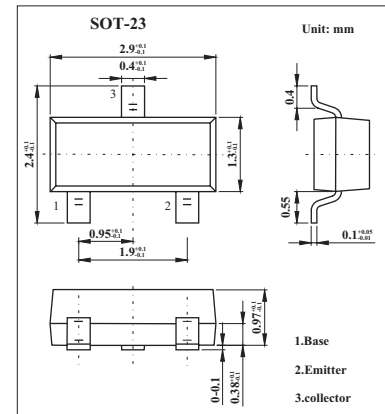


## Silicon NPN Epitaxial Planar Type

## 2SC3606

## ■ Features

- Low noise figure, high gain.
- $NF = 1.1\text{dB}$ ,  $|S_{21e}|^2 = 11\text{dB}$  ( $f = 1\text{GHz}$ )

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CB0}$	20	V
Collector-emitter voltage	$V_{CEO}$	12	V
Emitter-base voltage	$V_{EB0}$	3	V
Collector current	$I_C$	80	mA
Base current	$I_B$	40	mA
Collector power dissipation	$P_C$	150	mW
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to 125	$^\circ\text{C}$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = 10\text{V}$ , $I_E = 0$			1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 1\text{V}$ , $I_C = 0$			1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE} = 10\text{V}$ , $I_C = 20\text{mA}$	30		250	V
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{V}$ , $I_E = 0$ , $f = 1\text{MHz}$		10		pF
Reverse transfer capacitance	$C_{re}$			0.7	1.15	pF
Transition frequency	$f_T$	$V_{CE} = 10\text{V}$ , $I_C = 20\text{mA}$	5	7		GHz
Insertion gain	$ S_{21e} ^2 (1)$	$V_{CE} = 10\text{V}$ , $I_C = 20\text{mA}$ , $f = 500\text{MHz}$		16.5		dB
	$ S_{21e} ^2 (2)$	$V_{CE} = 10\text{V}$ , $I_C = 20\text{mA}$ , $f = 1\text{GHz}$	7.5	11		dB
Noise figure	NF (1)	$V_{CE} = 10\text{V}$ , $I_C = 5\text{mA}$ , $f = 500\text{MHz}$		1		dB
	NF (2)	$V_{CE} = 10\text{V}$ , $I_C = 5\text{mA}$ , $f = 1\text{GHz}$		1.1	2	dB

## ■ Marking

Marking	MH
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