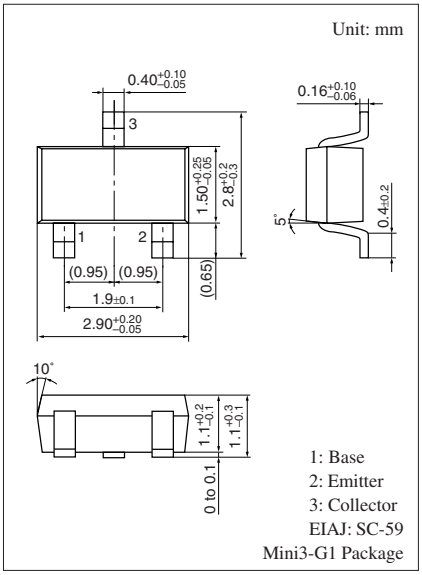
2SA1034, 2SA1035

Silicon PNP epitaxial planar type

For low-frequency and low-noise amplification
Complementary to 2SC2405, 2SC2406

■ 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:

- 2SA1034: F
- 2SA1035: H

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter		Symbol	Rating	Unit
Collector-base voltage (Emitter open)	2SA1034	V_{CBO}	−35	V
	2SA1035		−55	
Collector-emitter voltage (Base open)	2SA1034	V_{CEO}	−35	V
	2SA1035		−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

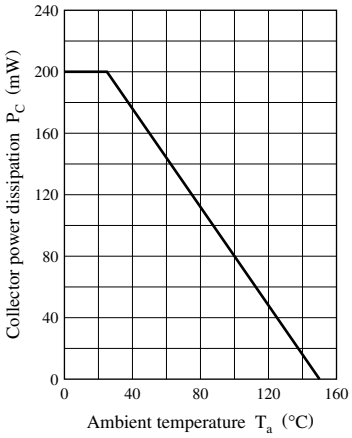
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	2SA1034	V_{CBO}	$I_C = -10$ μA, $I_E = 0$	−35			V
	2SA1035			−55			
Collector-emitter voltage (Base open)	2SA1034	V_{CEO}	$I_C = -2$ mA, $I_B = 0$	−35			V
	2SA1035			−55			
Emitter-base voltage (Collector open)		V_{EBO}	$I_E = -10$ μA, $I_C = 0$	−5			V
Base-emitter voltage *1		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 *2		h_{FE}	$V_{CE} = -5$ V, $I_C = -2$ mA	180		700	—
Collector-emitter saturation voltage *1		$V_{CE(sat)}$	$I_C = -100$ 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			150	mV

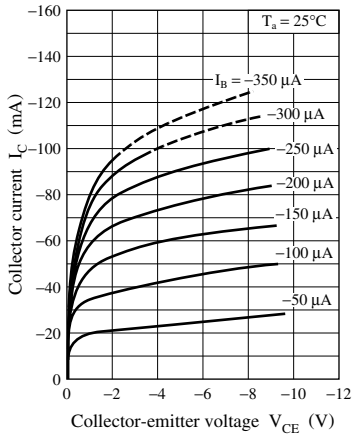
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. ∗1: Pulse measurement
∗2: Rank classification

