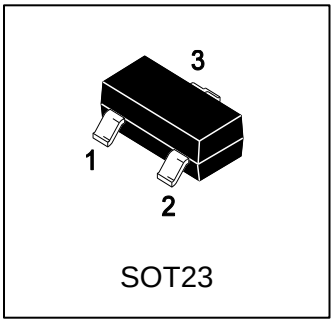
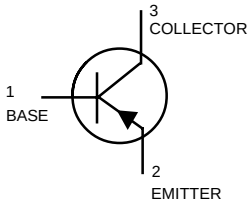
S-LBC807-25LT1G

General Purpose Transistors PNP Silicon





1. FEATURES

- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.
- Collector current capability IC = -500 mA.
- Collector-emitter voltage VCEO (max) = -45 V.
- General purpose switching and amplification.

2. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S-LBC807-25LT1G	5B1	3000/Tape&Reel
S-LBC807-25LT3G	5B1	13000/Tape&Reel

3. MAXIMUM RATINGS(Ta = 25ºC)

Parameter	Symbol	Limits	Unit
Collector-Emitter Voltage	VCEO	-45	V
Collector-Base voltage	VCBO	-50	V
Emitter-Base Voltage	VEBO	-5	V
Collector current	IC	-500	mA
Peak Collector Current	ICM	-800	mA

4. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Total Device Dissipation, FR−5 Board (Note 1) @ TA = 25ºC Derate above 25ºC	PD	225 1.8	mW mW/℃
Thermal Resistance, Junction–to–Ambient	RΘJA	556	℃/W
Total Device Dissipation, Alumina Substrate, (Note 2)@ TA = 25ºC Derate above 25ºC	PD	300 2.4	mW mW/℃
Thermal Resistance, Junction–to–Ambient	RΘJA	417	℃/W
Junction and Storage temperature	TJ,Tstg	−55~+150	℃

1. FR–5 = 1.0×0.75×0.062 in.
2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

OFF CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown Voltage (IC =-10mA)	V(BR)CEO	-45	-	-	V
Collector-Base Breakdown voltage (IC = -10μA)	V(BR)CBO	-50	-	-	V
Emitter-Base Breakdown Voltage (IE = -1μA)	V(BR)EBO	-5	-	-	V
Collector Cutoff Current (VCB = -20 V) (VCB = -20 V,TJ = 150°C)	ICBO	- -	- -	-100 -5	nA μA
Collector-Emitter Cutoff Current (VCE=-45V,IB=0)	ICEO	-	-	-10	μA
Emitter CutOff Current (VEB=-7V, IC=0)	IEBO	-	-	-100	nA

ON CHARACTERISTICS

DC Current Gain (IC = –100 mA, VCE = –1.0 V) (IC = –500 mA, VCE = –1.0 V)	HFE	160 40	- -	400 -	
Collector-Emitter Saturation Voltage (IC = –500 mA, IB = –50 mA)	VCE(sat)	-	-	-0.7	V
Base–Emitter On Voltage (IC = –500 mA, VCE = –1.0 V)	VBE(on)	-	-	-1.2	V

SMALL–SIGNAL CHARACTERISTICS

Current–Gain — Bandwidth Product (IC = –10 mA, VCE = –5.0 V , f = 100 MHz)	fT	100	-	-	MHz
Output Capacitance (VCB = –10 V, f = 1.0 MHz)	Cobo	-	10	-	pF
Input Capacitance (VEB=0.5V,IC = 0, f=1.0MHz)	Cibo	-	34.5	-	pF

