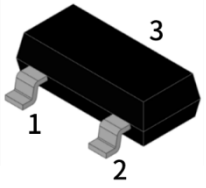
S9013LST1

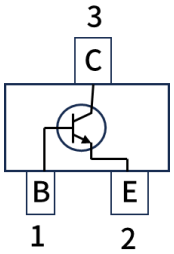
General Purpose Transistors NPN

1. FEATURES

- The material of product compliance with RoHS requirements and Halogen Free.
- High Stability and High Reliability.
- Complementary to S9013(NPN)



SOT23 (TO-236)



2. Mechanical Data

- SOT-23 Small Outline Plastic Package.
- Tin plated leads, solderable per J-STD-002 and JESD22-B102.
- Marking: J3

3. ORDERING INFORMATION

Device	Min Pack	Inner Box	Outer Carton	Reel
S9013LST1	3000	45000	180000	7 inch

4. MAXIMUM RATINGS (Ta = 25°C)

Parameter	Symbol	Limit	Unit
Collector-Emitter Voltage	VCEO	25	V
Collector-Base Voltage	VCBO	40	V
Emitter-Base Voltage	VEBO	5	V
Collector Current--Continuous	Ic	500	mA
Collector Power Dissipation	PC	300	mW

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limit	Unit
Operation Junction and Storage Temperature Range	TJ,TSTG	-55~150	°C
Thermal Resistance From Junction to Ambient	RΘJA	416	°C/W

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C unless otherwise specified)

