High-Frequency Amplifier NPN Transistor

L2SC3838QT1

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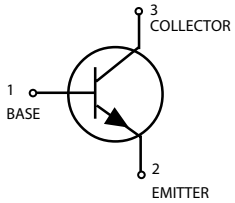
SC-59

Features

1) High transition frequency. (Typ. f_T= 3.2GHz)
2) Small rbb'·Cc and high gain. (Typ. 4ps)
3) Small NF.



Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Limits	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	°C
Storage temperature	T_{stg}	- 55~+150	°C

Device Marking

L2SC3838QT1=R25

Electrical characteristics (Ta=25 °C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	20	-	-	V	I_C = 10μA
Collector-emitter breakdown voltage	BV_{CEO}	11	-	-	V	I_C = 1mA
Emitter-base breakdown voltage	BV_{EBO}	3	-	-	V	I_E = 10μA
Collector cutoff current	I_{CBO}	-	-	0.5	uA	V_{CB} = 10V,I_E=0
Emitter cutoff current	I_{EBO}	-	-	0.5	uA	V_{EB} = 2V,I_C=0
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-	0.5	V	I_C/I_B = 10mA/5mA
DC current transfer ratio	h_{FE}	120	-	270	-	V_{CE}/I_C = 10V/5mA
Transition frequency	f_T	1.4	3.2	-	GHz	V_{CB} = 10V , I_C = 10mA , f = 500MHz
Output capacitance	Cob	-	0.8	1.5	pF	V_{CB} = 10V , I_E = 0A , f = 1MHz
Collector-base time constant	rbb'·Cc	-	4	12	ps	V_{CB} = 10V , I_C = 10mA , f = 31.8MHz
Noise factor	NF	-	3.5	-	dB	V_{CE} = 6V , I_C = 2mA , f = 500MHz , Rg = 50Ω

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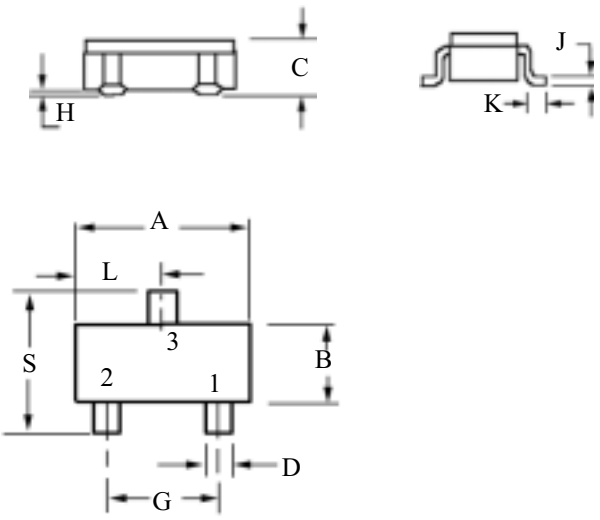

DIN	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.70	3.10	0.1063	0.1220
B	1.3	1.70	0.0512	0.0669
C	1.00	1.30	0.0394	0.0511
D	0.35	0.50	0.0138	0.0196
G	1.70	2.10	0.0670	0.0826
H	0.0130	0.100	0.0005	0.00040
J	0.1	0.26	0.0040	0.0102
K	0.20	0.60	0.0079	0.0236
L	1.25	1.65	0.0493	0.0649
S	2.50	3.00	0.0985	0.1181