2SC2405, 2SC2406

Silicon NPN epitaxial planer type

For low-frequency and low-noise amplification

Complementary to 2SA1034 and 2SA1035

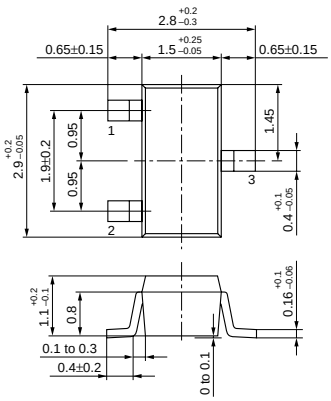
Features

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

Absolute Maximum Ratings (Ta=25˚C)

Parameter		Symbol	Ratings	Unit
Collector to base voltage	2SC2405	V_{CBO}	35	V
	2SC2406		55	
Collector to emitter voltage	2SC2405	V_{CEO}	35	V
	2SC2406		55	
Emitter to base voltage		V_{EBO}	5	V
Peak collector current		I_{CP}	100	mA
Collector current		I_C	50	mA
Collector power dissipation		P_C	200	mW
Junction temperature		T_j	150	˚C
Storage temperature		T_{stg}	–55 ~ +150	˚C

Unit: mm



1:Base JEDEC:TO–236
2:Emitter EIAJ:SC–59
3:Collector Mini Type Package

Marking symbol : S(2SC2405)
T(2SC2406)

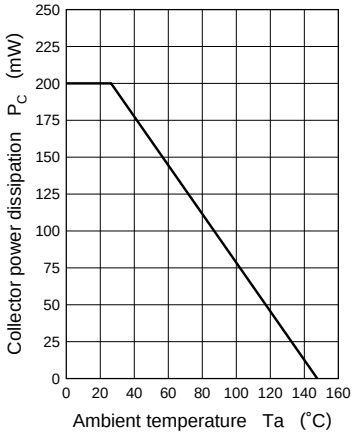
Electrical Characteristics (Ta=25˚C)

Parameter		Symbol	Conditions	min	typ	max	Unit
Collector cutoff current		I_{CBO}	V_{CB} = 10V, I_E = 0			100	nA
		I_{CEO}	V_{CE} = 10V, I_B = 0			1	µA
Collector to base voltage	2SC2405	V_{CBO}	I_C = 10µA, I_E = 0	35			V
	2SC2406			55			
Collector to emitter voltage	2SC2405	V_{CEO}	I_C = 2mA, I_B = 0	35			V
	2SC2406			55			
Emitter to base voltage		V_{EBO}	I_E = 10µA, I_C = 0	5			V
Forward current transfer ratio		h_{FE}*	V_{CB} = 5V, I_E = –2mA	180		700	
Collector to emitter saturation voltage		$V_{CE(sat)}$	I_C = 100mA, I_B = 10mA			0.6	V
Base to emitter voltage		V_{BE}	V_{CE} = 1V, I_C = 100mA		0.7	1	V
Transition frequency		f_T	V_{CB} = 5V, I_E = –2mA, f = 200MHz		200		MHz
Noise voltage		NV	V_{CE} = 10V, I_C = 1mA, G_V = 80dB R_g = 100kΩ, Function = FLAT		110		mV

