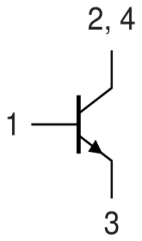
LBTN03400Z4TZHG
S-LBTN03400Z4TZHG

NPN high-voltage transistor

SOT223

1. FEATURES

- Low current.
- High voltage.
- 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.

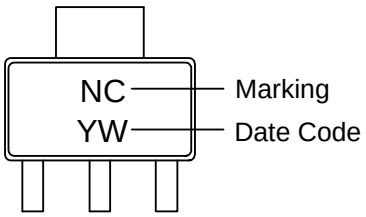


2. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LBTN03400Z4TZHG	NC	1000/Tape&Reel

3. MAXIMUM RATINGS(Ta = 25ºC)

Parameter	Symbol	Limits	Unit
Collector–Emitter Voltage	VCEO	400	V
Collector–Base Voltage	VCBO	500	V
Emitter–Base Voltage	VEBO	6	V
Collector Current (DC)	IC	300	mA
Peak Collector Current	ICM	300	mA
Peak Base Current	IBM	100	mA
Junction and Storage temperature	TJ,Tstg	−55~+150	°C



4. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Total Device Dissipation, FR−4 Board (Note 1) @ TA = 25ºC	PD	833	mW
Thermal Resistance, Junction–to–Ambient(Note 1)	RΘJA	150	ºC/W
Thermal Resistance, Junction–to–Case	RΘJC	50	ºC/W

1. FR–4 = 30.0mm×25.0mm×1.6mm.

5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

OFF CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector–Emitter Breakdown Voltage (IC = 1 mA,IB = 0)	VBR(CEO)	400	-	-	V
Collector–Base Breakdown Voltage (IC = 50 μA,IE = 0)	VBR(CBO)	500	-	-	V
Emitter–Base Breakdown Voltage (IE = 50 μA,IC = 0)	VBR(EBO)	6	-	-	V
Collector-Base Cutoff Current (VCB = 400 V, IE = 0 A) (VCB = 400 V, IE = 0 A,Tj = 150℃)	ICBO	- -	- -	100 10	nA μA
Emitter-Base CutOff Current (VEB = 4 V, IC = 0 A)	IEBO	-	-	100	nA
Collector-Emitter cutoff Current (VCE= 400V,IB=0)	ICEO	-	-	10	μA

ON CHARACTERISTICS (Note 2)

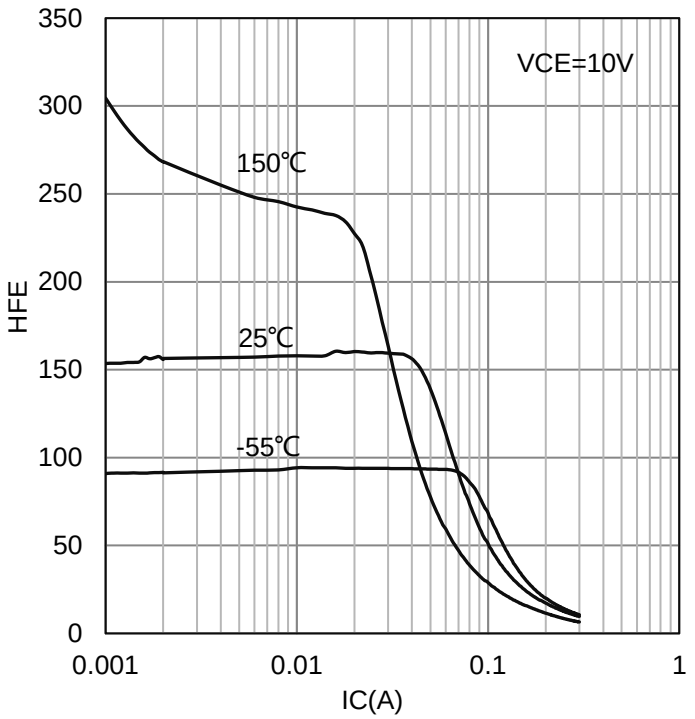
DC Current Gain (IC = 1mA, VCE =10V) (IC = 10mA, VCE =10V) (IC =50mA, VCE =10V) (IC =100mA, VCE = 10V)	HFE	 40 80 45 30	 - - - -	 - 300 - -	
Collector–Emitter Saturation Voltage (IC = 1 mA, IB = 0.1 mA) (IC = 10 mA, IB = 1 mA) (IC = 50 mA, IB = 5 mA)	VCE(sat)	 - - -	 - - -	 400 500 750	mV
Base-Emitter Saturation Voltage (IC = 10 mA, IB = 1 mA)	VBE(sat)	-	-	850	mV

