isc Silicon NPN RF Transistor 2SC3123

DESCRIPTION

- High Conversion Gain
  G_{ce} = 23dB TYP.
- Low Reverse Transfer Capacitance
  C_{re} = 0.4pF TYP.
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

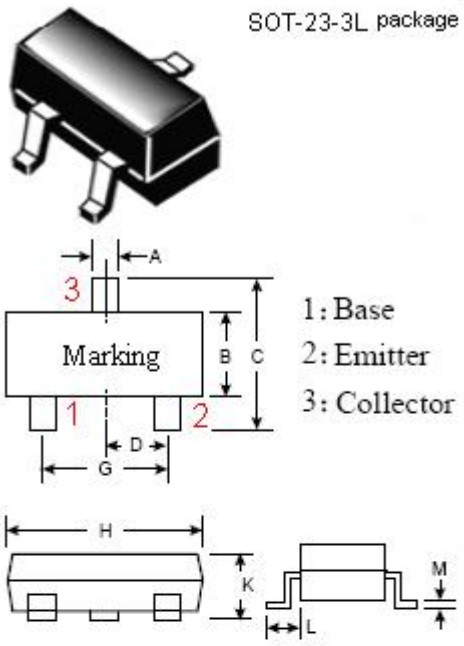
APPLICATIONS

- Designed for TV VHF mixer applications.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	3	V
I_C	Collector Current-Continuous	50	mA
I_B	Base Current-Continuous	25	mA
P_C	Collector Power Dissipation @T_C=25℃	0.15	W
T_J	Junction Temperature	125	℃
T_{stg}	Storage Temperature Range	-55~125	℃

SOT-23-3L package



DIM	mm MIN	mm MAX
A	0.30	0.40
B	1.50	1.70
C	2.65	2.95
D	0.95	
G	1.80	2.00
H	2.82	3.02
K	1.05	1.25
L	0.70	
M	0.10	0.20

isc Silicon NPN RF Transistor 2SC3123

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C= 1mA ; I_B= 0	20			V
I_{CBO}	Collector Cutoff Current	V_{CB}= 25V; I_E= 0			0.1	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 3V; I_C= 0			1.0	μA
h_{FE}	DC Current Gain	I_C= 5mA ; V_{CE}= 10V	40		300	
C_{re}	Reverse Transfer Capacitance	I_E= 0 ; V_{CB}= 10V;f= 1.0MHz		0.4	0.5	pF
f_T	Current-Gain—Bandwidth Product	I_C= 5mA ; V_{CE}= 10V	900	1400		MHz
G_{ce}	Conversion Gain	V_{CC}= 12V;f= 200MHz,f_L= 260MHz	20	23		dB
NF	Noise Figure	V_{CC}= 12V;f= 200MHz,f_L= 260MHz		3.8	5.5	dB