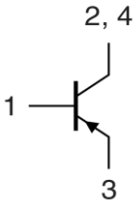
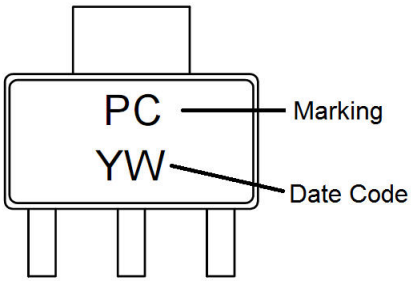
LBTP3100Z4TZHG
S-LBTP3100Z4TZHG

PNP Silicon AF Power Transistors

SOT223





1. FEATURES

- For AF driver and output stages
- High collector current
- High current gain
- Low collector-emitter saturation 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
LBTP3100Z4TZHG	PC	4000/Tape&Reel

3. MAXIMUM RATINGS(Ta = 25ºC)

Parameter	Symbol	Limits	Unit
Collector–Emitter Voltage	VCEO	-100	V
Collector–Base Voltage	VCBO	-120	V
Emitter–Base Voltage	VEBO	-7	V
Collector Current — Continuous	IC	-3	A
Peak collector current (tp ≤10 ms)	ICM	-5	A
Base current	IB	-200	mA
Peak base current	IBM	-500	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	1	W
Thermal Resistance, Junction–to–Ambient(Note 1)	RΘJA	125	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 = -10 mA, IB = 0)	VBR(CEO)	-100	-	-	V
Collector–Base Breakdown Voltage (IC = -100 μA, IE = 0)	VBR(CBO)	-120	-	-	V
Emitter–Base Breakdown Voltage (IE = -10 μA, IC = 0)	VBR(EBO)	-7	-	-	V
Collector Cutoff Current (VCB = -45V, IE = 0) (VCB = -45V, IE = 0, Ta = 150°C)	ICBO	- -	- -	-0.1 -20	μA
Emitter CutOff Current (VEB = -4 V, IC = 0)	IEBO	-	-	-100	nA

ON CHARACTERISTICS (Note 2)

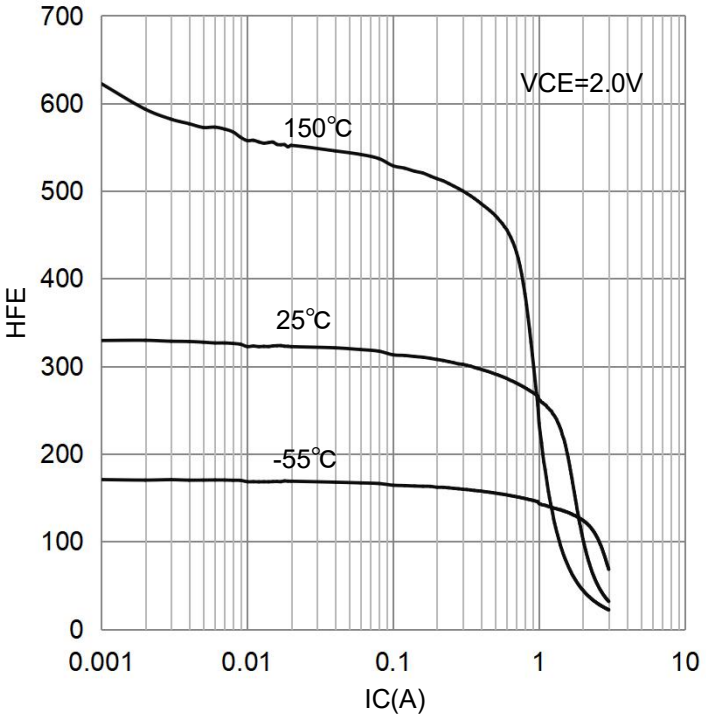
DC Current Gain (IC = -10mA, VCE = -5V) (IC = -500mA, VCE = -1V) (IC = -1A, VCE = -2V)	HFE	25 85 15	- - -	- 475 -	
Collector–Emitter Saturation Voltage (IC = -2A, IB = -0.2A)	VCE(sat)	-	-	-0.5	V
Base–Emitter Saturation Voltage (IC = -2A, IB = -0.2A)	VBE(sat)	-	-	-1.3	V