SMALL–SIGNAL CHARACTERISTICS

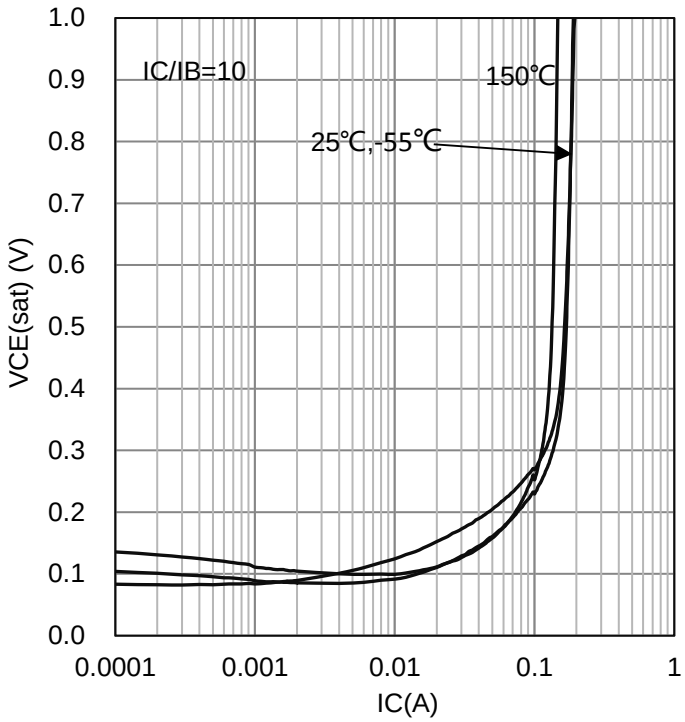
Transitional Frequency (IC = 10 mA, VCE = 10 V,f = 100 MHz)	fT	20	-	-	MHz
Collector Capacitance (IE = ie = 0, VCB = 20 V, f = 1 MHz)	Cc	-	-	7	pF
Emitter Capacitance (IC = ic = 0, VEB = 500 mV,f = 1 MHz)	Ce	-	-	180	pF

2.Pulse Test: Pulse Width ≤300 μs, Duty Cycle ≤2.0%.