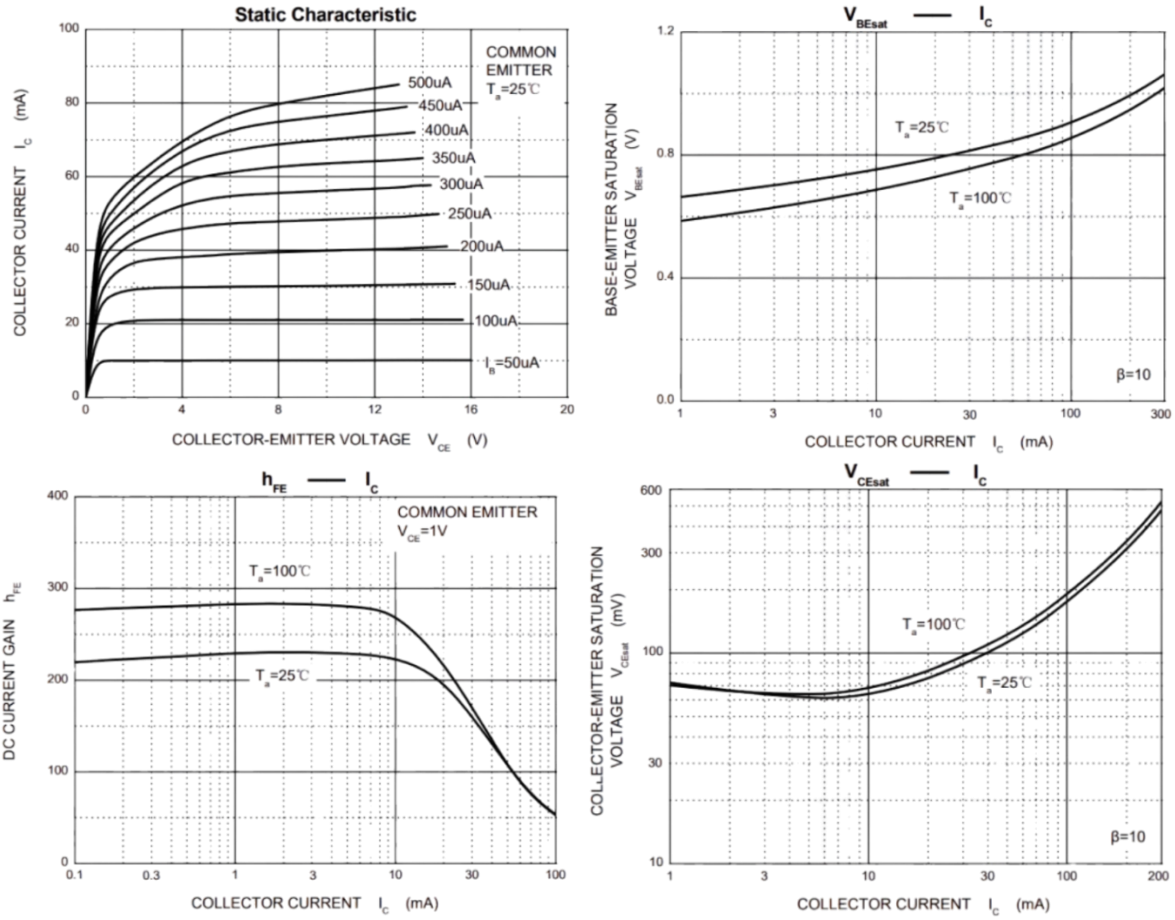
Parameter	Symbol	Condition	Min	Max	Unit

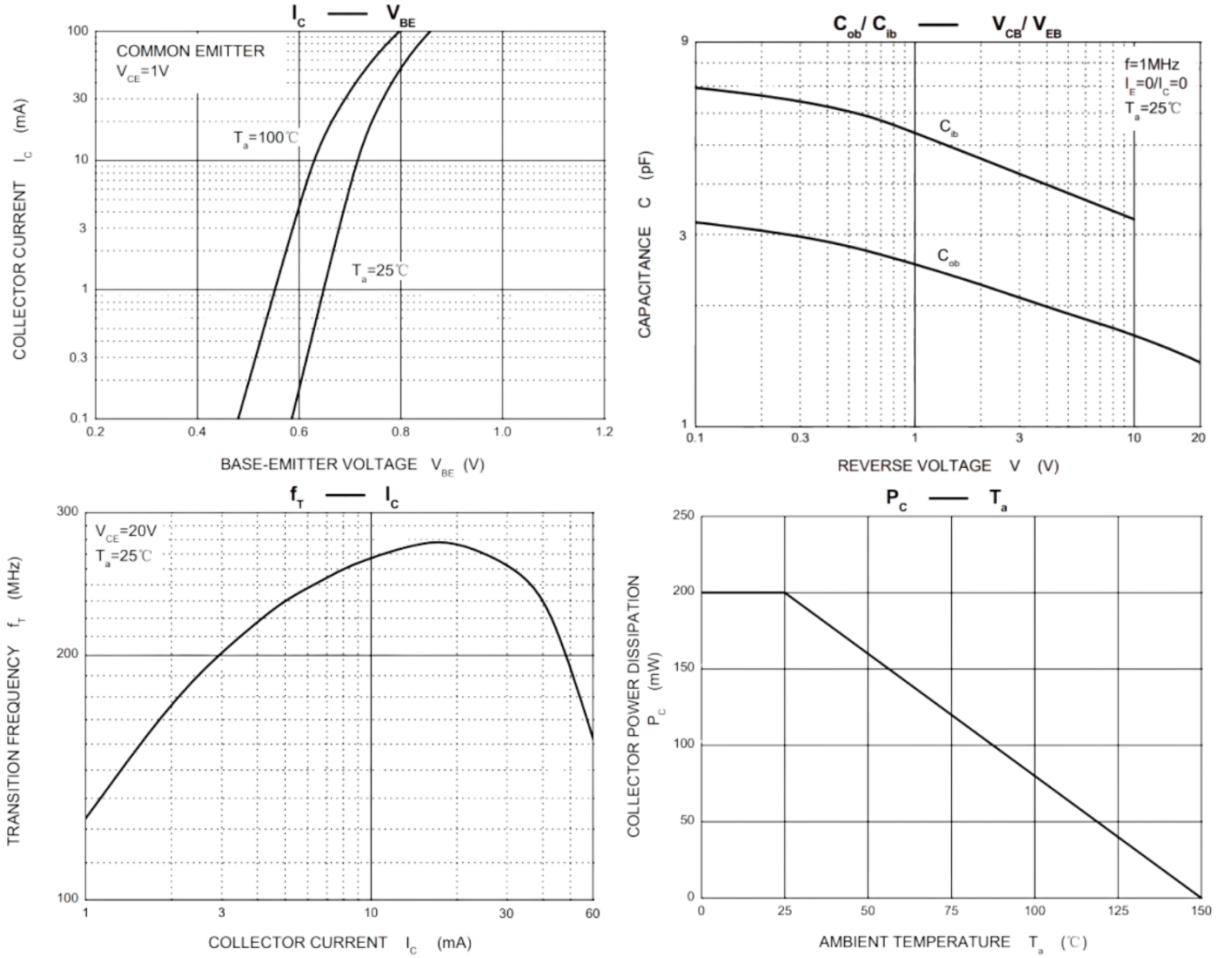
Collector–Emitter Breakdown Voltage	V(BR)CEO	IC = 1 mA, IB = 0	25		V
Collector–Base Breakdown Voltage	V(BR)CBO	IC = 0.1mA, IE = 0	40		V
Emitter–Base Breakdown Voltage	V(BR)EBO	IE = 0.1mA, IC = 0	5		V
Collector cut-off current	ICEO	VCE=20V, IB=0		0.1	uA
Collector Cutoff Current	ICBO	VCB=40V, IE=0		0.1	uA
Emitter cut-off current	IEBO	VEB= 5V, IC=0		0.1	uA
DC current gain	hFE(1)	IC = 50 mA, VCE = 1 V	120	400	
DC current gain	hFE(2)	IC = 500 mA, VCE = 1 V	40		
Collector-Emitter Saturation voltage	VCE(sat)	IC = 500 mA, IB = 50 mA		0.6	V
Base–Emitter Saturation Voltage	VBE(sat)	IC = 500 mA, IB = 50 mA		1.2	V
Base-emitter voltage	VBE	VCE=1V,IC=10mA		0.7	V
Transition frequency	fT	IC = 20mA, VCE= 6V, f = 30MHz	150		MHz
Output Capacitance	Cob	VCB = 6 V, IE = 0, f = 1 MHz		8	PF

