

LBC858ALT1G

General Purpose Transistors PNP Silicon

1. FEATURES

- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- Moisture Sensitivity Level: 1
- ESD Rating – Human Body Model: >4000 V
– Machine Model: >400 V

2. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	Shipping
LBC858ALT1G	3J	3000/Tape&Reel
LBC858ALT3G	3J	13000/Tape&Reel

3. MAXIMUM RATINGS(Ta = 25°C)

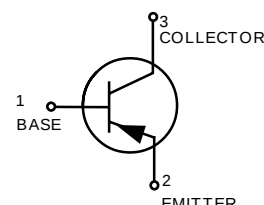
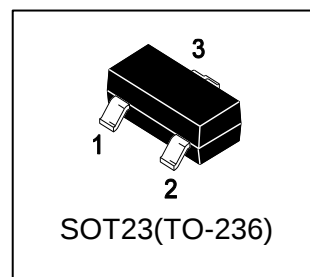
Parameter	Symbol	Limits	Unit
Collector-Emitter Voltage	VCEO	-30	V
Collector-Base Voltage	VCBO	-30	V
Emitter-Base Voltage	VEBO	-5	V
Continuous Collector Current	IC	-100	mA

4. THERMAL CHARACTERISTICS

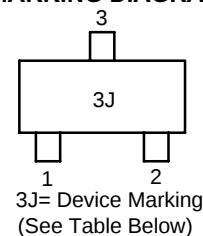
Parameter	Symbol	Limits	Unit
Total Device Dissipation FR-5 Board, (Note 1) TA = 25°C Derate above 25°C	PD	225 1.8	mW mW/°C
Thermal resistance from junction to ambient	RθJA	556	°C/W
Total Device Dissipation Alumina Substrate, (Note 2) TA = 25°C Derate above 25°C	PD	300 2.4	mW mW/°C
Thermal resistance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