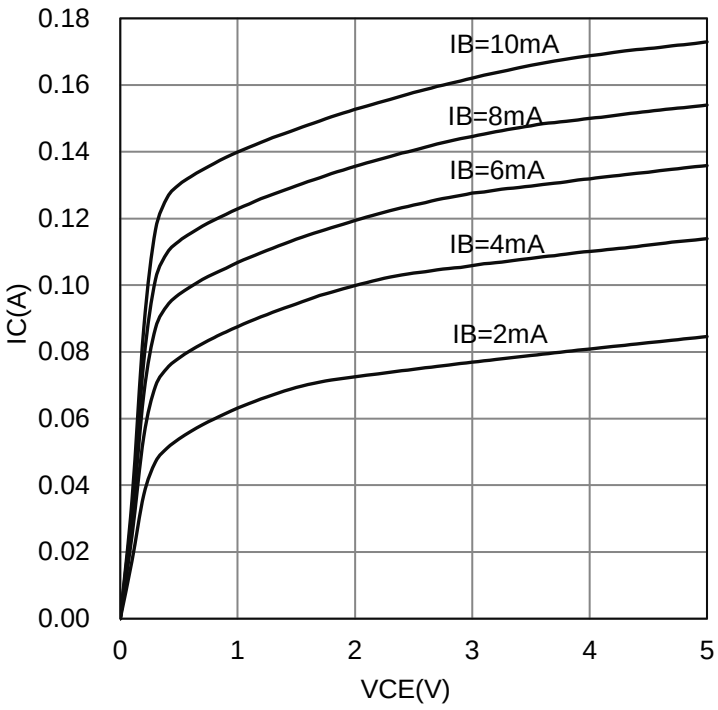
6.ELECTRICAL CHARACTERISTICS CURVES



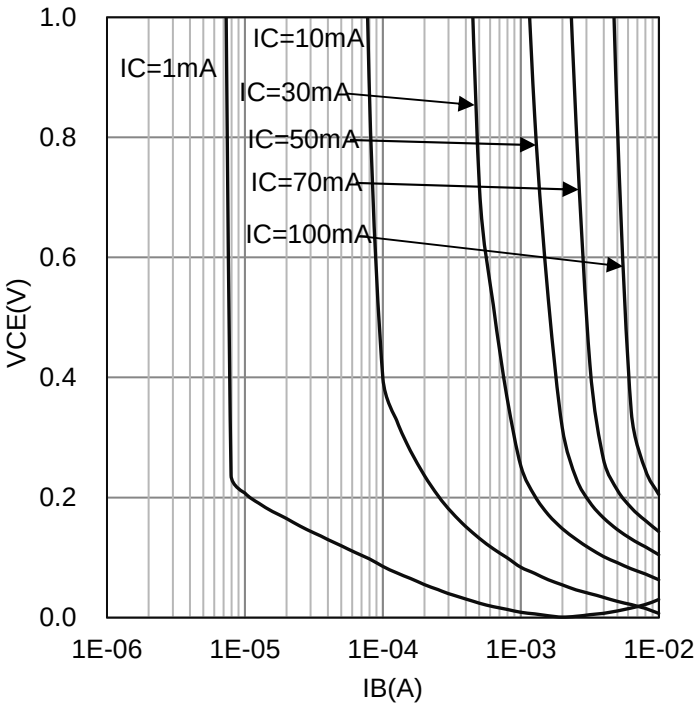
HFE vs. IC



VCE(sat) vs. IC

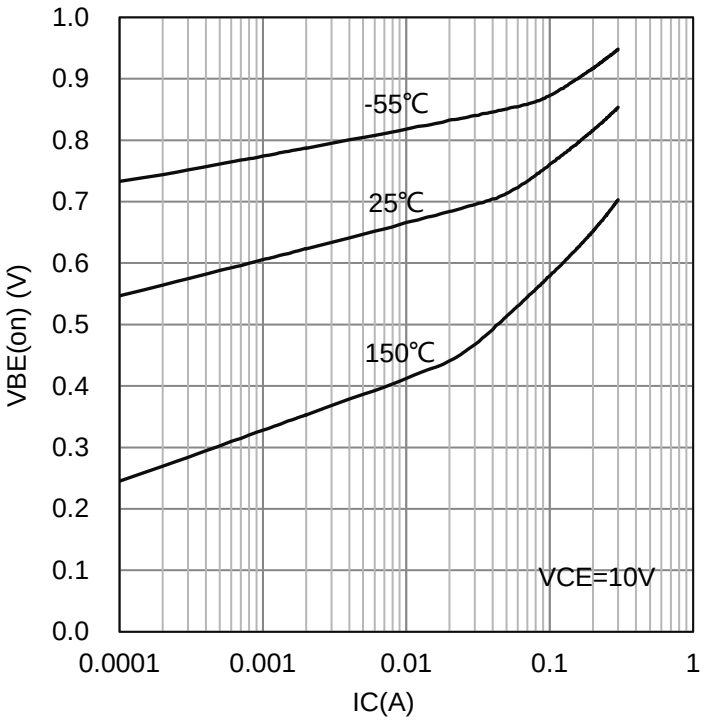


