

# 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 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.

### Absolute Maximum Ratings (Ta=25°C)

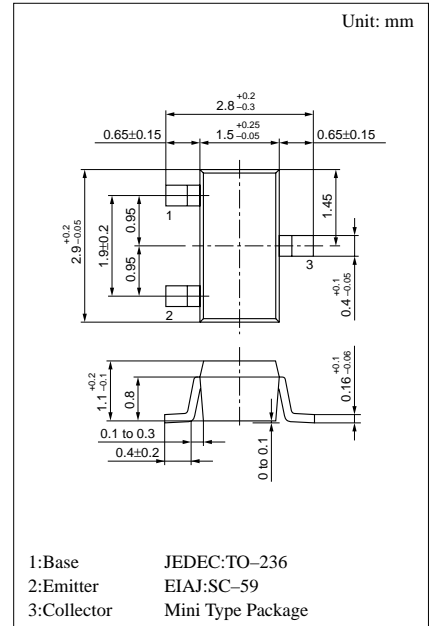
Parameter	Symbol	Ratings	Unit	
Collector to base voltage	V <sub>CBO</sub>	2SC2405	35	V
		2SC2406	55	
Collector to emitter voltage	V <sub>CEO</sub>	2SC2405	35	V
		2SC2406	55	
Emitter to base voltage	V <sub>EBO</sub>	5	V	
Peak collector current	I <sub>CP</sub>	100	mA	
Collector current	I <sub>C</sub>	50	mA	
Collector power dissipation	P <sub>C</sub>	200	mW	
Junction temperature	T <sub>j</sub>	150	°C	
Storage temperature	T <sub>stg</sub>	-55 ~ +150	°C	

### Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0			100	nA
	I <sub>CEO</sub>	V <sub>CE</sub> = 10V, I <sub>B</sub> = 0			1	μA
Collector to base voltage	V <sub>CBO</sub>	I <sub>C</sub> = 10μA, I <sub>E</sub> = 0	2SC2405	35		V
			2SC2406	55		
Collector to emitter voltage	V <sub>CEO</sub>	I <sub>C</sub> = 2mA, I <sub>B</sub> = 0	2SC2405	35		V
			2SC2406	55		
Emitter to base voltage	V <sub>EBO</sub>	I <sub>E</sub> = 10μA, I <sub>C</sub> = 0	5			V
Forward current transfer ratio	h <sub>FE</sub> *	V <sub>CB</sub> = 5V, I <sub>E</sub> = -2mA	180		700	
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 100mA, I <sub>B</sub> = 10mA			0.6	V
Base to emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> = 1V, I <sub>C</sub> = 100mA		0.7	1	V
Transition frequency	f <sub>T</sub>	V <sub>CB</sub> = 5V, I <sub>E</sub> = -2mA, f = 200MHz		200		MHz
Noise voltage	NV	V <sub>CE</sub> = 10V, I <sub>C</sub> = 1mA, G <sub>v</sub> = 80dB R <sub>g</sub> = 100kΩ, Function = FLAT		110		mV

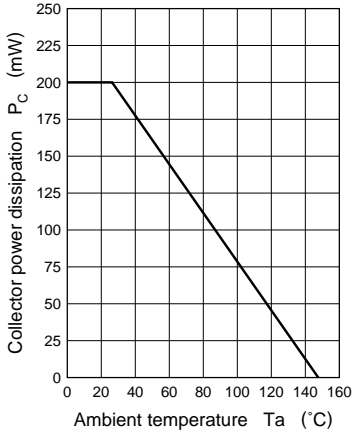
\*h<sub>FE</sub> Rank classification

Rank	R	S	T
h <sub>FE</sub>	180 ~ 360	260 ~ 520	360 ~ 700
Marking	2SC2405	SR	SS
Symbol	2SC2406	TR	TS