SMALL–SIGNAL CHARACTERISTICS

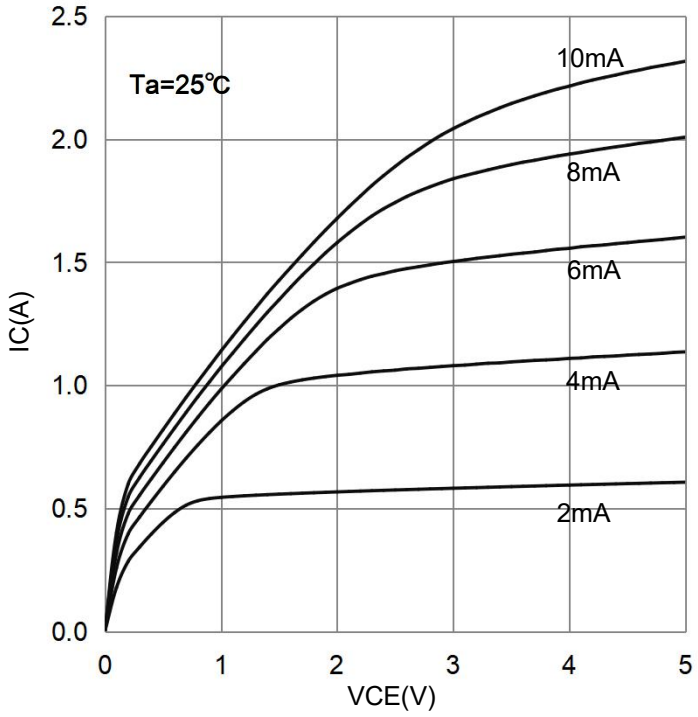
Transitional Frequency (IC = -50 mA, VCE = -10 V, f = 100 MHz)	fT	-	100	-	MHz
Collector-base capacitance (VCB = -10 V, f = 100 MHz)	Ccb	-	40	-	pF