IC vs. VCE

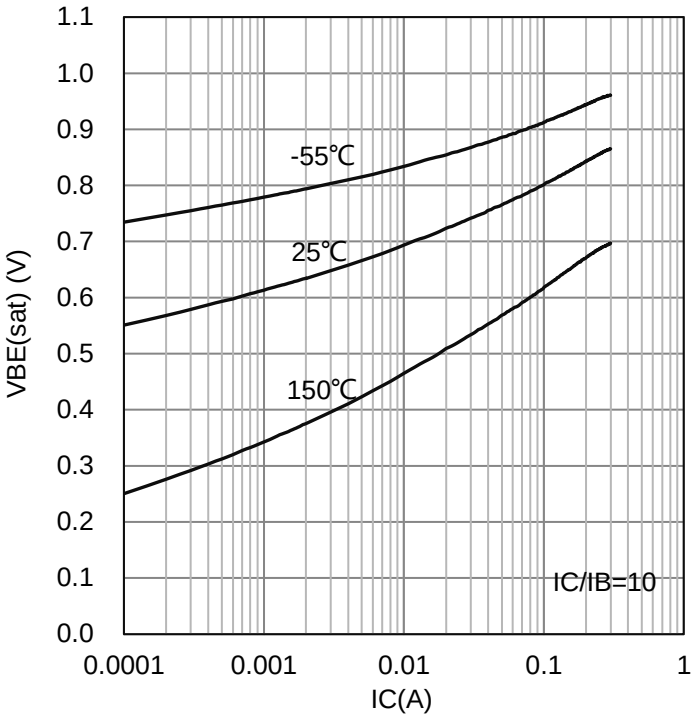


VCE vs. IB

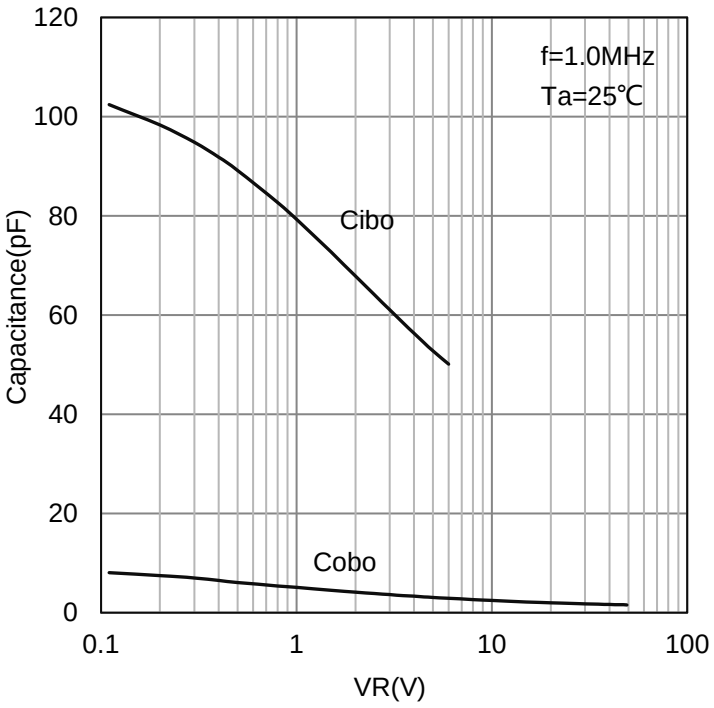
6.ELECTRICAL CHARACTERISTICS CURVES(Con.)



