

# 2SC2405

## Silicon NPN epitaxial planar type

For low-frequency and low-noise amplification

Complementary to 2SA1034

### ■ 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.

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	35	V
Collector-emitter voltage (Base open)	$V_{CEO}$	35	V
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	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

### ■ Package

- Code  
Mini3-G1
- Pin Name
  1. Base
  2. Emitter
  3. Collector

### ■ Marking Symbol: S

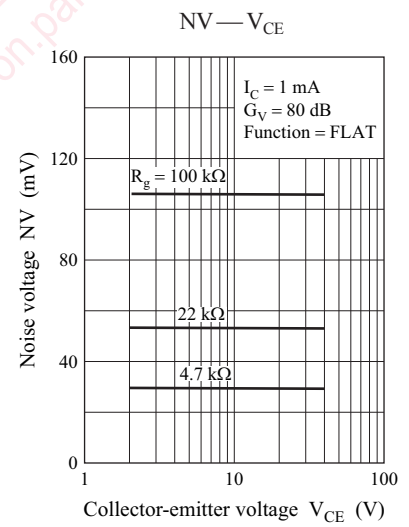
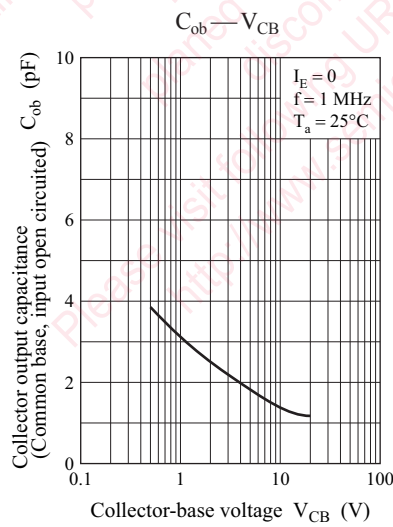
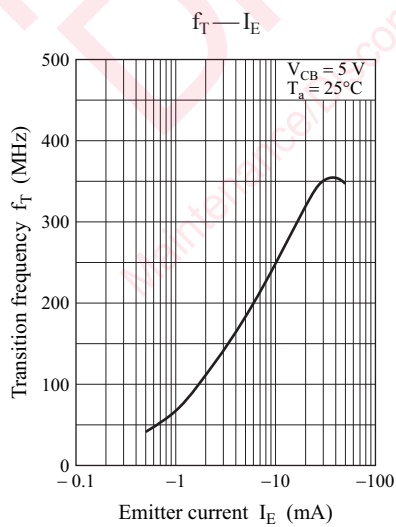
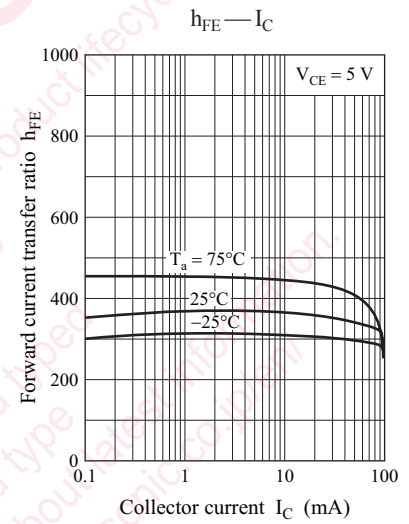
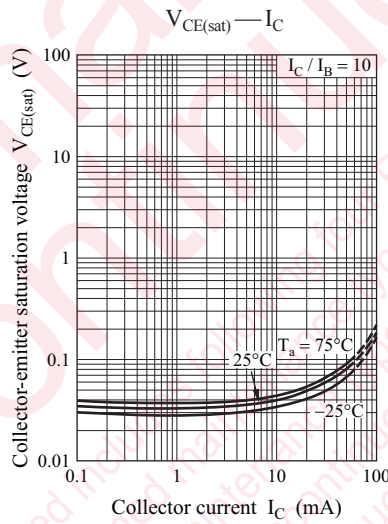
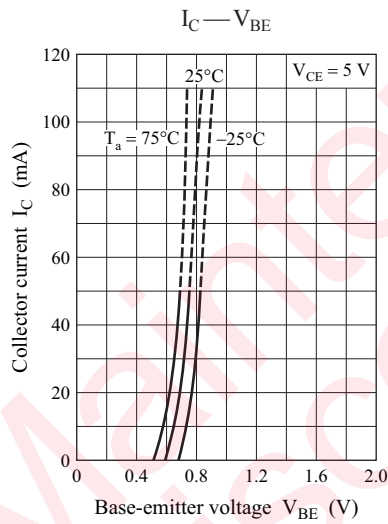
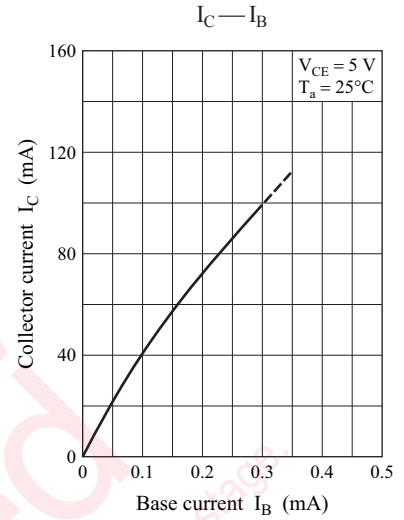
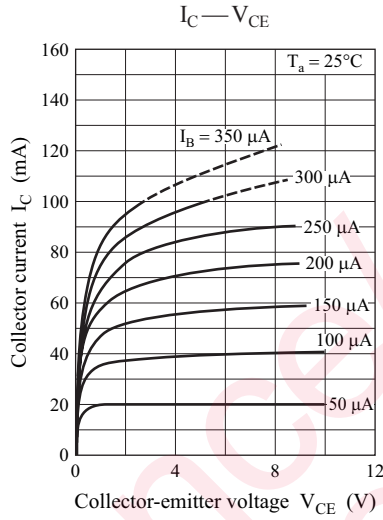
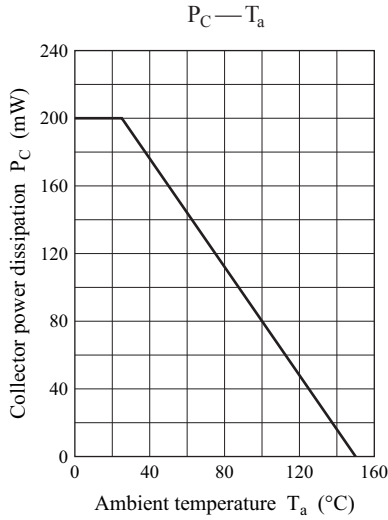
### ■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