CLASSIFICATION OF hFE(1)

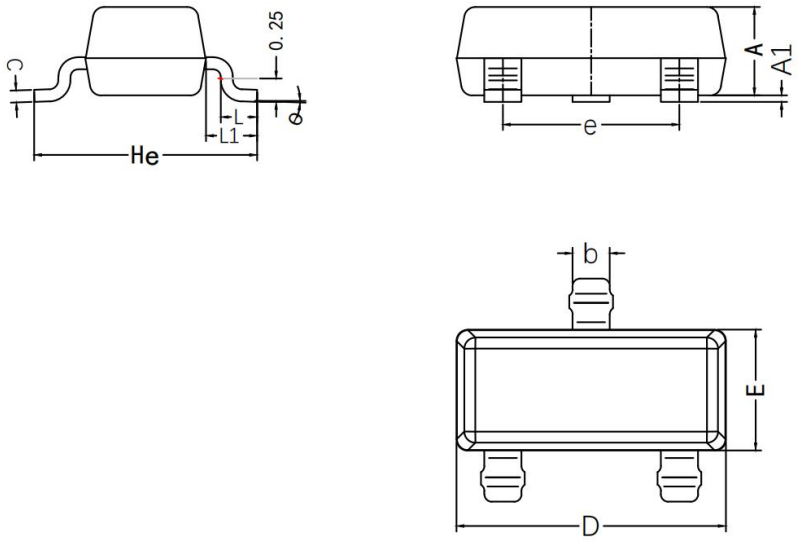
RANK	L	H	J
RANGE	120-200	200-350	300-400

7. ELECTRICAL CHARACTERISTICS CURVES



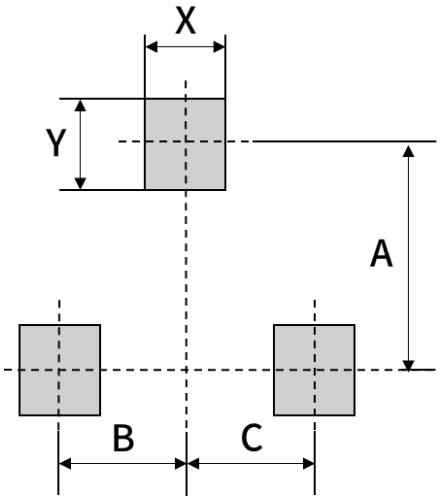


8. OUTLINE AND DIMENSIONS



DIM	MIN	NOR	MAX
A	0.85	0.95	1.05
A1	0.01	0.06	0.10
b	0.36	0.44	0.52
c	0.09	0.13	0.18
D	2.80	2.90	3.10
E	1.20	1.30	1.40
e	1.78	1.90	2.04
L	0.30	0.40	0.50
L1	0.35	0.50	0.65
He	2.10	2.35	2.50
θ	0°	-	10°
All Dimensions in mm			

9. SUGGESTED PAD LAYOUT



SOT23		
DIM	mm	inch
A	2.00	0.079
B	0.95	0.037
C	0.95	0.037
X	0.80	0.031
Y	0.90	0.035

10. DISCLAIMER

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