1. FR-5 = 1.0 x 0.75 x 0.062 in.

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



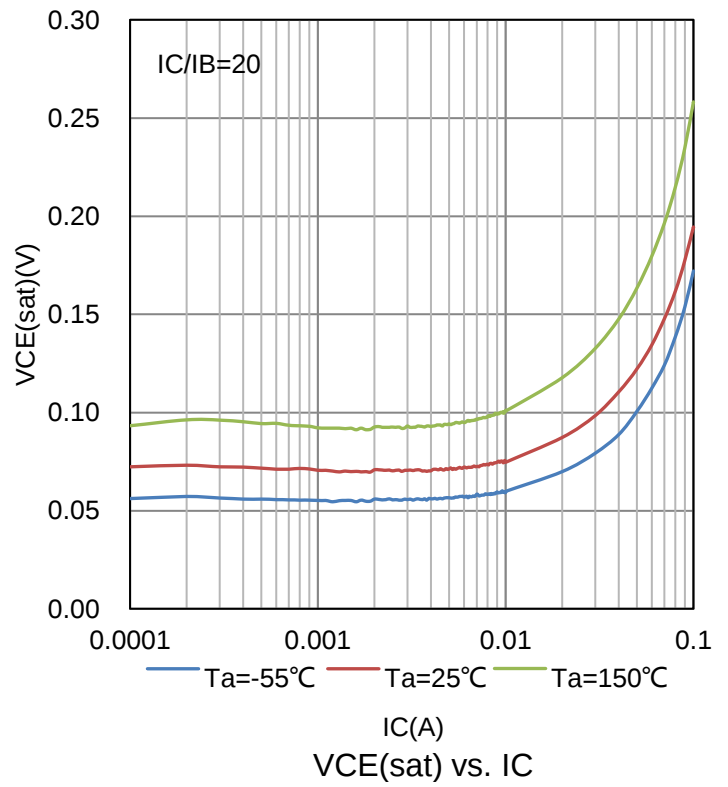