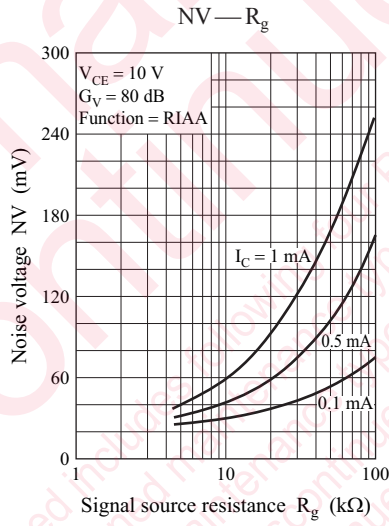
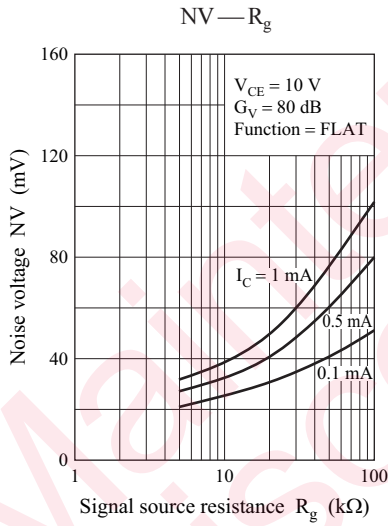
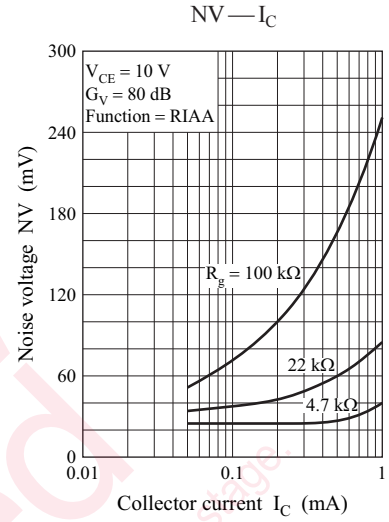
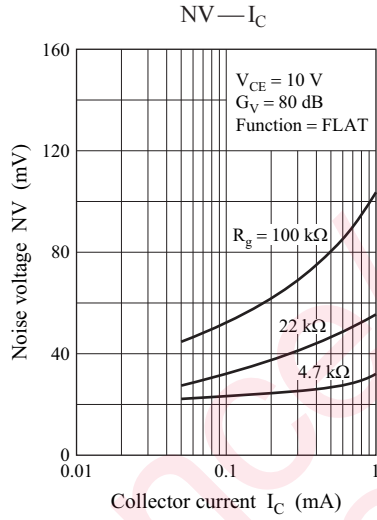
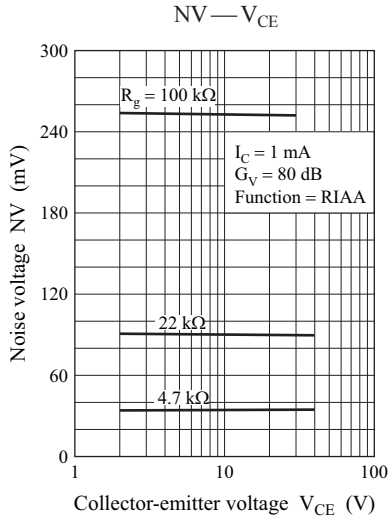
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	$I_C = 10 \mu\text{A}, I_E = 0$	35			V
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 2 \text{ mA}, I_B = 0$	35			V
Emitter-base voltage (Collector open)	$V_{EBO}$	$I_E = 10 \mu\text{A}, I_C = 0$	5			V
Base-emitter voltage	$V_{BE}$	$V_{CE} = 1 \text{ V}, I_C = 100 \text{ mA}$		0.7	1.0	V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 10 \text{ V}, I_E = 0$			0.1	$\mu\text{A}$
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CB} = 10 \text{ V}, I_B = 0$			1	$\mu\text{A}$
Forward current transfer ratio *	$h_{FE}$	$V_{CE} = 5 \text{ V}, I_C = 2 \text{ mA}$	180		700	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$			0.6	V
Transition frequency	$f_T$	$V_{CB} = 5 \text{ V}, I_E = -2 \text{ mA}, f = 200 \text{ MHz}$		200		MHz
Noise voltage	NV	$V_{CB} = 10 \text{ V}, I_C = 1 \text{ mA}, G_v = 80 \text{ dB}, R_g = 100 \text{ k}\Omega, \text{Function} = \text{FLAT}$		110		mV

