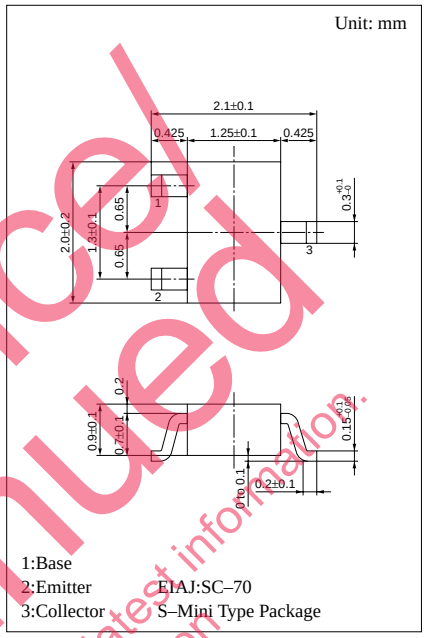
2SC5378

Silicon NPN epitaxial planer type

For low-voltage low-noise high-frequency oscillation



Marking symbol : HT

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

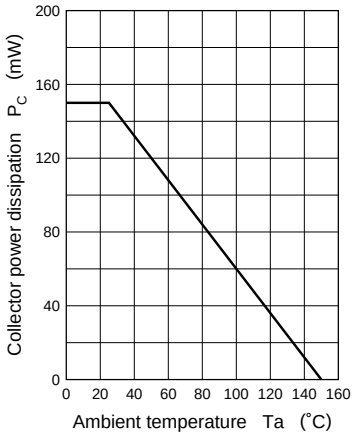
Electrical Characteristics (Ta=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 10V, I_E = 0			1	µA
Emitter cutoff current	I_{EBO}	V_{EB} = 1V, I_C = 0			1	µA
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	$\|S_{21e}\|^2$	V_{CE} = 5V, I_C = 10mA, f = 1GHz	8.5	11		dB

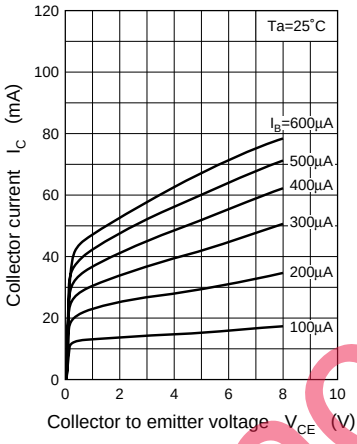
*1 h_{FE} Rank classification

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

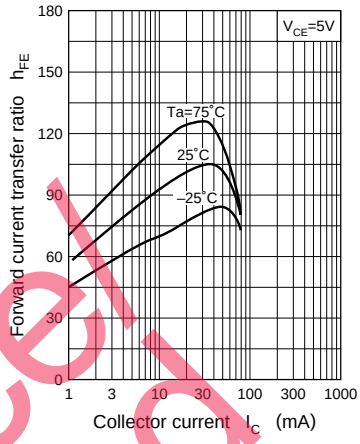
P_C — Ta



I_C — V_{CE}



h_{FE} — I_C



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(6) Comply with the instructions for use in order to prevent breakdown and characteristics change due to external factors (ESD, EOS, thermal stress and mechanical stress) at the time of handling, mounting or at customer's process. When using products for which damp-proof packing is required, satisfy the conditions, such as shelf life and the elapsed time since first opening the packages.