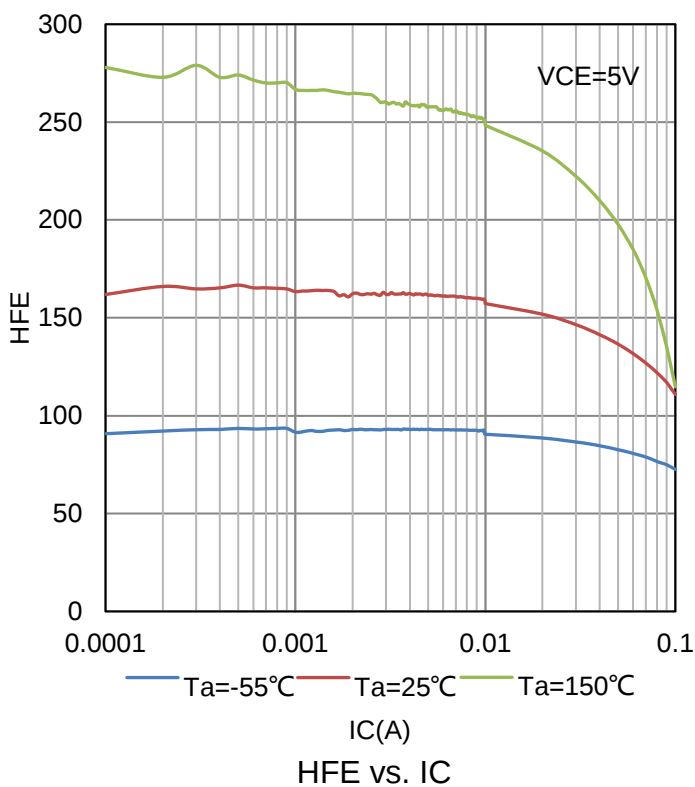
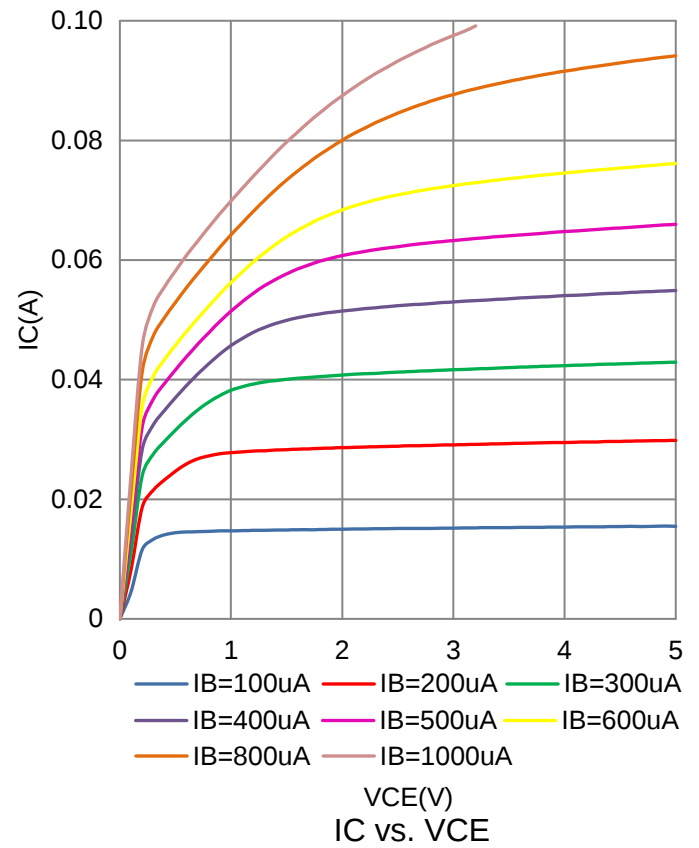
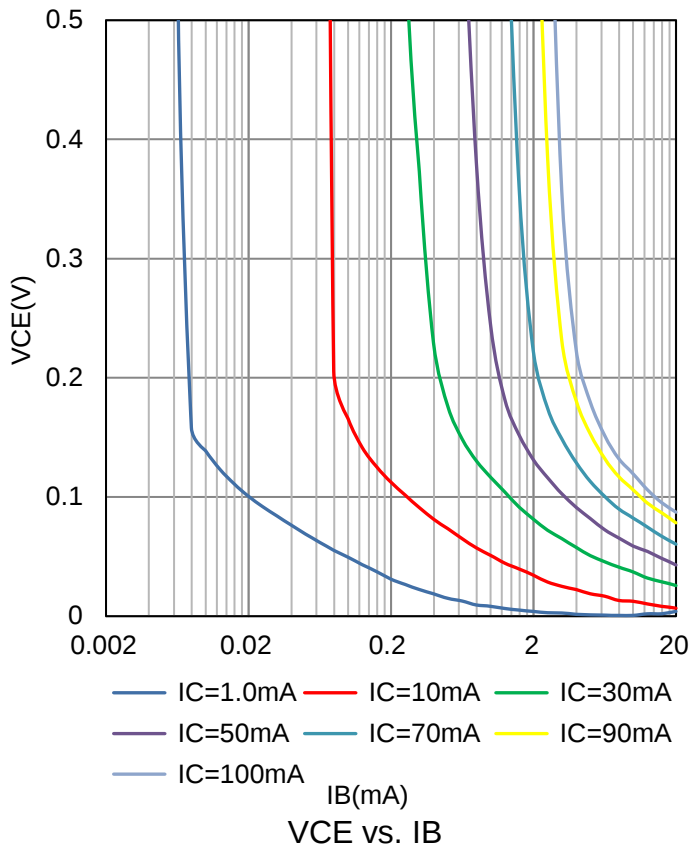
MARKING DIAGRAM