6.ELECTRICAL CHARACTERISTICS CURVES

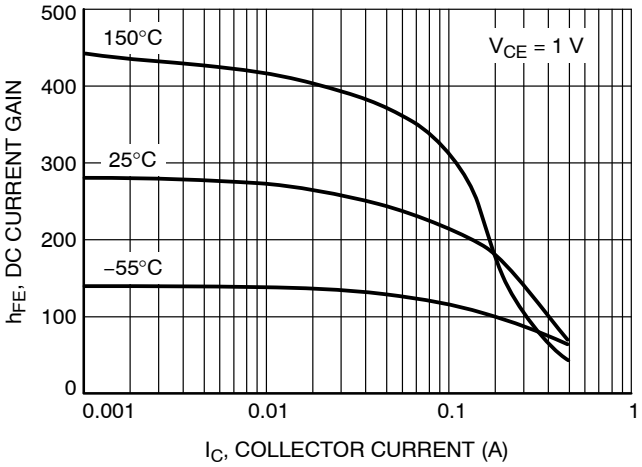


Figure 1. DC Current Gain vs. Collector Current

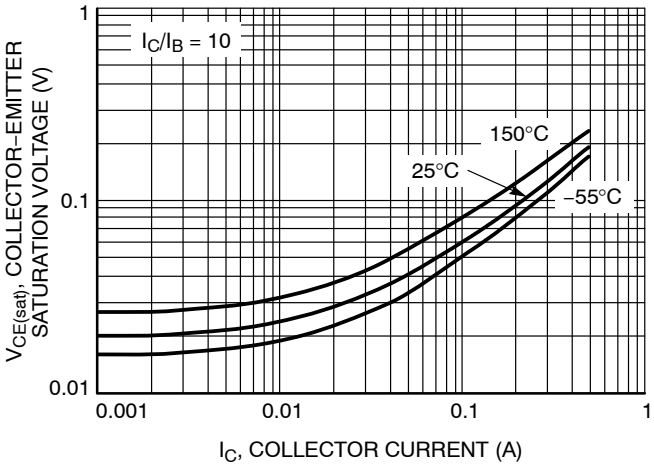


Figure 2. Collector Emitter Saturation Voltage vs. Collector Current

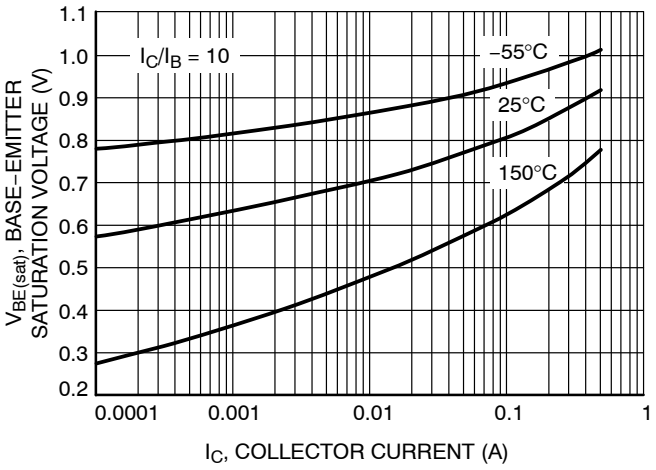


Figure 3. Base Emitter Saturation Voltage vs. Collector Current

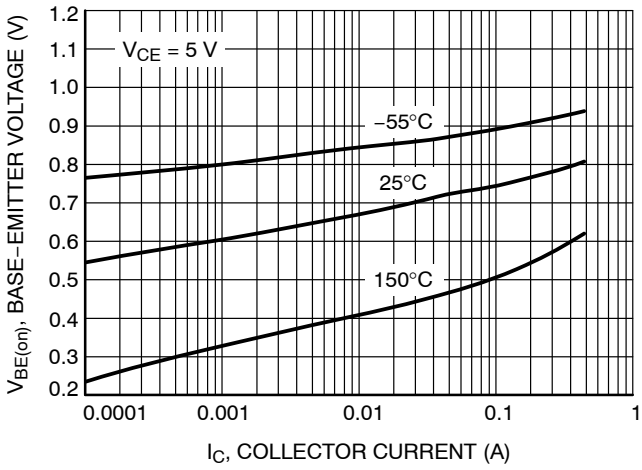


Figure 4. Base Emitter Voltage vs. Collector Current

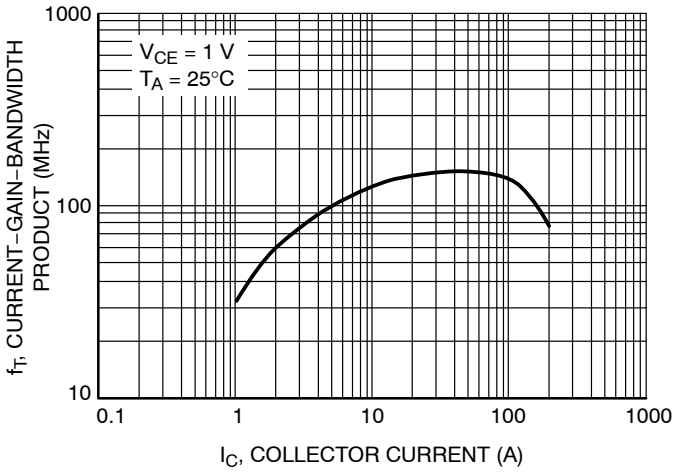


Figure 5. Current Gain Bandwidth Product vs. Collector Current

6.ELECTRICAL CHARACTERISTICS CURVES(Con.)

