

# 2SC5295

## Silicon NPN epitaxial planer type

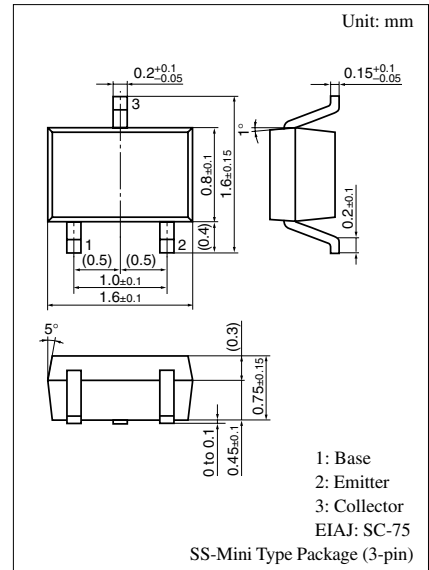
For 2 GHz band low-noise amplification

### ■ Features

- High transition frequency  $f_T$
- Low collector output capacitance  $C_{ob}$
- SS-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 to base voltage	$V_{CBO}$	15	V
Collector to emitter voltage	$V_{CEO}$	10	V
Emitter to base voltage	$V_{EBO}$	2	V
Collector current	$I_C$	65	mA
Collector power dissipation	$P_C$	125	mW
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +125	$^\circ\text{C}$



Marking Symbol: 3S

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 10\text{ V}, I_E = 0$			1	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 1\text{ V}, I_C = 0$			1	$\mu\text{A}$
Forward current transfer ratio *	$h_{FE}$	$V_{CE} = 8\text{ V}, I_C = 20\text{ mA}$	50		300	
Transition frequency	$f_T$	$V_{CE} = 8\text{ V}, I_C = 15\text{ mA}, f = 1.5\text{ GHz}$	7.0	8.5		GHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$		0.6	1.0	pF
Forward transfer gain	$ S_{21e} ^2$	$V_{CE} = 8\text{ V}, I_C = 15\text{ mA}, f = 1.5\text{ GHz}$	7	9		dB
Power gain	GUM	$V_{CE} = 8\text{ V}, I_C = 15\text{ mA}, f = 1.5\text{ GHz}$		10		dB
Noise figure	NF	$V_{CE} = 8\text{ V}, I_C = 7\text{ mA}, f = 1.5\text{ GHz}$		2.2	3.0	dB

Note) \*: Rank classification

Rank	Q	R	S
$h_{FE}$	50 to 120	100 to 170	150 to 300