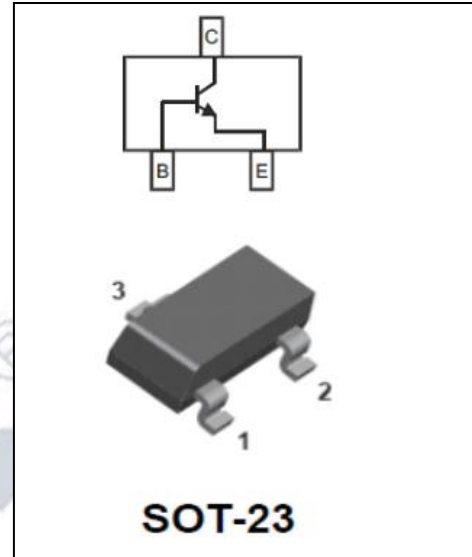


isc Silicon NPN RF Transistor
LMBT3904LT1G
DESCRIPTION

- Low Noise Figure
NF = 5 dB(MAX)
@ $V_{CE}=5.0V$, $f=10Hz$ to $15.7kHz$, $I_C=100\mu A$, $R_S=1.0k\Omega$
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Designed for use in low noise ,high-gain amplifiers and linear broadband amplifiers.


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

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current-Continuous	200	mA
P_C	Collector Power Dissipation @ $T_c=25^\circ C$	0.35	W
T_J	Junction Temperature	-55~150	$^\circ C$
T_{stg}	Storage Temperature Range	-55~150	$^\circ C$
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	185	$^\circ C/W$
$R_{th\ j-a}$	Thermal Resistance Junction to Ambient	357	$^\circ C/W$

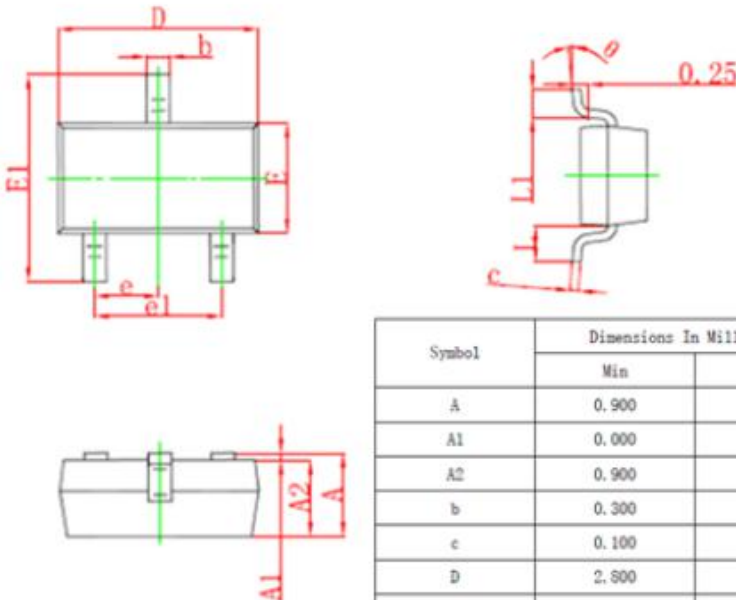
isc Silicon NPN RF Transistor**LMBT3904LT1G****ELECTRICAL CHARACTERISTICS**T_c=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-Emitter Breakdown Voltage	I _C = 1mA ; I _B = 0	40			V
I _{CBO}	Collector Cutoff Current	V _{CB} = 60V; I _E = 0			50	nA
I _{CEX}	Collector Cutoff Current	V _{CE} = 40V; I _E = 0			50	nA
h _{FE}	DC Current Gain	I _C = 0.1mA ; V _{CE} = 8V	40			
		I _C = 1mA ; V _{CE} = 1V	70			
		I _C = 10mA ; V _{CE} = 1V	100		300	
		I _C = 50mA ; V _{CE} = 1V	60			
		I _C = 100mA ; V _{CE} = 1V	30			
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 10mA; I _B = 1mA			0.2	V
		I _C = 50mA; I _B = 5mA			0.3	
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 10mA; I _B = 1mA	0.65		0.85	V
		I _C = 50mA; I _B = 5mA			0.95	
f _T	Current-Gain—Bandwidth Product	I _C =10mA; V _{CE} =20V; f =100MHz	300			MHz
C _{obo}	Feedback Capacitance	V _{CB} = 5V; f= 1.0MHz; I _E = 0			4	pF
C _{ibo}	Emitter capacitance	V _{EB} =0.5Vdc, f=1.0MHz, I _C =0			8	pF
NF	Noise Figure	V _{CE} =5.0V, f=10Hz to 15.7kHz, I _C =100uA, R _S =1.0kΩ			5	dB

isc Silicon NPN RF Transistor

LMBT3904LT1G

SOT-23 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.900	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
ø	0°	8°	0°	8°

SOT-23 Suggested Pad Layout