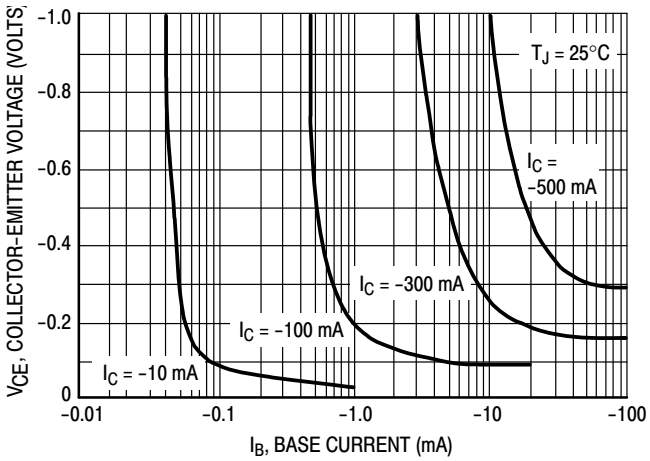


Figure 6. Saturation Region

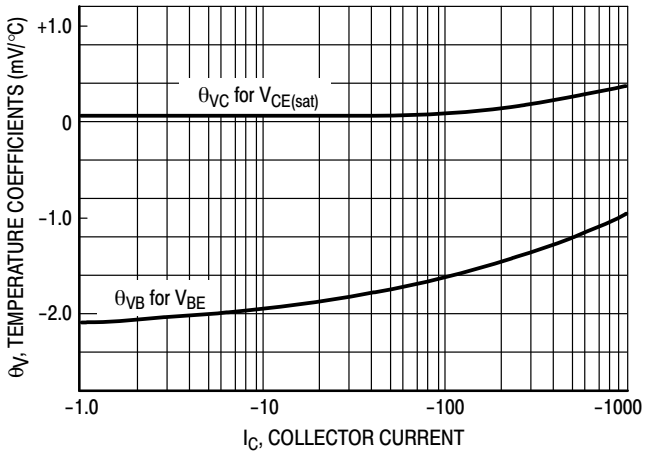


Figure 7. Temperature Coefficients

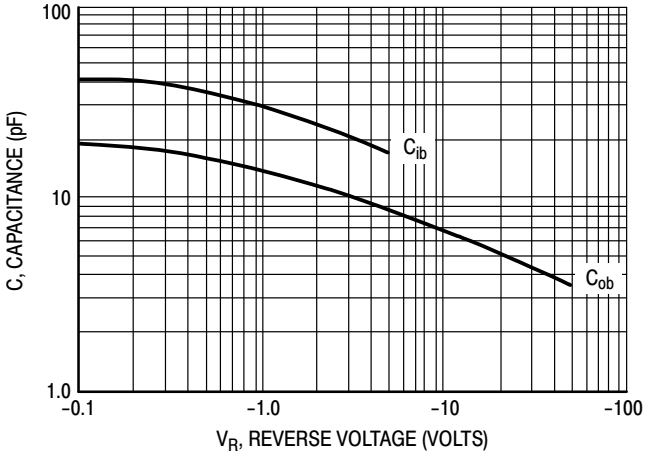
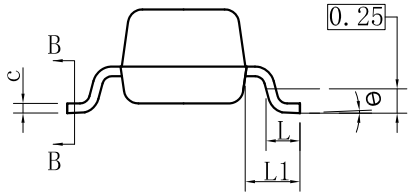
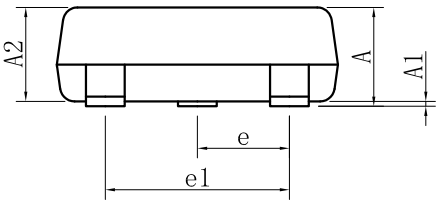
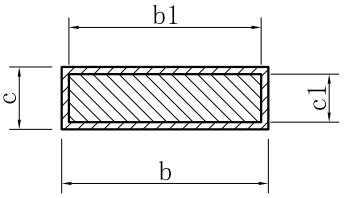


Figure 8. Capacitances

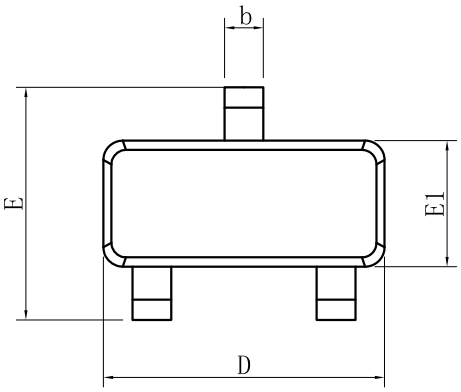
7.OUTLINE AND DIMENSIONS







SECTION B-B

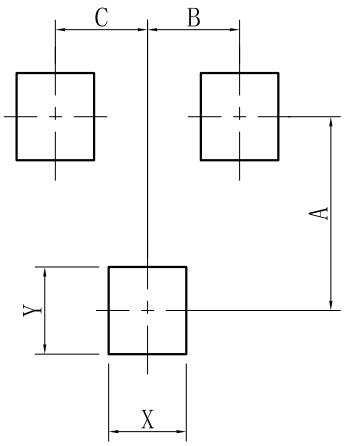


SOT23			
DIM	MIN	NOR	MAX
A	0.89	-	1.12
A1	0.01	-	0.10
A2	0.88	0.95	1.02
b	0.30	-	0.50
b1	0.30	0.40	0.45
c	0.08	-	0.20
c1	0.08	0.10	0.16
D	2.80	2.90	3.04
E	2.10	-	2.64
E1	1.20	1.30	1.40
e	0.95BSC		
e1	1.90BSC		
L	0.40	0.46	0.60
L1	0.54REF		
θ	0°	-	8°
All Dimensions in mm			

GENERAL NOTES

1. Top package surface finish Ra0.4±0.2um
2. Bottom package surface finish Ra0.7±0.2um
3. Side package surface finish Ra0.4±0.2um

8.SOLDERING FOOTPRINT



SOT-23	
DIM	(mm)
X	0.80
Y	0.90
A	2.00
B	0.95
C	0.95

DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.

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