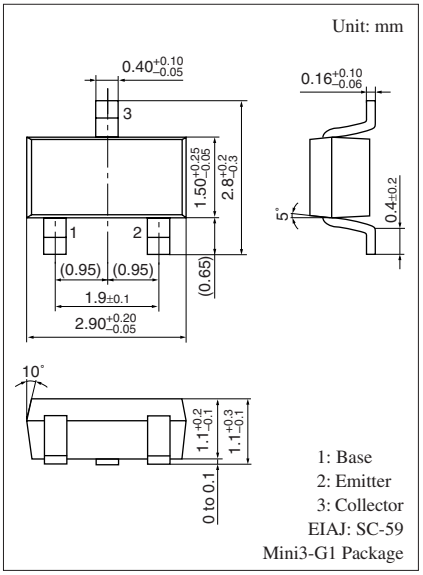
2SC2405, 2SC2406

Silicon NPN epitaxial planar type

For low-frequency and low-noise amplification
Complementary to 2SA1034 and 2SA1035

■ 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 and the magazine packing



Marking Symbol:
- 2SC2405: S
- 2SC2406: T

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter		Symbol	Rating	Unit
Collector-base voltage (Emitter open)	2SC2405	V_{CBO}	35	V
	2SC2406		55	
Collector-emitter voltage (Base open)	2SC2405	V_{CEO}	35	V
	2SC2406		55	
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

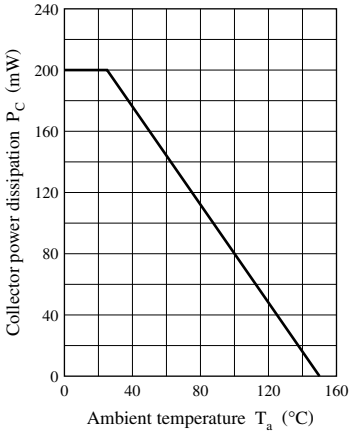
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	2SC2405	V_{CBO}	I_C = 10 µA, I_E = 0	35			V
	2SC2406			55			
Collector-emitter voltage (Base open)	2SC2405	V_{CEO}	I_C = 2 mA, I_B = 0	35			V
	2SC2406			55			
Emitter-base voltage (Collector open)		V_{EBO}	I_E = 10 µA, 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_{CE} = 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_{CE} = 10 V, I_C = 1 mA, G_V = 80 dB R_g = 100 kΩ, Function = FLAT		110		mV

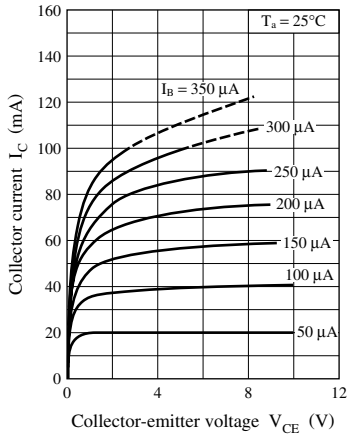
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. *: Rank classification

Rank		R	S	T
h_{FE}		180 to 360	260 to 520	360 to 700
Marking symbol	2SC2405	SR	SS	ST
	2SC2406	TR	TS	TT

