

# 2SC5378

## Silicon NPN epitaxial planer type

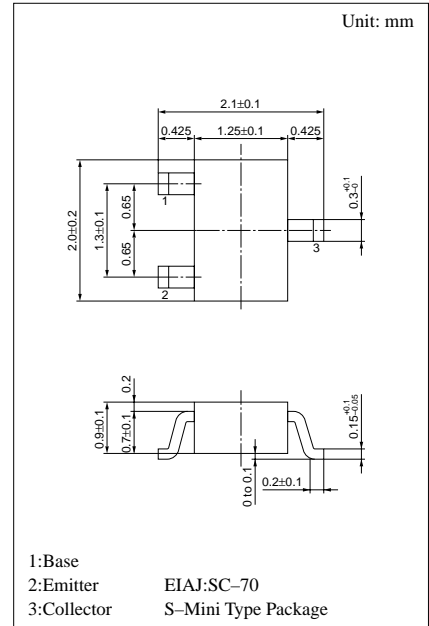
For low-voltage low-noise high-frequency oscillation

### Features

- Low noise figure NF.
- High gain.
- High transition frequency  $f_T$ .
- S-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	$V_{CBO}$	15	V
Collector to emitter voltage	$V_{CEO}$	8	V
Emitter to base voltage	$V_{EBO}$	2	V
Collector current	$I_C$	80	mA
Collector power dissipation	$P_C$	150	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 ~ +150	°C



Marking symbol : HT

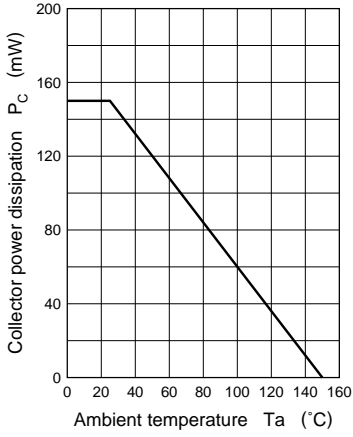
### Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 10V, I_E = 0$			1	$\mu A$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 1V, I_C = 0$			1	$\mu A$
Forward current transfer ratio	$h_{FE}^{*1}$	$V_{CE} = 5V, I_C = 10mA$	80		200	
Collector output capacitance	$C_{ob}$	$V_{CB} = 5V, I_E = 0, f = 1MHz$		0.6	1	pF
Transition frequency	$f_T$	$V_{CE} = 5V, I_C = 10mA, f = 2GHz$		7		GHz
Noise figure	NF	$V_{CE} = 5V, I_C = 3mA, f = 1GHz$		1.6	2	dB
Foward transfer gain	$ S_{21c} ^2$	$V_{CE} = 5V, I_C = 10mA, f = 1GHz$	8.5	11		dB

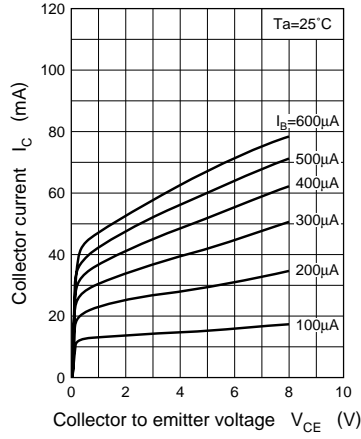
\*1 $h_{FE}$  Rank classification

Rank	Q	R	S
$h_{FE}$	80 ~ 115	95 ~ 155	135 ~ 200

$P_C - T_a$



$I_C - V_{CE}$



$h_{FE} - I_C$

