

# High-Frequency Amplifier Transistor

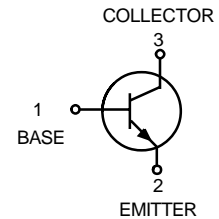
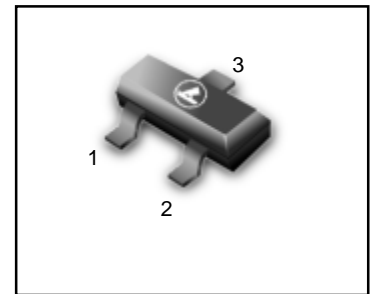
## L2SC3838NLT1G

● **Features**

- 1.High transition frequency.(Typ. $f_T=3.2\text{GHz}$ )
- 2.Small  $r_{bb} \cdot C_c$  and high gain.(Typ.4ps)
- 3.Small NF.
- 4.We declare that the material of product compliance with RoHS requirements.

**MAXIMUM RATINGS** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	20	V
Collector-Emitter Voltage	$V_{CEO}$	11	V
Emitter-base voltage	$V_{EBO}$	3	V
Collector Current	$I_C$	50	mA
Collector power dissipation	$P_C$	0.2	W
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{sig}$	-55~+150	$^\circ\text{C}$



**DEVICE MARKING**

L2SC3838NLT1G=APN
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● **ORDERING INFORMATION**

Device	Package	Shipping
L2SC3838NLT1G	SOT-23	3000/Tape & Reel
L2SC3838NLT3G	SOT-23	10000/Tape & Reel

**ELECTRICAL CHARACTERISTICS**( $T_A = 25^\circ\text{C}$ )

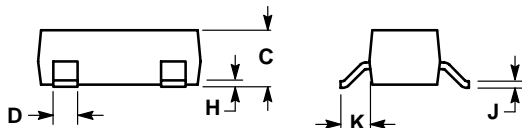
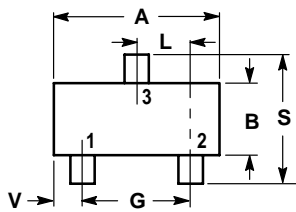
Parameter	Symbol	Min.	Typ	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	20	-	-	V	$I_C=10\mu\text{A}$
Collector-emitter breakdown voltage	$BV_{CEO}$	11	-	-	V	$I_C=1\text{mA}$
Emitter-base breakdown voltage	$BV_{EBO}$	3	-	-	V	$I_E=10\mu\text{A}$
Collector cutoff current	$I_{CBO}$	-	-	0.5	$\mu\text{A}$	$V_{CB}=10\text{V}$
Emitter cutoff current	$I_{EBO}$	-	-	0.5	$\mu\text{A}$	$V_{EB}=2\text{V}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	0.5	V	$I_C/I_B=10\text{mA}/5\text{mA}$
DC current transfer ratio	$h_{FE}$	56	-	120	-	$V_{CE}/I_C=10\text{V}/5\text{mA}$
Transition frequency	$f_T$	1.4	3.2	-	GHz	$V_{CE}=10\text{V}, I_E=-10\text{mA}, f=500\text{MHz}$
Output capacitance	$C_{ob}$	-	0.8	1.5	pF	$V_{CB}=10\text{V}, I_E=0\text{A}, f=1\text{MHz}$
Collector-base time constant	$r_{bb} \cdot C_c$	-	4	12	ps	$V_{CB}=10\text{V}, I_C=10\text{mA}, f=31.8\text{MHz}$
Noise factor	NF	-	3.5	-	dB	$V_{CE}=6\text{V}, I_C=2\text{mA}, f=500\text{MHz}, R_g=50\Omega$

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## SOT-23

### NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M,1982
2. CONTROLLING DIMENSION: INCH.



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

