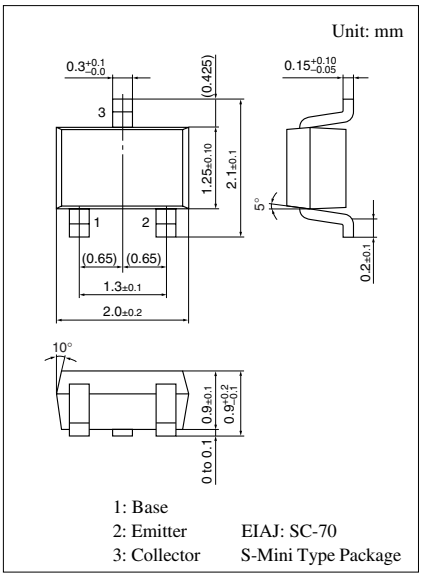
2SC5472

Silicon NPN epitaxial planer type

For low-voltage low-noise high-frequency oscillation



Marking Symbol: 3A

■ Features

- High transition frequency f_T
- High gain of 8.2 dB and low noise of 1.8 dB at 3 V
- Optimum for RF amplification of a portable telephone and pager
- S-mini type package, allowing downsizing of the equipment and automatic insertion through the tape packing and the magazine packing.

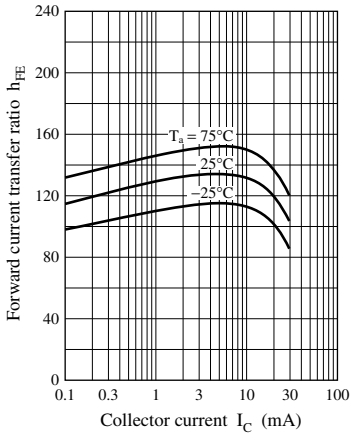
■ Absolute Maximum Ratings $T_a = 25°C$

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	9	V
Collector to emitter voltage	V_{CEO}	6	V
Emitter to base voltage	V_{EBO}	1	V
Collector current	I_C	30	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

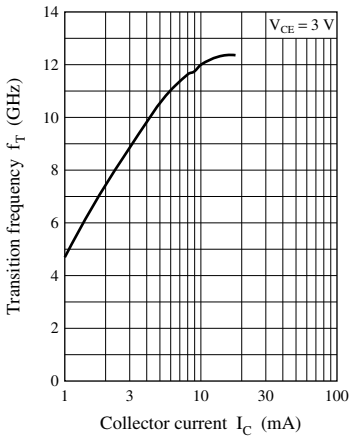
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 9 V, I_E = 0			1	µA
Emitter cutoff current	I_{EBO}	V_{EB} = 1 V, I_C = 0			1	µA
Forward current transfer ratio	h_{FE}	V_{CE} = 3 V, I_C = 10 mA	80		200	
Transition frequency	f_T	V_{CE} = 3 V, I_C = 10 mA, f = 2 GHz		12.0		GHz
Collector output capacitance	C_{ob}	V_{CB} = 3 V, I_E = 0, f = 1 MHz		0.6	0.9	pF
Forward transfer gain	$\lvert S_{21e} \rvert^2$	V_{CE} = 3 V, I_C = 10 mA, f = 2 GHz	6.0	8.0		dB
Noise figure	NF	V_{CE} = 3 V, I_C = 3 mA, f = 1.5 GHz		1.8	3.0	dB

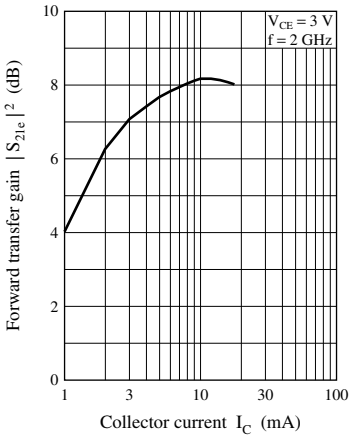
h_{FE} — I_C



f_T — I_C



$|S_{21e}|^2$ — I_C



NF — I_C