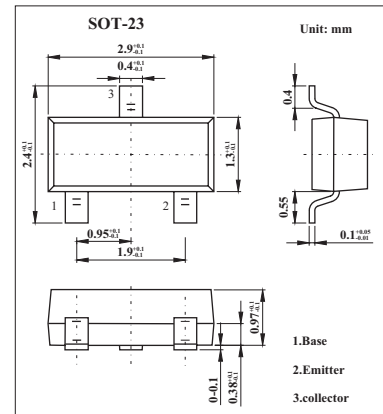


NPN Silicon Epitaxial Transistor

2SC3583

■ Features

- NF 1.2 dB TYP. @f = 1.0 GHz
- Ga 13 dB TYP. @f = 1.0 GHz

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

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CB0}	20	V
Collector to emitter voltage	V_{CE0}	10	V
Emitter to base voltage	V_{EB0}	1.5	V
Collector current	I_C	65	mA
Total power dissipation	P_{tot}	200	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-65 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 10\text{ V}, I_E = 0$			1.0	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 1\text{ V}, I_E = 0$			1.0	μA
DC current gain *1	h_{FE}	$V_{CE} = 8\text{ V}, I_C = 20\text{ mA}$	50	100	250	
Gain bandwidth product	f_T	$V_{CE} = 8\text{ V}, I_C = 20\text{ mA}$		9		GHz
Feed-Back Capacitance	C_{re} *2	$V_{CB} = 10\text{ V}, I_E = 0, f = 1.0\text{ MHz}$		0.35	0.9	pF
Insertion Power Gain	$ S_{21e} ^2$	$V_{CE} = 8\text{ V}, I_C = 20\text{ mA}, f = 1.0\text{ GHz}$	11	13		dB
Maximum Available Gain	MAG	$V_{CE} = 8\text{ V}, I_C = 20\text{ mA}, f = 1.0\text{ GHz}$		15		dB
Noise Figure	NF	$V_{CE} = 8\text{ V}, I_E = 7\text{ mA}, f = 1.0\text{ GHz}$		1.2	2.5	dB

*1.Pulse Measurement $PW \leq 350\mu\text{s}$, Duty Cycle $\leq 2\%$

*2.The emitter terminal and the case shall be connected to the guard terminal of the three-terminal capacitance bridge.

■ h_{FE} Classification

Marking	R33	R34	R35
Rank	R33/Q	R34/R	R35/S
h_{FE}	50~100	80~160	125~250