

INCHANGE Semiconductor

isc RF Product Specification

isc Silicon NPN RF Transistor

2SC3110

DESCRIPTION

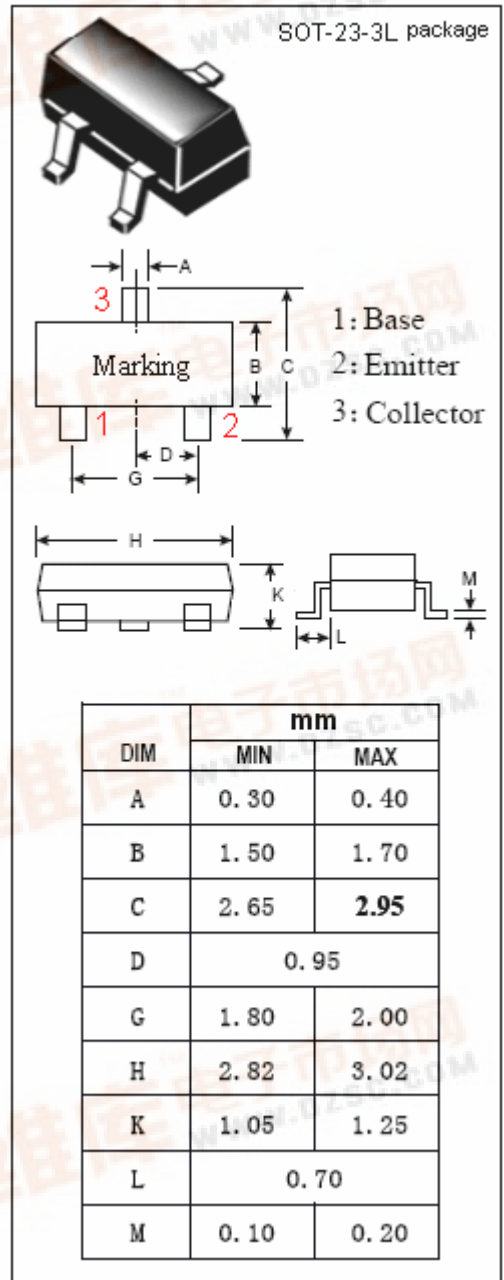
- Low Noise
- High Gain
- High Current-Gain Bandwidth Product

APPLICATIONS

- Designed for use in RF wide band low noise amplifier.

ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	15	V
$V_{CEO}$	Collector-Emitter Voltage	12	V
$V_{EBO}$	Emitter-Base Voltage	2.5	V
$I_C$	Collector Current-Continuous	30	mA
$I_{CP}$	Collector Current-Peak	50	mA
$P_C$	Collector Power Dissipation @ $T_c=25^\circ\text{C}$	0.2	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



## isc Silicon NPN RF Transistor

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## ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=10\text{V}; I_E=0$			0.1	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=2\text{V}; I_C=0$			1	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$I_C=10\text{mA}; V_{CE}=10\text{V}$	40			
$f_T$	Current-Gain—Bandwidth Product	$I_E=-10\text{mA}; V_{CE}=10\text{V}$		4.5		GHz
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f=1.0\text{MHz}$			1.2	pF
$ S_{21e} ^2$	Insertion Power Gain	$I_C=20\text{mA}; V_{CE}=10\text{V}; f=0.8\text{GHz}$	9	12		dB
GUM	Power Gain		12	14		dB
NF	Noise Figure	$I_C=5\text{mA}; V_{CE}=10\text{V}; f=0.8\text{GHz}$		1.3	2.5	dB