Rank	R	S	T
h_{FE}	180 to 360	260 to 520	360 to 700

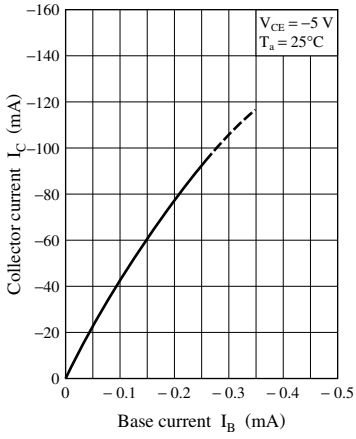
P_C — T_a



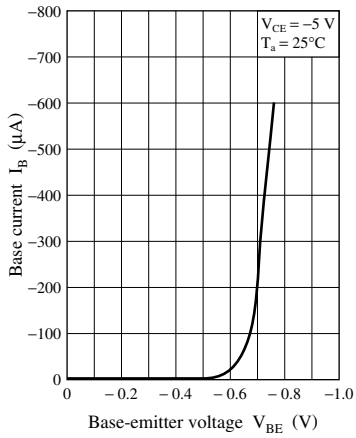
I_C — V_{CE}



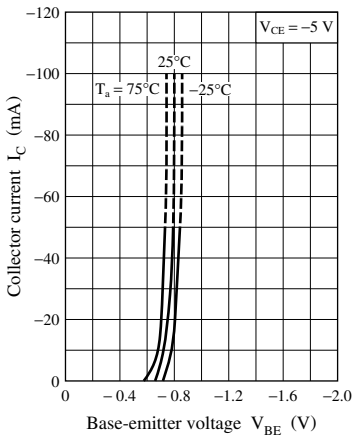
I_C — I_B



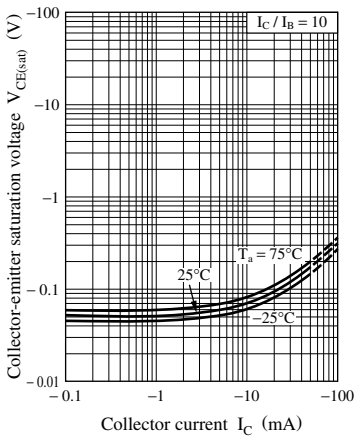
I_B — V_{BE}



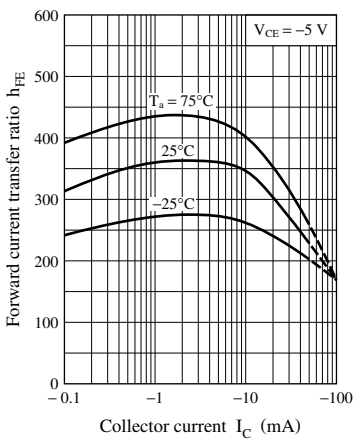
I_C — V_{BE}



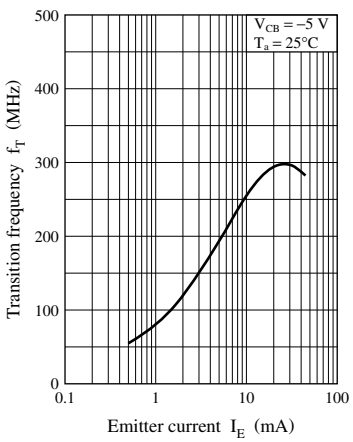
$V_{CE(sat)}$ — I_C



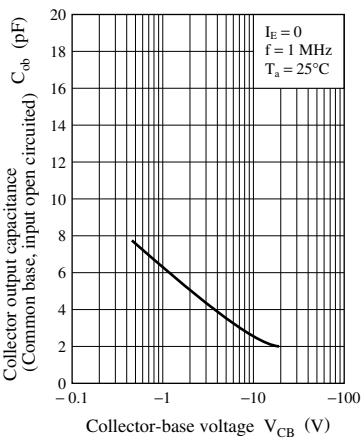
h_{FE} — I_C



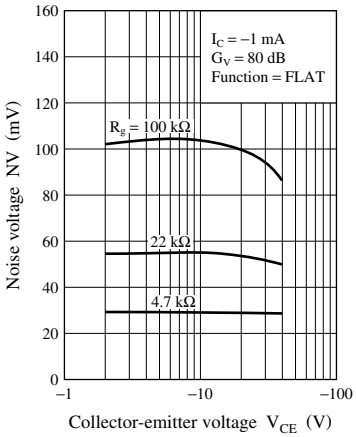
f_T — I_E



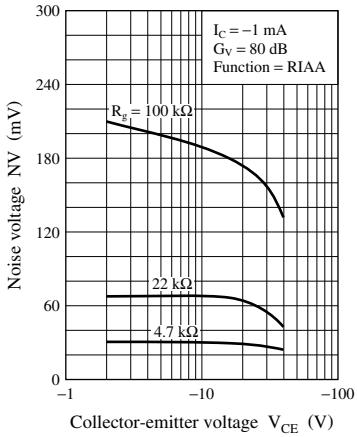
C_{ob} — V_{CB}



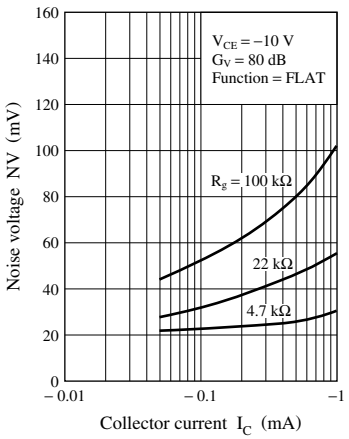
NV — V_{CE}



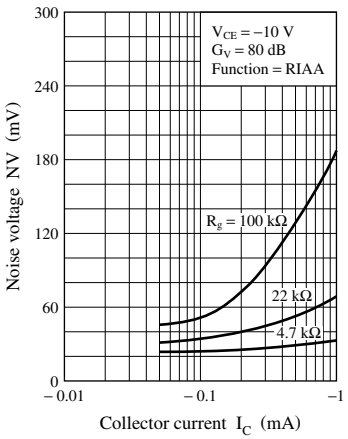
NV — V_{CE}



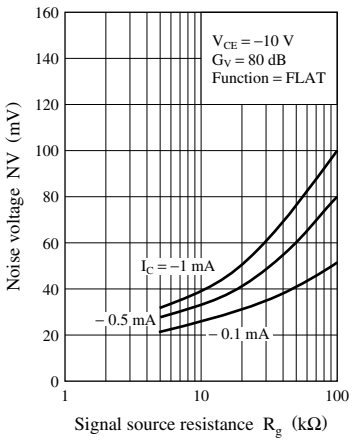
NV — I_C



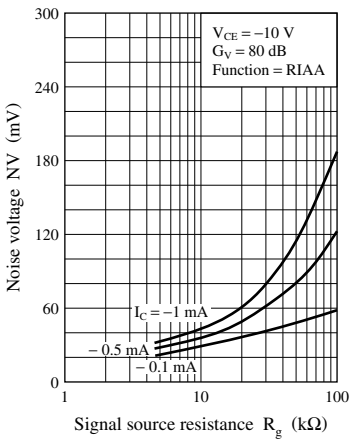
NV — I_C



NV — R_g



NV — R_g



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