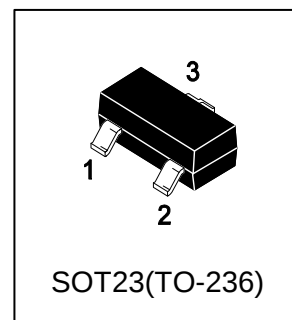


S-LBC817-40LT1G

NPN Silicon General Purpose Transistors

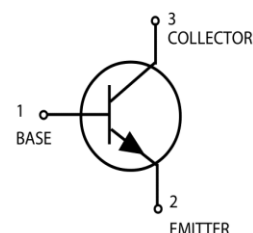
1. FEATURES

- 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.



2. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
S-LBC817-40LT1G	6C	3000/Tape&Reel
S-LBC817-40LT3G	6C	13000/Tape&Reel



3. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector–Emitter Voltage	VCEO	45	V
Collector–Base Voltage	VCBO	50	V
Emitter–Base Voltage	VEBO	5	V
Collector Current(Continuous)	IC	500	mA

4. THERMAL CHARACTERISTICS

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

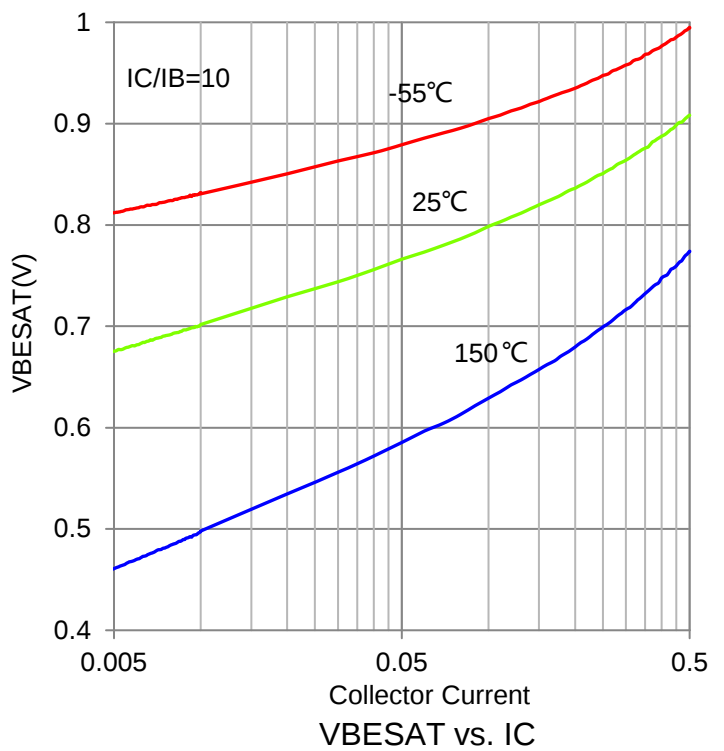
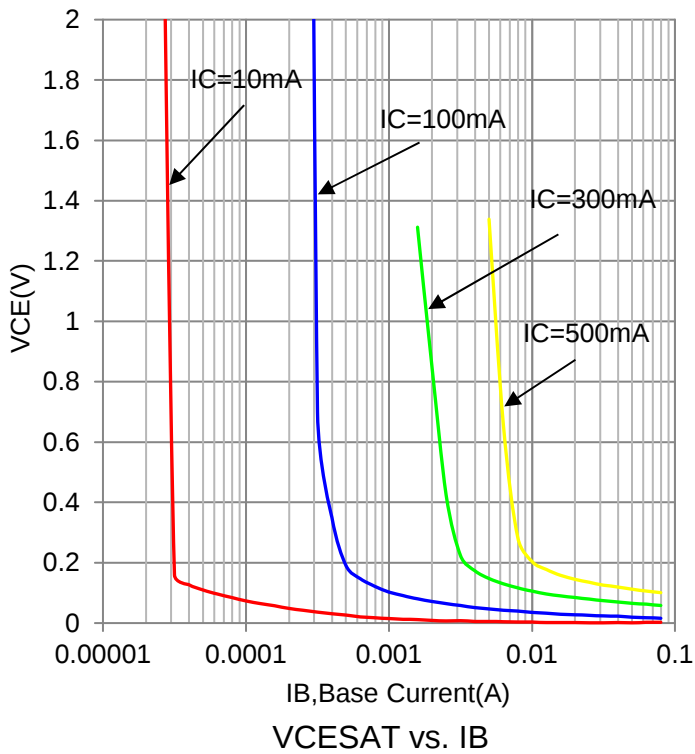
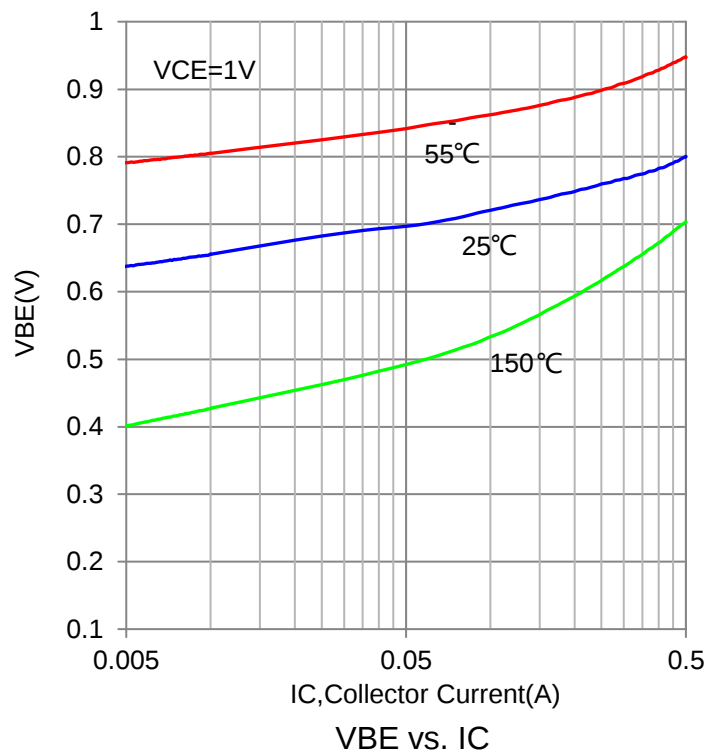
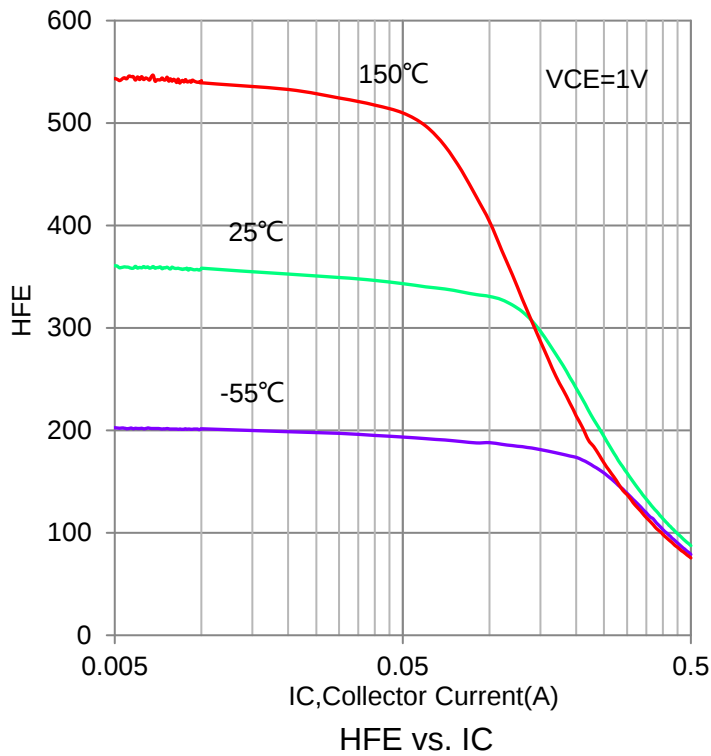
1. FR-5 = 1.0×0.75×0.062 in.

