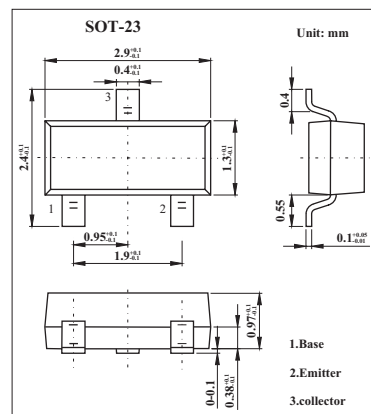


Silicon NPN Epitaxial

2SC2996

■ Features

- High stability oscillation voltage on FM local oscillator.
- Recommend FM/AM RF, MIX, local and IF.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	40	V
Collector-emitter voltage	V_{CE0}	30	V
Emitter-base voltage	V_{EB0}	4	V
Collector current	I_C	50	mA
Emitter current	I_E	-50	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature range	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}	$V_{CB} = 40\text{ V}, I_E = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4\text{ V}, I_C = 0$			0.5	μA
DC current gain	h_{FE}	$V_{CE} = 6\text{ V}, I_C = 1\text{ mA}$	40		240	
Reverse transfer capacitance	C_{re}	$V_{CB} = 6\text{ V}, f = 1\text{ MHz}$		0.9	1.3	pF
Transition frequency	f_T	$V_{CE} = 6\text{ V}, I_C = -1\text{ mA}$	150	350		MHz
Collector-base time constant	C_{cbrb}	$V_{CE} = 6\text{ V}, I_E = -1\text{ mA}, f = 30\text{ MHz}$		15	30	ps
Noise figure	NF	$V_{CE} = 6\text{ V}, I_E = -1\text{ mA}, f = 100\text{ MHz}$		4.0		dB
Power gain	Gpe			15		dB
Oscillation output voltage	V_{osc}	$V_{CE} = 6\text{ V}, f = 100\text{ MHz}$		150		mV

■ h_{FE} Classification

Marking	GR	GO	GY
h_{FE}	40~80	70~140	120~240