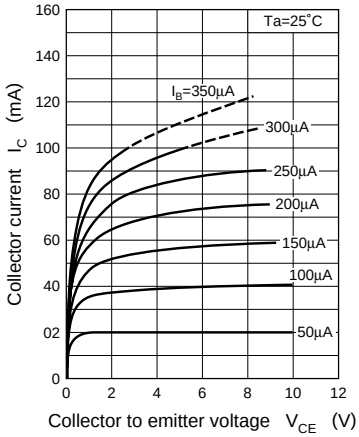
*h_{FE} Rank classification

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

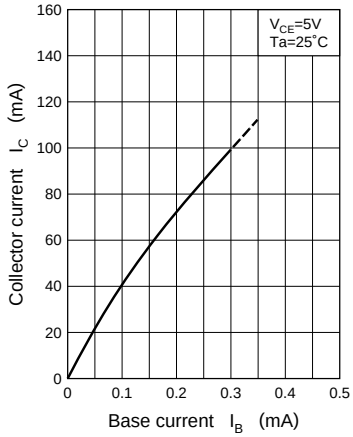
P_C — Ta



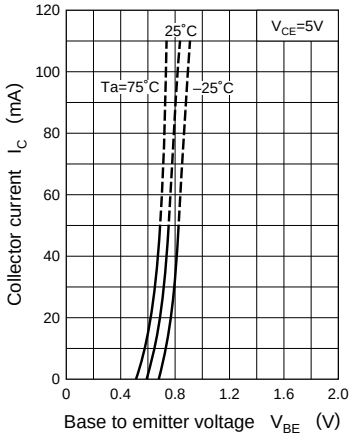
I_C — V_{CE}



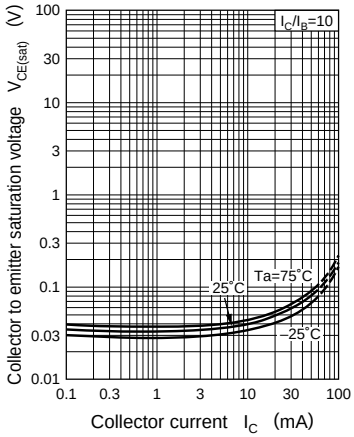
I_C — I_B



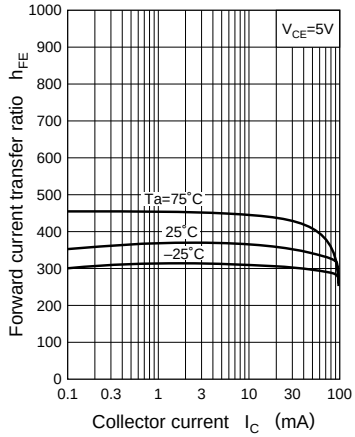
I_C — V_{BE}



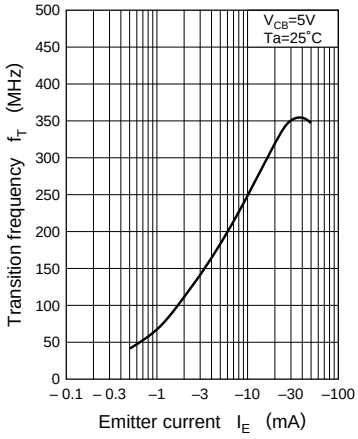
$V_{CE(sat)}$ — I_C



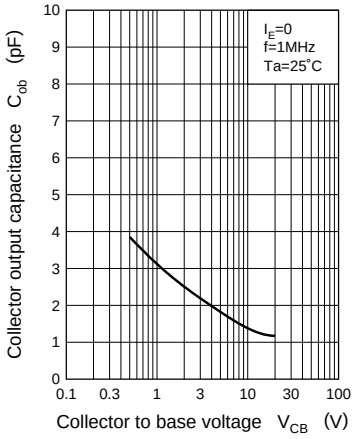
h_{FE} — I_C



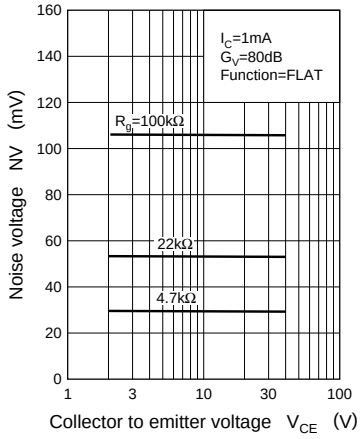
f_T — I_E



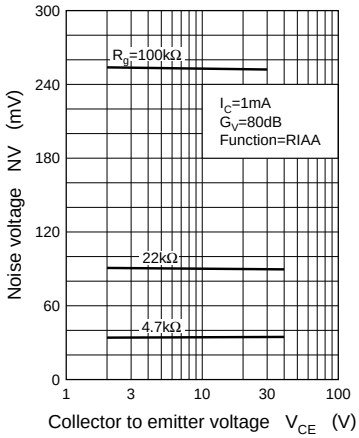
C_{ob} — V_{CB}



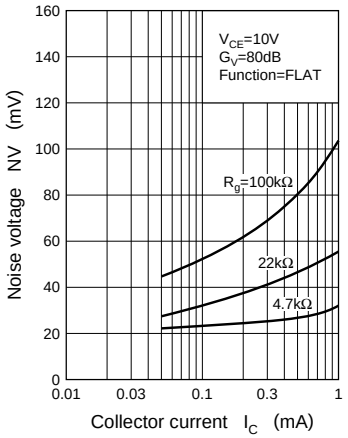
NV — V_{CE}



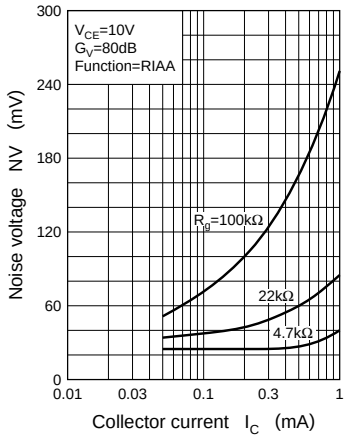
NV — V_{CE}



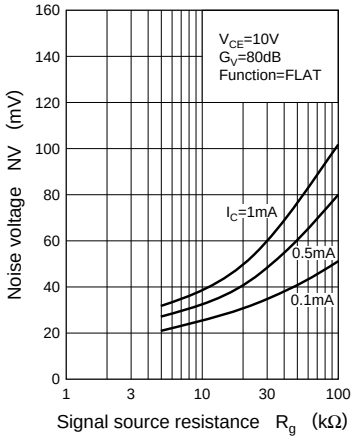
NV — I_C



NV — I_C



NV — R_g



NV — R_g