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

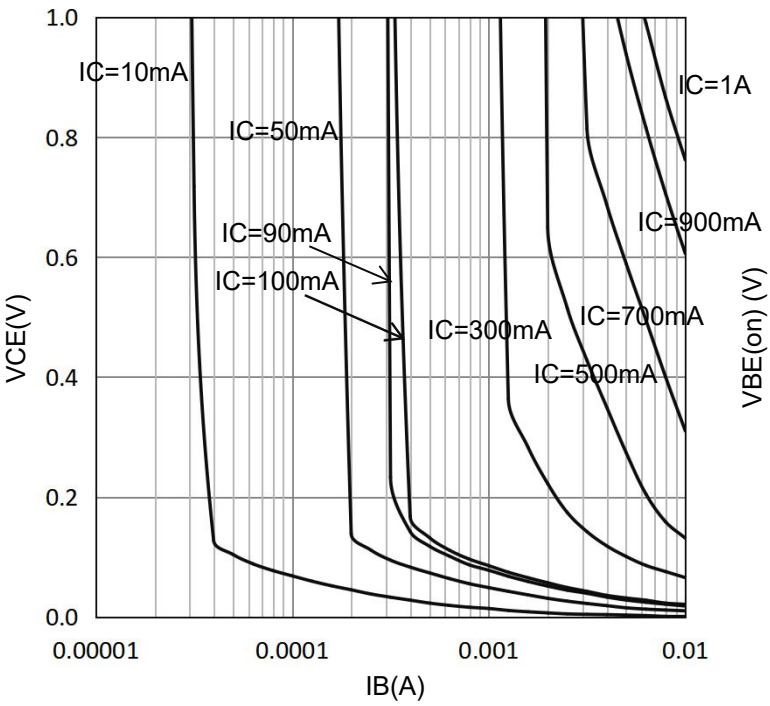
6. ELECTRICAL CHARACTERISTICS CURVES



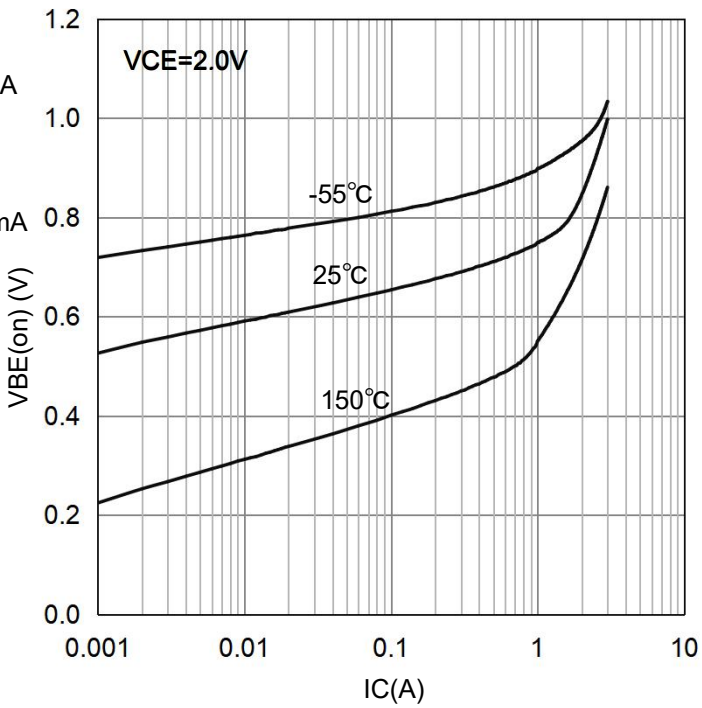
HFE vs. IC



IC vs. VCE

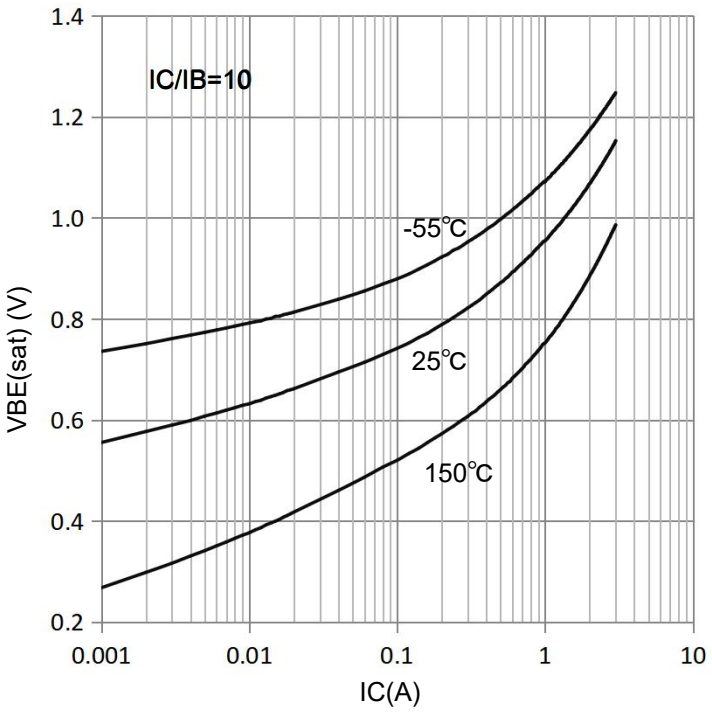


VCE vs. IB

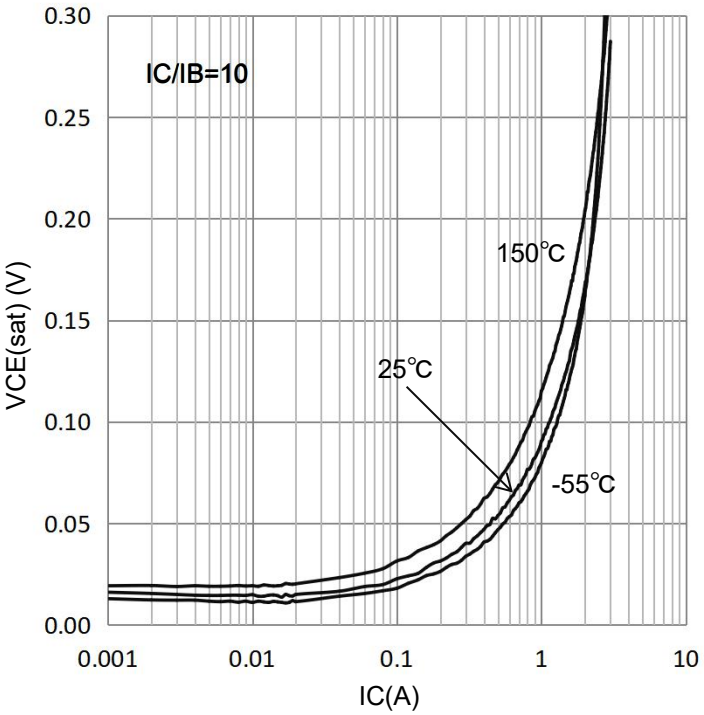


VBE(on) vs. IC

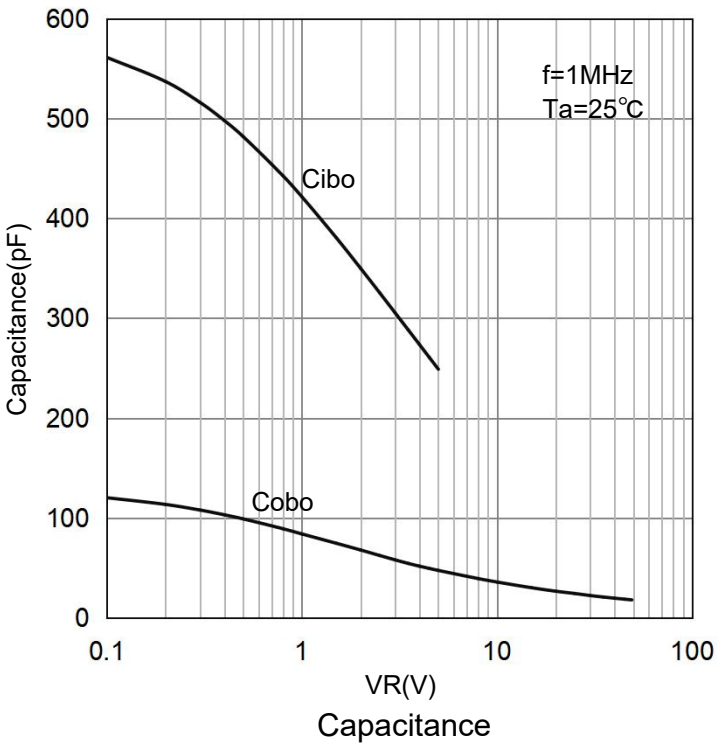
6. ELECTRICAL CHARACTERISTICS CURVES(Con.)



VBE(sat) vs. IC



VCE(sat) vs. IC



Capacitance

7.OUTLINE AND DIMENSIONS

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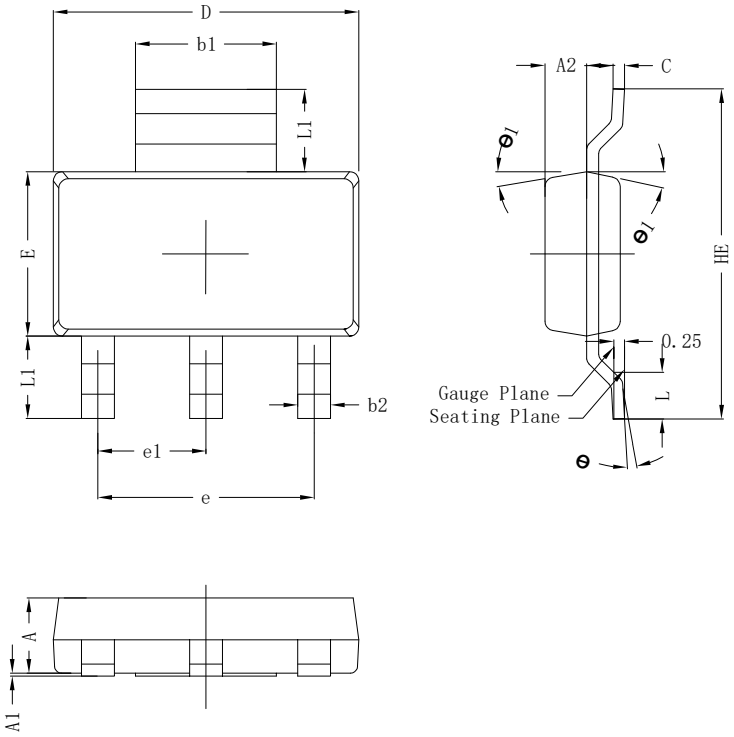

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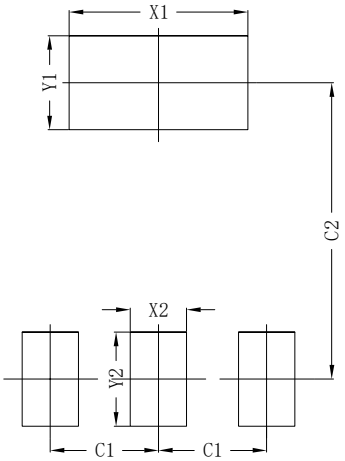
DIM	MIN	NOR	MAX
A	1.50	1.60	1.70
A1	0.00	0.05	0.10
A2	0.80	0.90	1.00
b1	2.90	3.02	3.10
b2	0.60	0.72	0.80
c	0.20	0.27	0.35
D	6.30	6.50	6.70
E	3.30	3.50	3.70
e	4.60BSC		
e1	2.30BSC		
HE	6.80	7.00	7.20
L	0.80	1.00	1.20
L1	1.75(REF)		
θ	0°~8°		
θ1	8°	10°	12°
All Dimensions in mm			

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

- 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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