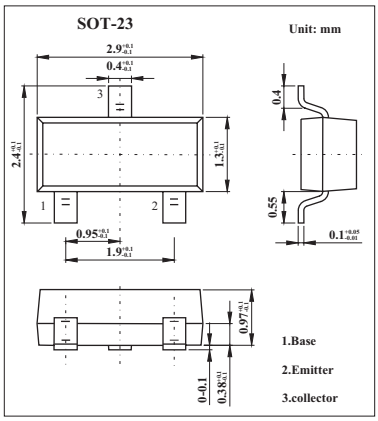
Silicon NPN Epitaxial

2SC3011



■ Features

- High Gain :$|S_{21e}|^2$=12dB(TYP.)
- Low Noise Figure: NF=2.3dB(Typ.) f=1GHz
- High fT : fT=6.5GHz

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	20	V
Collector-emitter voltage	V_{CEO}	7	V
Emitter-base voltage	V_{EBO}	3	V
Collector current	I_C	30	mA
Emitter current	I_E	10	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	125	℃
Storage temperature	T_{stg}	-55 to +125	℃

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cut-off current	I_{CBO}	V_{CB} = 10 V, I_E = 0			1.0	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 1.0 V, I_C = 0			1.0	μA
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C = 0.5 mA, I_B = 0	7			V
DC current gain	h_{FE}	V_{CE} = 5 V, I_C = 10 mA	30	120		
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C = 10 mA, I_B = 1mA		0.1		V
Base-emitter saturation voltage	$V_{BE\ (sat)}$			0.87		V
Collector output capacitance	C_{ob}	V_{CB} = 5 V, I_E = 0, f = 1 MHz		0.7	0.9	pF
Reverse Transfer Capacitance	Cre			0.5		pF
Input Capacitance	Cib	V_{EB}=0,I_C=0,f=1MHZ		0.8		pF
Transition Frequency	f_T	V_{CE}=5V,I_C=10mA		6.5		GHz
Insertion Gain	$\|S_{21e}\|^2$	V_{CE}=5V,I_C=10mA,f=1GHZ		12		dB
Noise Figure	NF	V_{CE}=5V,I_C=5mA,f=1GHz		2.3		dB

■ Marking

Marking	MA