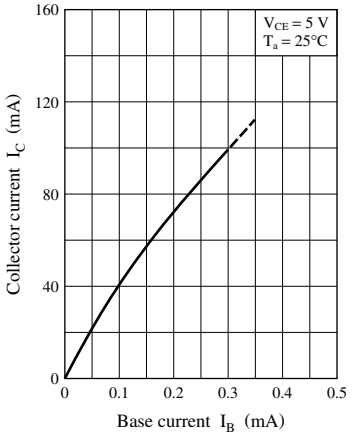
P_C — T_a



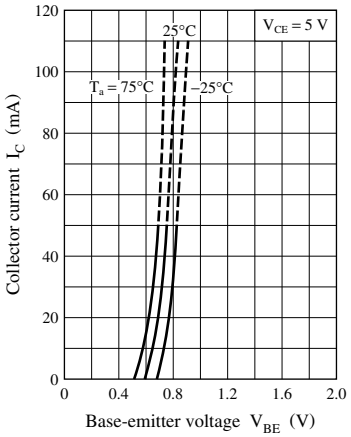
I_C — V_{CE}



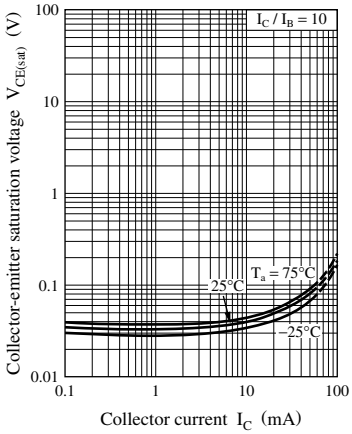
I_C — I_B



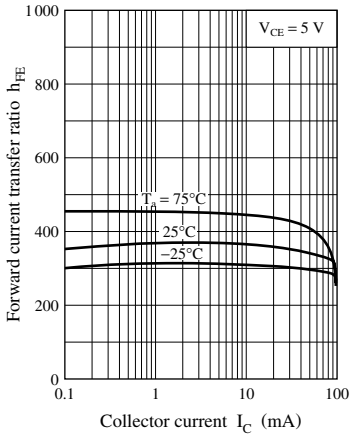
I_C — V_{BE}



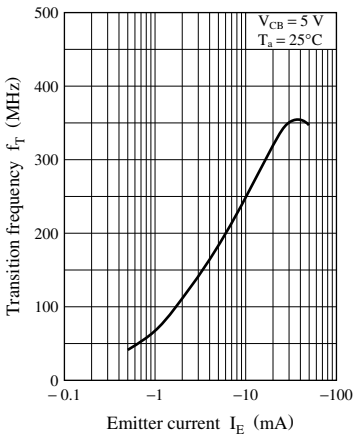
$V_{CE(sat)}$ — I_C



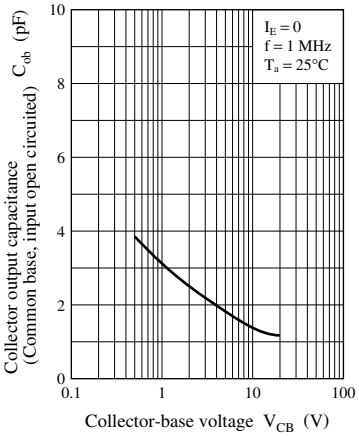
h_{FE} — I_C



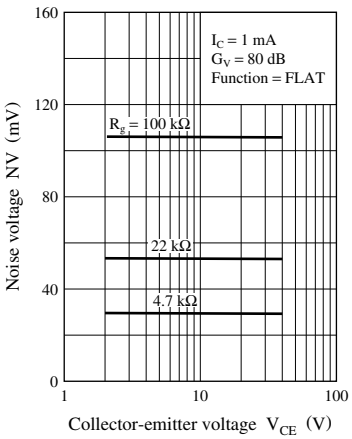
f_T — I_E



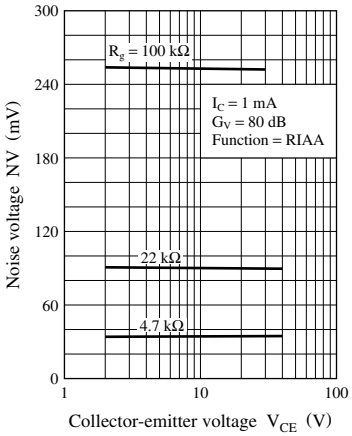
C_{ob} — V_{CB}



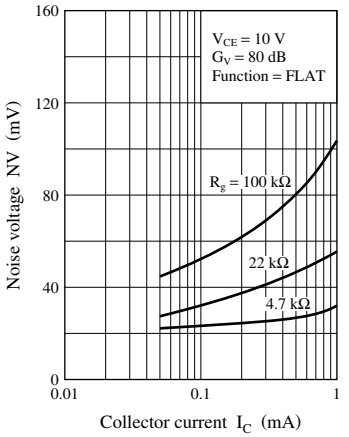
NV — V_{CE}



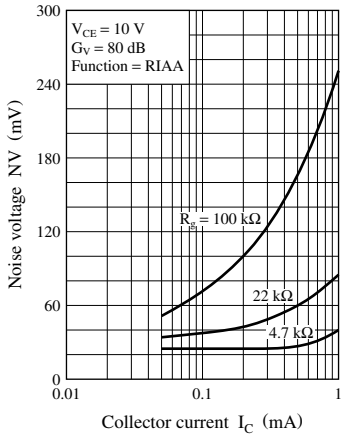
NV — V_{CE}



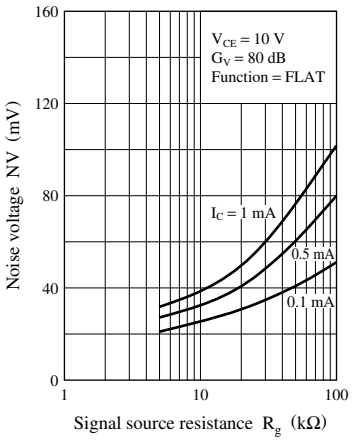
NV — I_C



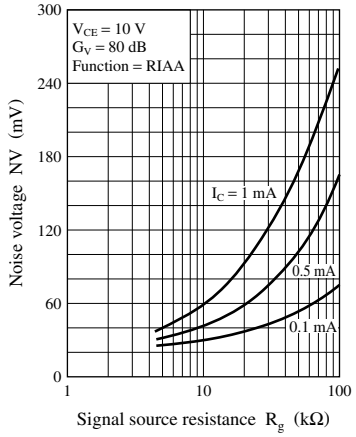
NV — I_C



NV — R_g



NV — R_g



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