

# 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)

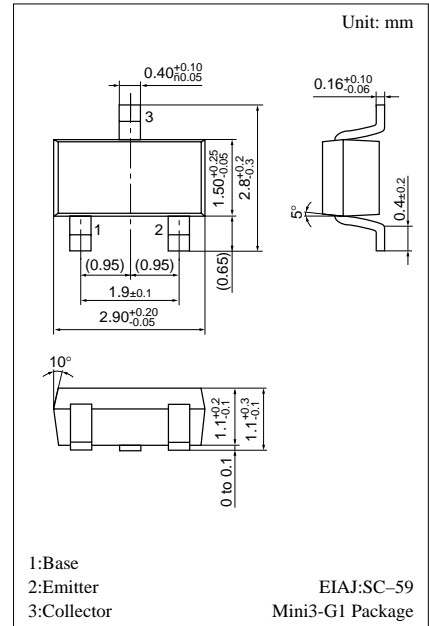
Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	35	V
2SC2405			
2SC2406		55	
Collector to emitter voltage	$V_{CEO}$	35	V
2SC2405			
2SC2406		55	
Emitter to base voltage	$V_{EBO}$	5	V
Peak collector current	$I_{CP}$	100	mA
Collector current	$I_C$	50	mA
Collector power dissipation	$P_C$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

### 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	$V_{CBO}$	$I_C = 10\mu A, I_E = 0$	35			V
			55			
Collector to emitter voltage	$V_{CEO}$	$I_C = 2mA, I_B = 0$	35			V
			55			
Emitter to base voltage	$V_{EBO}$	$I_E = 10\mu A, I_C = 0$	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	$V_{CE} = 10V, I_C = 1mA, G_V = 80dB$ $R_g = 100k\Omega, \text{Function} = \text{FLAT}$		110		mV

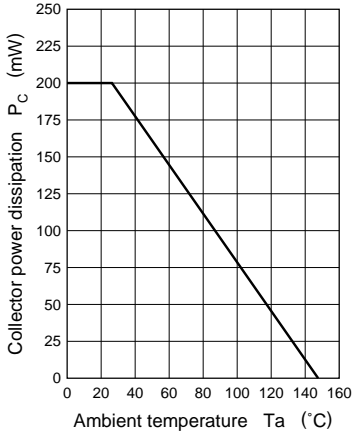
\* $h_{FE}$  Rank classification

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

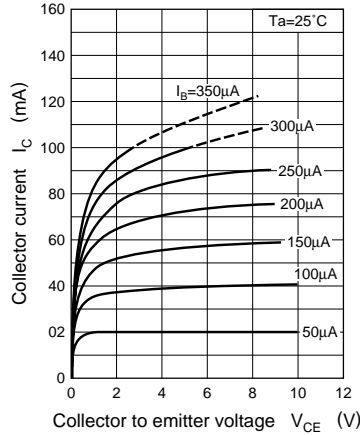


Marking symbol : S(2SC2405)  
T(2SC2406)