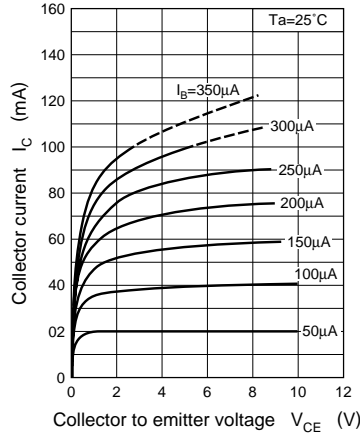


Marking symbol : S(2SC2405)  
T(2SC2406)

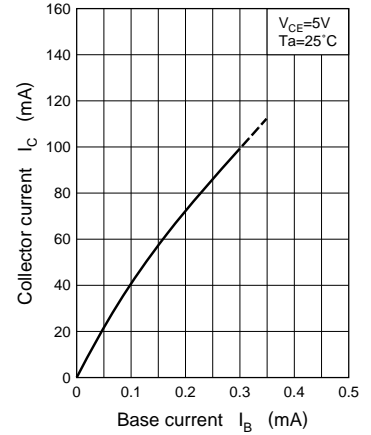
$P_C - T_a$



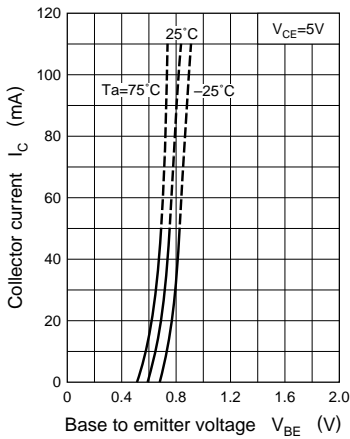
$I_C - V_{CE}$



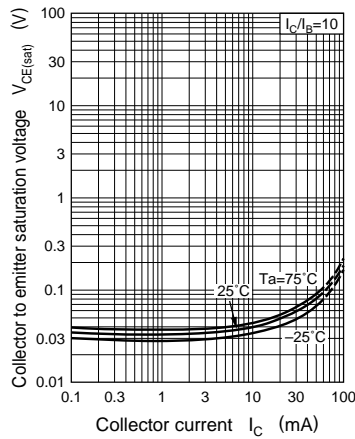
$I_C - I_B$



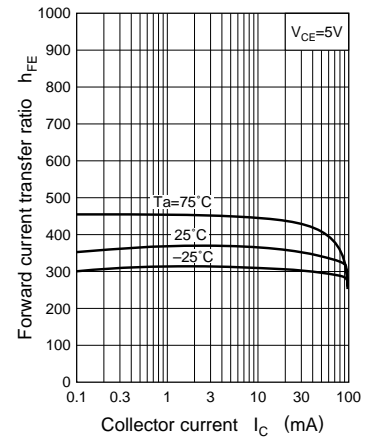
$I_C - V_{BE}$



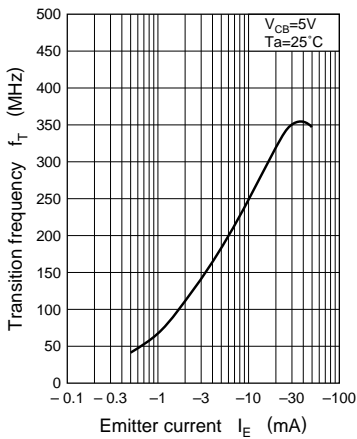
$V_{CE(sat)} - I_C$



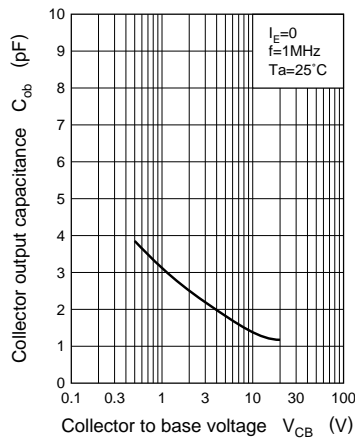
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



$NV - V_{CE}$

