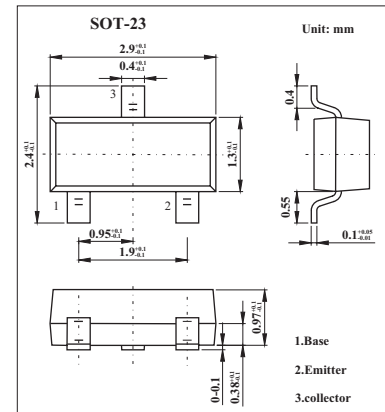


## Silicon NPN Epitaxial

## 2SC3099

## ■ Features

- Low Noise Figure
- $NF=1.7dB, |S_{21e}|^2=15dB(f=500MHz)$
- $NF=2.5dB, |S_{21e}|^2=9.5dB(f=1GHz)$

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	20	V
Collector-emitter voltage	$V_{CEO}$	20	V
Emitter-base voltage	$V_{EBO}$	3	V
Collector current	$I_C$	30	mA
Base current	$I_B$	15	mA
Collector power dissipation	$P_C$	150	mW
Junction temperature	$T_j$	125	$^\circ C$
Storage temperature	$T_{stg}$	-55 to +125	$^\circ C$

■ Electrical Characteristics  $T_a = 25^\circ C$ 

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = 10 V, I_E = 0$			0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 1 V, I_C = 0$			1.0	$\mu A$
DC current gain	$h_{FE}$	$V_{CE} = 10 V, I_C = 5 mA$	30		250	
Output Capacitance	$C_{ob}$	$V_{CB} = 10 V, I_E = 0, f = 1 MHz$		0.9		pF
Reverse Transfer Capacitance	$C_{re}$			0.6		pF
Transition Frequency	$f_T$	$V_{CE} = 10 V, I_C = 10 mA$		4.0		GHZ
Insertion Gain	$ S_{21e} ^2(1)$	$V_{CE} = 10 V, I_C = 10 mA, f=500MHz$		15.0		dB
	$ S_{21e} ^2(2)$	$V_{CE} = 10 V, I_C = 10 mA, f=1GHz$		9.5		dB
Noise Figure	NF(1)	$V_{CB}=10V, I_C=3 mA, f=500MHz$		1.7		dB
	NF(2)	$V_{CB}=10V, I_C=3 mA, f=1GHz$		2.5		dB

## ■ Marking

Marking	MC