2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

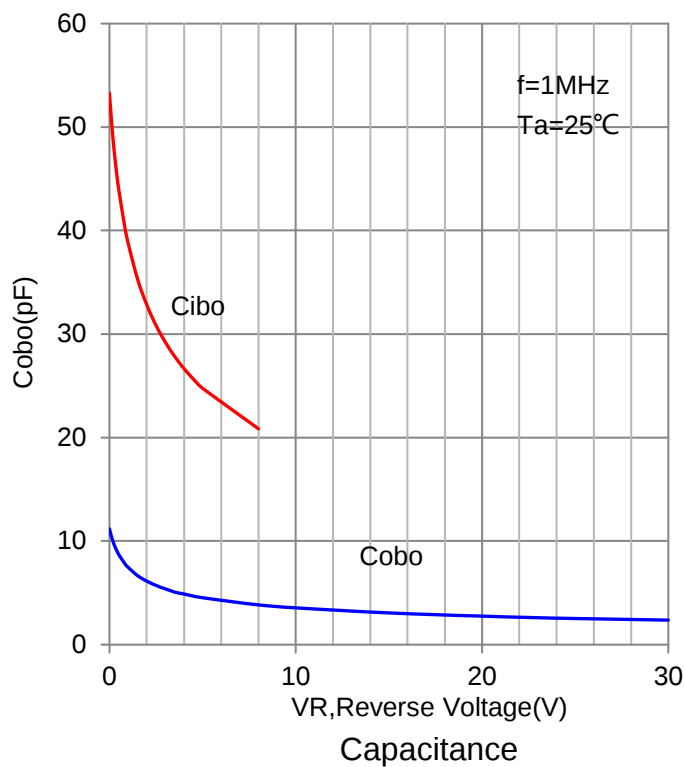
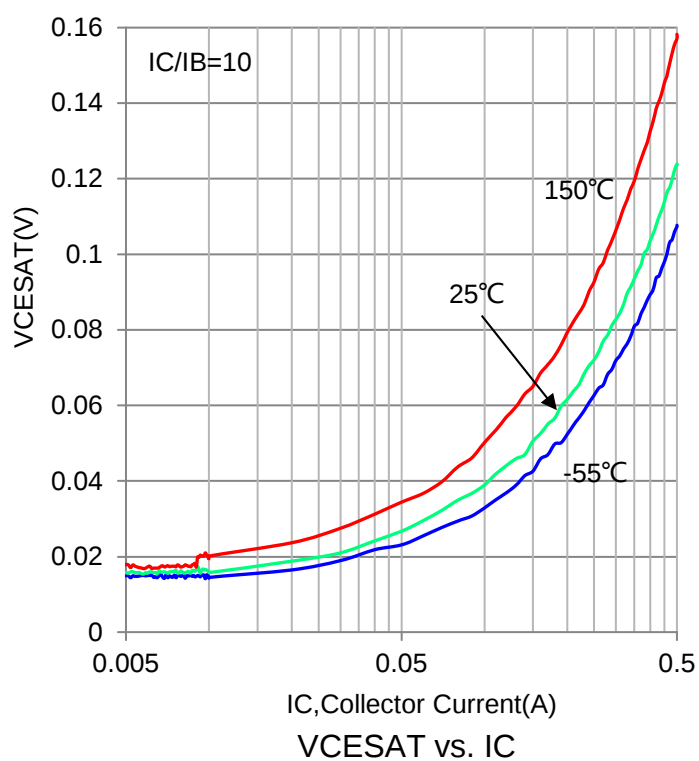
5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector–Emitter Breakdown Voltage (IC = 10 mA)	VBR(CEO)	45	-	-	V
Collector–Base Breakdown Voltage (IC = 10 µA)	VBR(CBO)	50	-	-	V
Emitter–Base Breakdown Voltage (IE = 1.0 µA)	VBR(EBO)	5	-	-	V
Collector Cutoff Current (VCB = 20 V) (VCB = 20 V, TA=150°C)	ICBO	- -	- -	100 5	nA µA
Emitter Cutoff Current (VEB = 5V)	IEBO	-	-	100	nA
DC Current Gain (IC = 100 mA, VCE = 1.0 V) (IC = 500 mA, VCE = 1.0 V)	HFE	250 40	- -	600 -	
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
Base–Emitter Saturation Voltage (IC = 500mA, IB = 50mA)	VBE(sat)	-	-	1	V
Current–Gain — Bandwidth Product (IC = 10mA, VCE= 5V, f = 100MHz)	fT	100	-	-	MHz
Output Capacitance (VCB = 10 V, IE = 0, f = 1.0 MHz)	Cobo	-	10	-	pF
Input Capacitance (VEB=0.5V, IC = 0, f=1.0MHz)	Cibo	-	50	-	pF