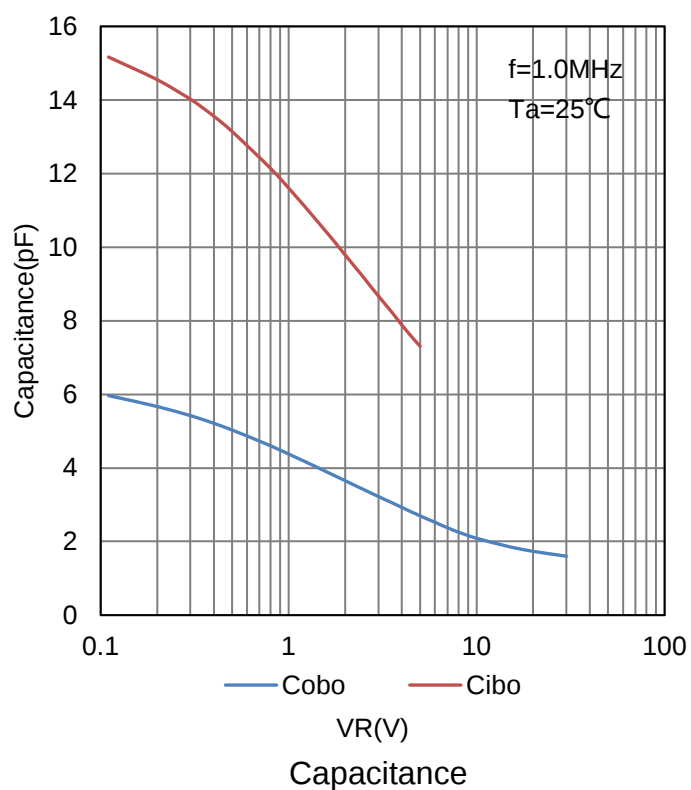
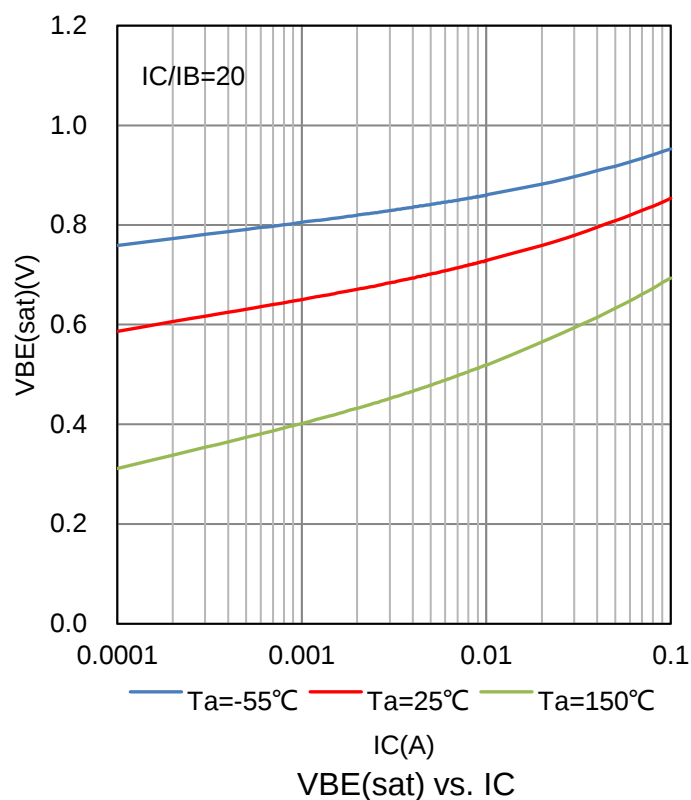
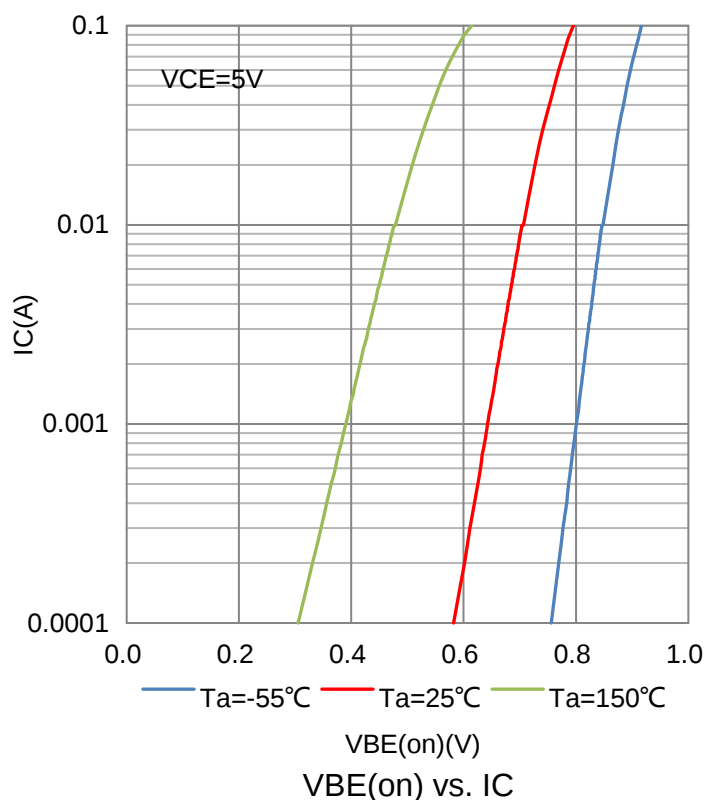
5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (IC = -10mA)	BVCEO	-30	-	-	V
Collector-Emitter Breakdown Voltage (IC = -10μA, VEB = 0)	BVCES	-30	-	-	
Collector-Base Breakdown Voltage (IC = -10μA)	BVCBO	-30	-	-	
Emitter-Base Breakdown Voltage (IE = -1μA)	BVEBO	-5	-	-	
Collector Cut-off Current (VCB = -30V) (VCB = -30 V, TA = 150°C)	ICBO	-	-	-15 -4	nA μA
ON CHARACTERISTICS					
DC Current Gain (IC = -2.0 mA, VCE = -5.0 V)	hFE	125	180	250	
Collector-Emitter saturation Voltage (IC = -10 mA, IB = -0.5 mA) (IC = -100 mA, IB = -5.0 mA)	VCE(sat)	-	-	-0.3 -0.65	V
Base-Emitter Saturation Voltage (IC = -10 mA, IB = -0.5 mA) (IC = -100 mA, IB = -5.0 mA)	VBE(sat)	-	-0.7 -0.9	-	V
Base-Emitter On Voltage (IC = -2.0 mA, VCE = -5.0 V) (IC = -10 mA, VCE = -5.0 V)	VBE(on)	-0.6 -	-	-0.75 -0.82	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)	Cob	-	-	4.5	pF
Noise Figure (IC = -0.2 mA, VCE = -5.0 V, RS = 2.0 kΩ f = 1.0 kHz, BW = 200 Hz)	NF	-	-	10	dB

