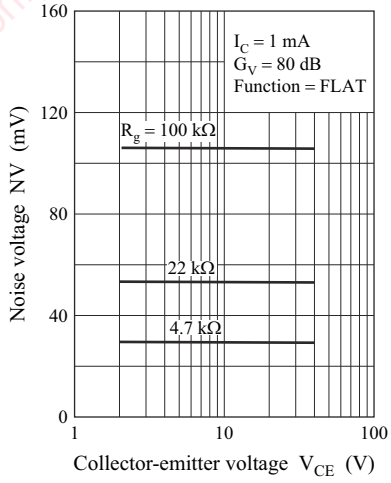
f_T — I_E



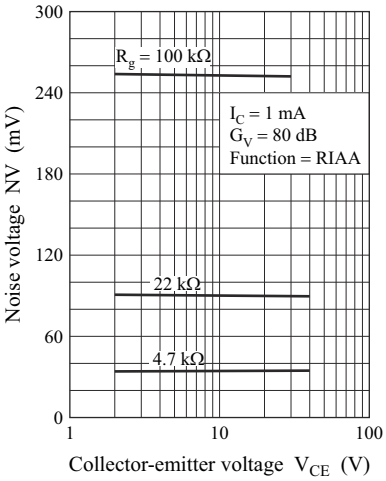
C_{ob} — V_{CB}



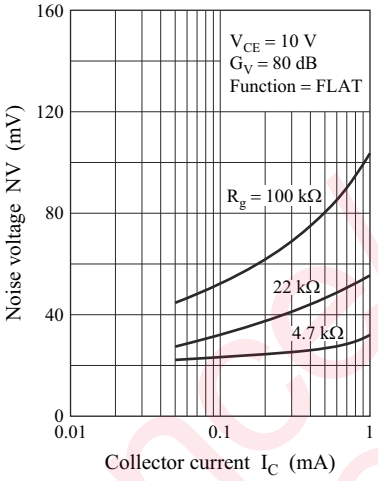
NV — V_{CE}



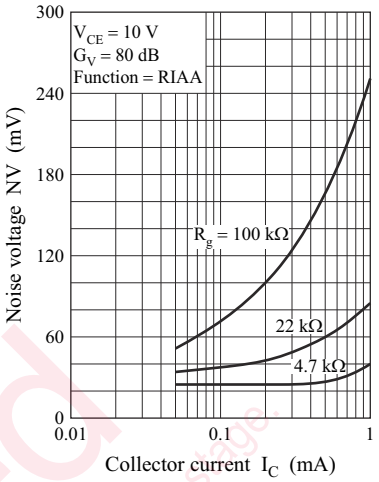
NV — V_{CE}



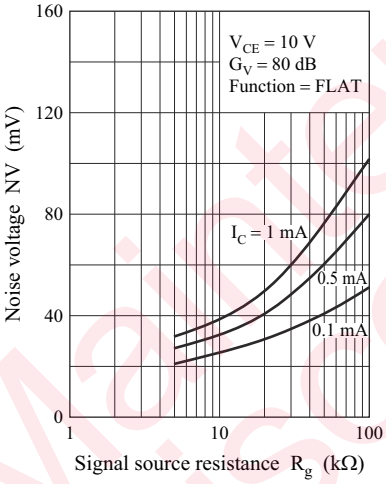
NV — I_C



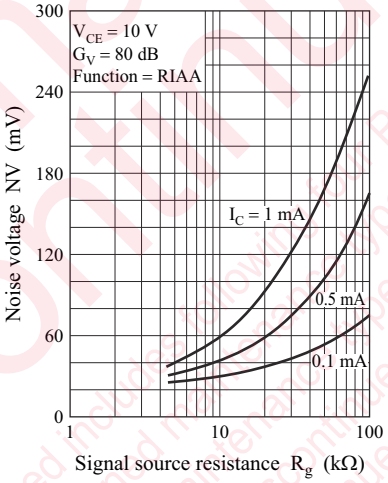
NV — I_C



NV — R_g

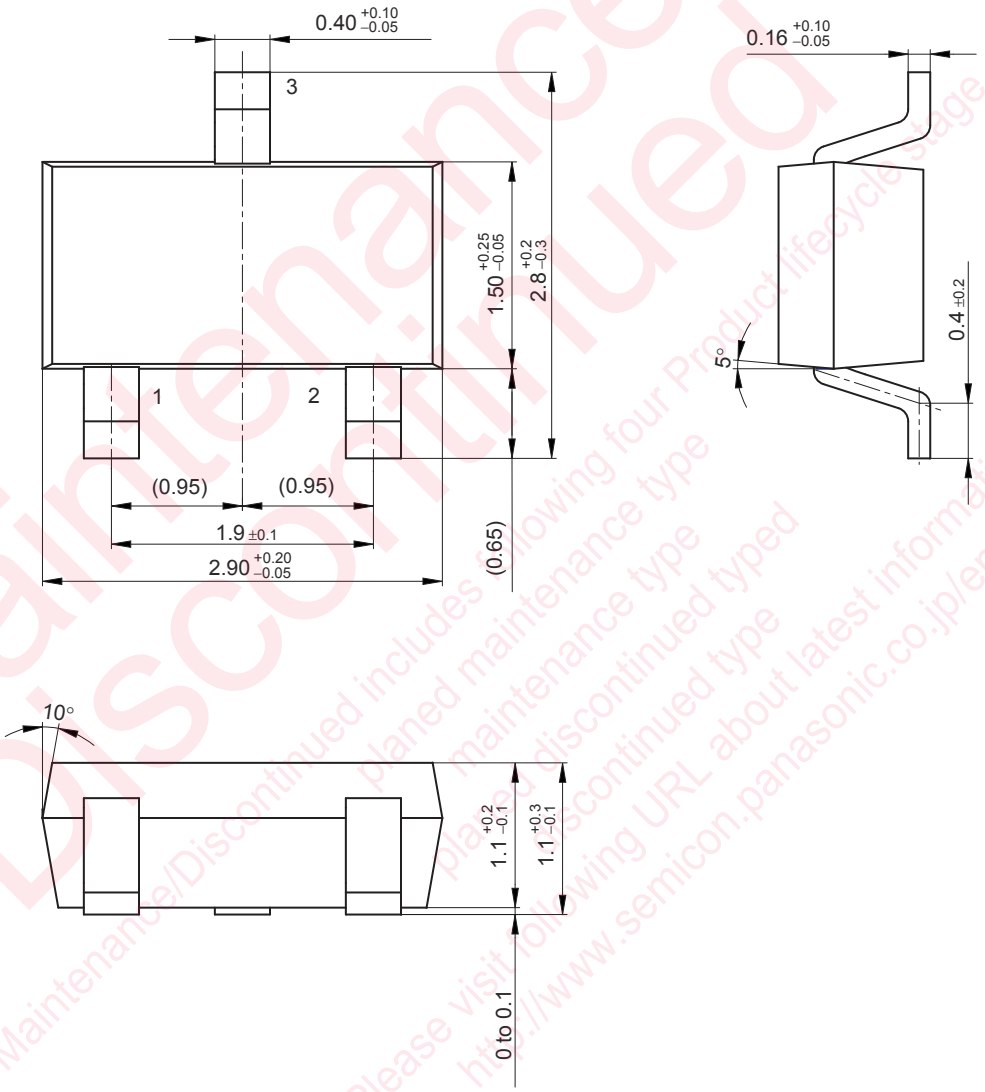


NV — R_g



Mini3-G1

Unit: mm



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