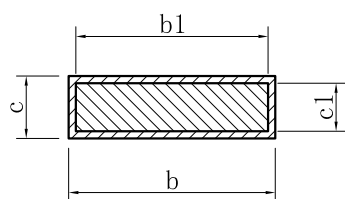
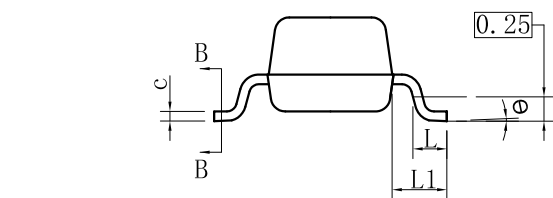
6.ELECTRICAL CHARACTERISTICS CURVES



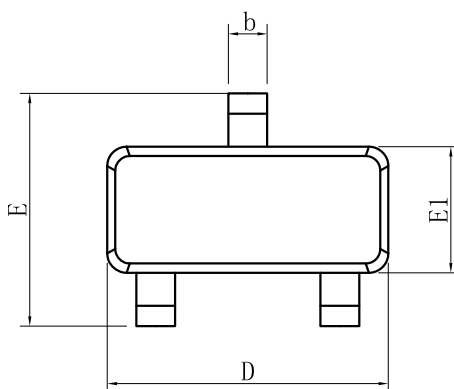
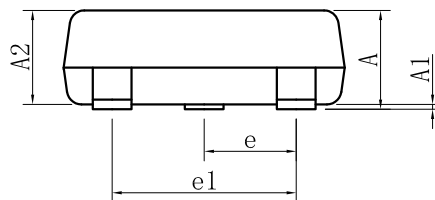
6.ELECTRICAL CHARACTERISTICS CURVES(Con.)



7.OUTLINE AND DIMENSIONS



SECTION B-B

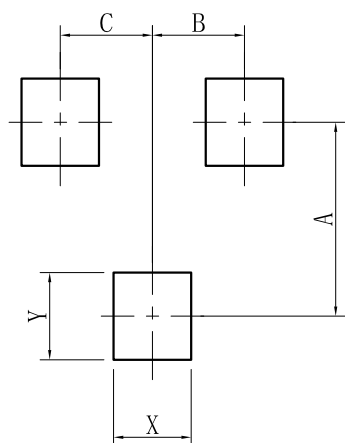


SOT23			
DIM	MIN	NOR	MAX
A	0.89	—	1.12
A1	0.01	—	0.10
A2	0.88	0.95	1.02
b	0.30	—	0.50
b1	0.30	0.40	0.45
c	0.08	—	0.20
c1	0.08	0.10	0.16
D	2.80	2.90	3.04
E	2.10	—	2.64
E1	1.20	1.30	1.40
e	0.95BSC		
e1	1.90BSC		
L	0.40	0.46	0.60
L1	0.54REF		
θ	0°	—	8°
All Dimensions in mm			

GENERAL NOTES

- 1.Top package surface finish $Ra0.4 \pm 0.2\mu m$
- 2.Bottom package surface finish $Ra0.7 \pm 0.2\mu m$
- 3.Side package surface finish $Ra0.4 \pm 0.2\mu m$

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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