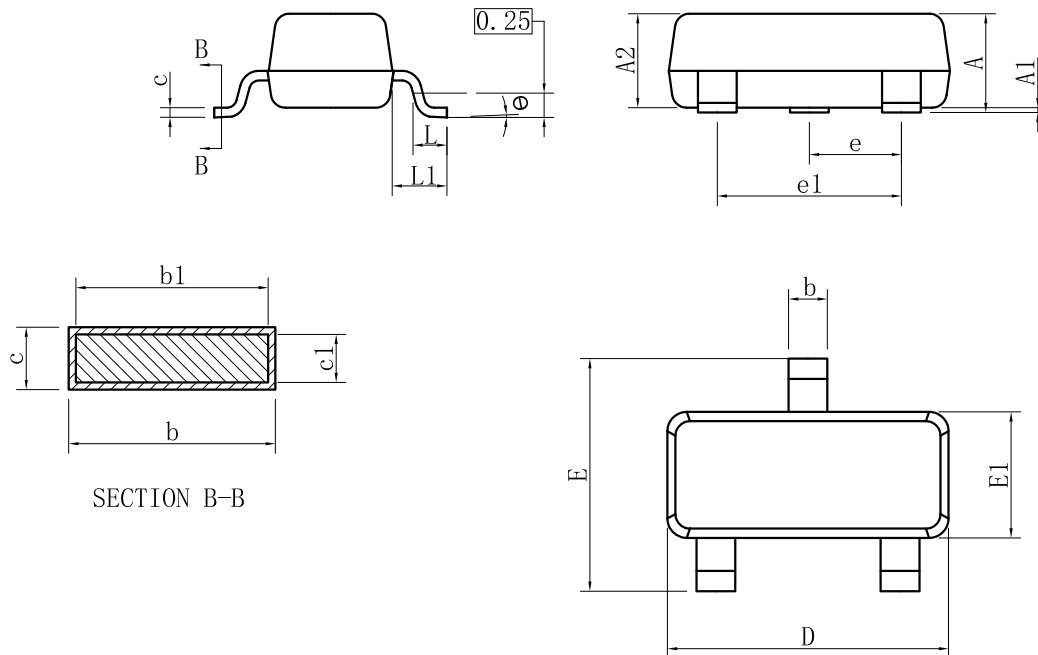
6.ELECTRICAL CHARACTERISTICS CURVES



6.ELECTRICAL CHARACTERISTICS CURVES(Con.)



7.OUTLINE AND DIMENSIONS

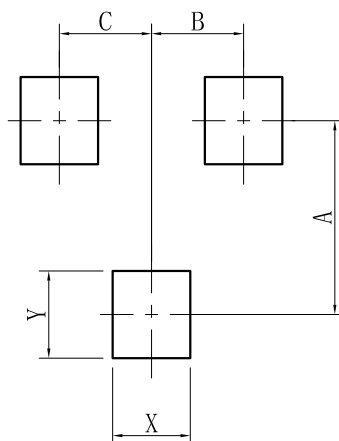


SOT23			
DIM	MIN	NOR	MAX
A	0.89	-	1.12
A1	0.01	-	0.10
A2	0.88	0.95	1.02
b	0.30	-	0.50
b1	0.30	0.40	0.45
c	0.08	-	0.20
c1	0.08	0.10	0.16
D	2.80	2.90	3.04
E	2.10	-	2.64
E1	1.20	1.30	1.40
e	0.95BSC		
e1	1.90BSC		
L	0.40	0.46	0.60
L1	0.54REF		
θ	0°	-	8°
All Dimensions in mm			

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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