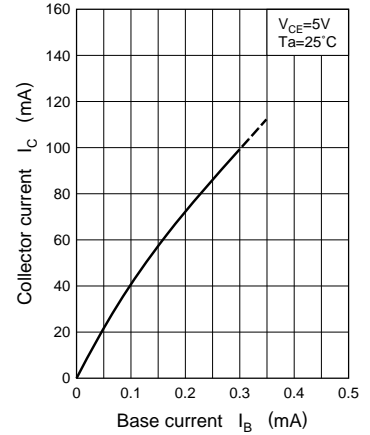
$P_C - T_a$



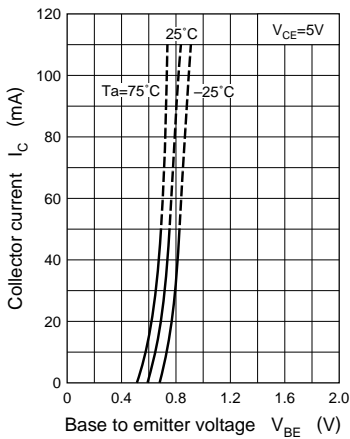
$I_C - V_{CE}$



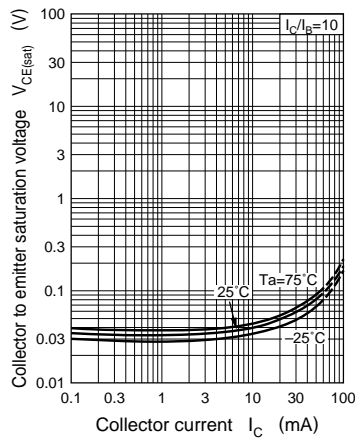
$I_C - I_B$



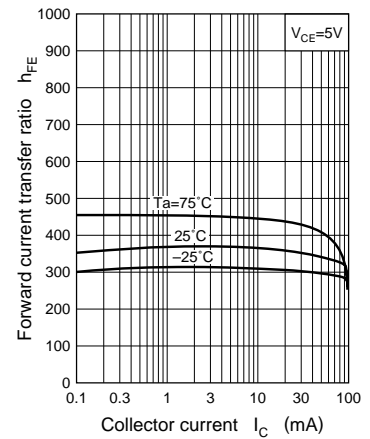
$I_C - V_{BE}$



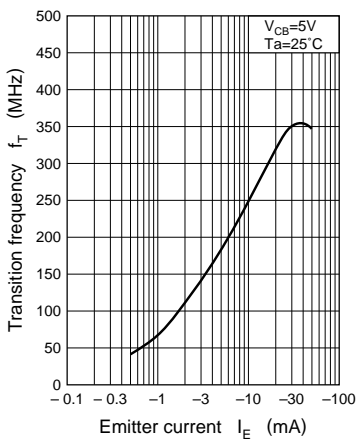
$V_{CE(sat)} - I_C$



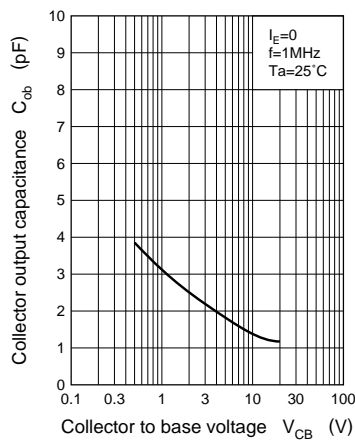
$h_{FE} - I_C$



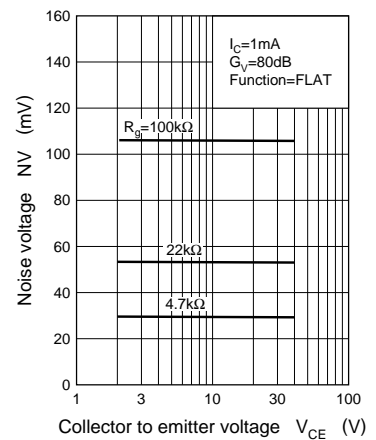
$f_T - I_E$

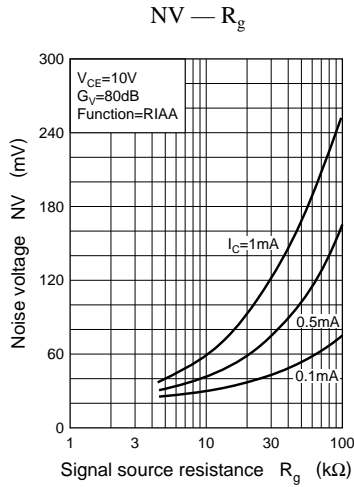
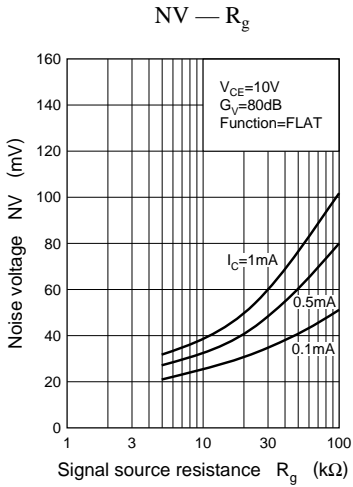
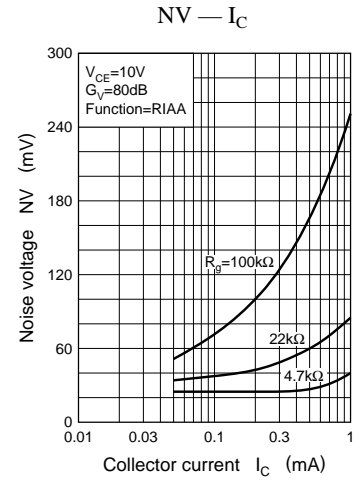
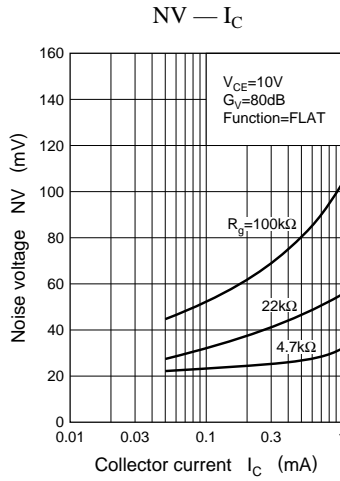
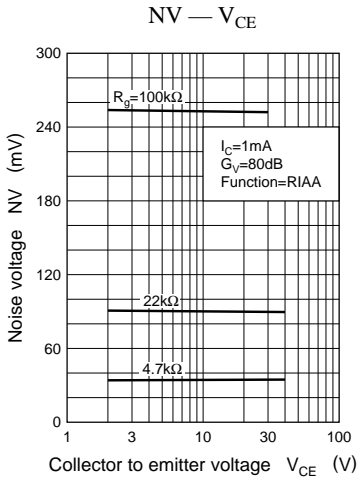


$C_{ob} - V_{CB}$



$NV - V_{CE}$





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