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*: Rank classification

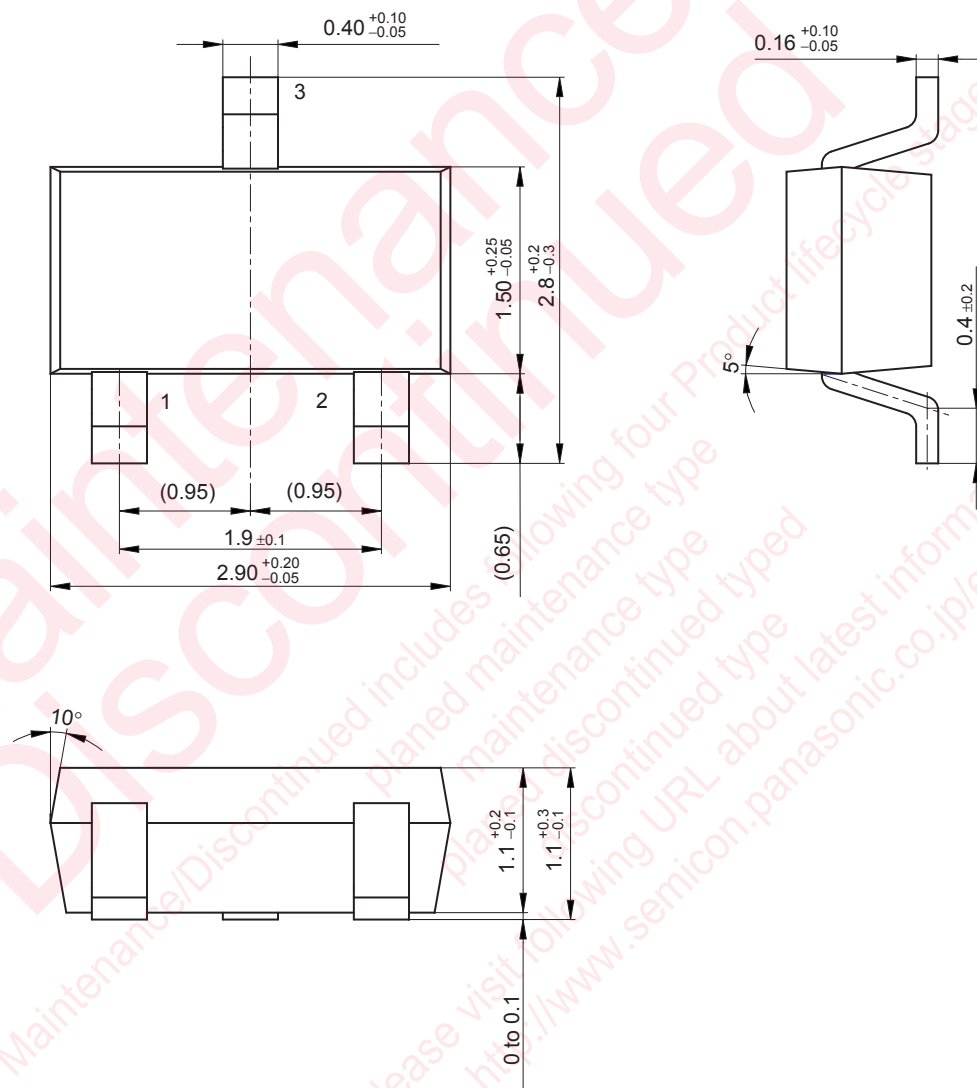
Rank	R	S	T
$h_{FE}$	180 to 360	260 to 520	360 to 700
Marking symbol	TR	TS	TT





Mini3-G1

Unit: mm



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