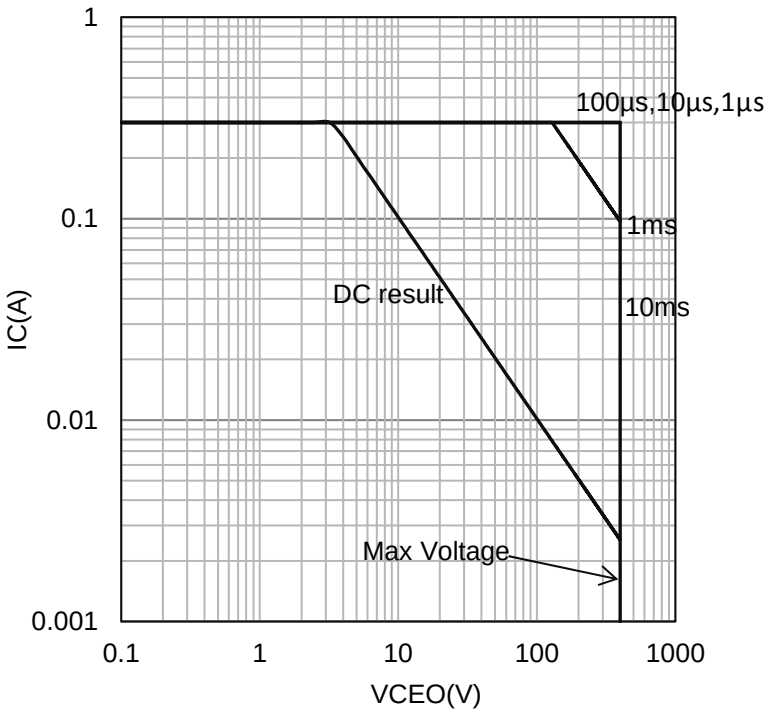
VBE(on) vs. IC



VBE(sat) vs. IC



Capacitance



Safe Operating Area

7.OUTLINE AND DIMENSIONS

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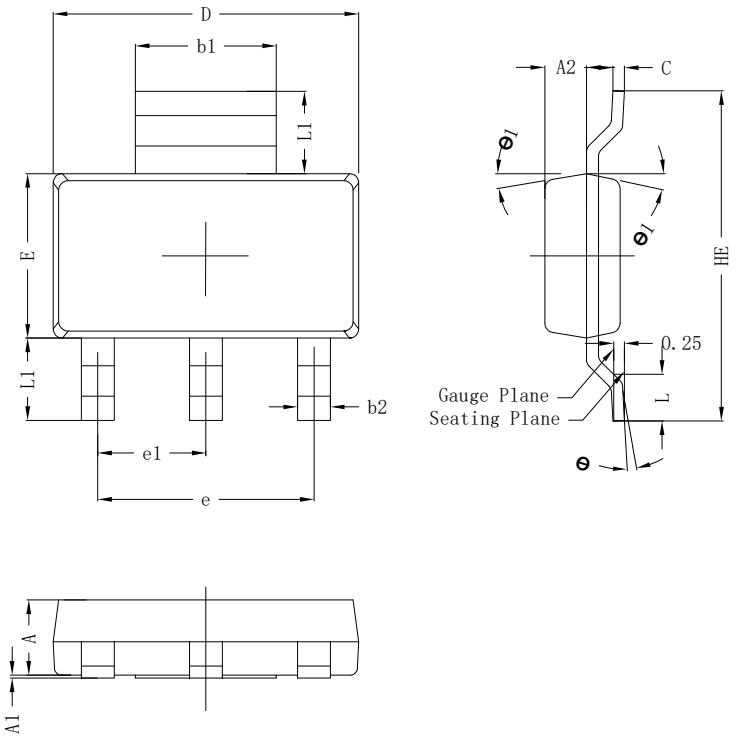

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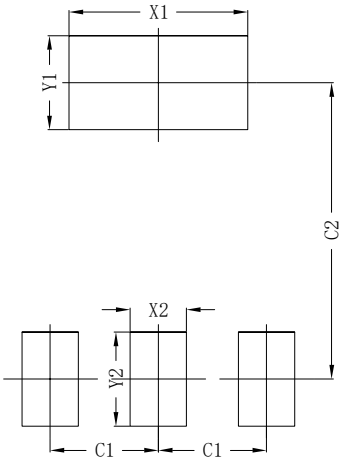
DIM	MIN	NOR	MAX
A	1.50	1.60	1.70
A1	0.00	0.05	0.10
A2	0.80	0.90	1.00
b1	2.90	3.02	3.10
b2	0.60	0.72	0.80
c	0.20	0.27	0.35
D	6.30	6.50	6.70
E	3.30	3.50	3.70
e	4.60BSC		
e1	2.30BSC		
HE	6.80	7.00	7.20
L	0.80	1.00	1.20
L1	1.75(REF)		
θ	0°~8°		
θ 1	8°	10°	12°
All Dimensions in mm			

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
4. Protrusion or Gate Burrs shall not exceed 0.10mm per side.

8.SOLDERING FOOTPRINT



SOT223	
DIM	(mm)
X1	3.80
Y1	2.00
X2	1.20
Y2	2.00
C1	2.30
C2	6.30

DISCLAIMER

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