

# LBTN180Y3T1G

## S-LBTN180Y3T1G

NPN power transistors

### 1. FEATURES

- High current
- High power dissipation capability
- 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. APPLICATIONS

- Linear voltage regulators
- Low-side switches
- Battery-driven devices
- Power management
- MOSFET drivers
- Amplifiers

### 3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LBTN180Y3T1G	B	1000/Tape&Reel

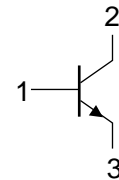
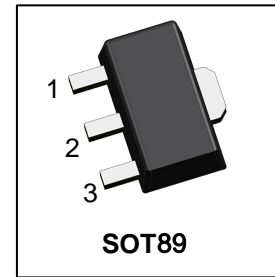
### 4. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector–Emitter Voltage	VCEO	80	V
Collector–Base Voltage	VCBO	100	V
Emitter–Base Voltage	VEBO	5	V
Collector Current	IC	1	A
Peak collector current(tp≤1 ms)	ICM	2	A
Base current	IB	0.3	A
Peak base current(tp≤1 ms)	IBM	0.3	A

### 5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Total Device Dissipation, FR-4 Board (Note 1) @ TA = 25°C	PD	550	mW
Derate above 25°C		4.4	mW/°C
Thermal Resistance, Junction–to–Ambient	RθJA	225	°C/W
Junction–to–Case	RθJC	50	°C/W
Junction and Storage temperature	TJ,Tstg	-65~+150	°C

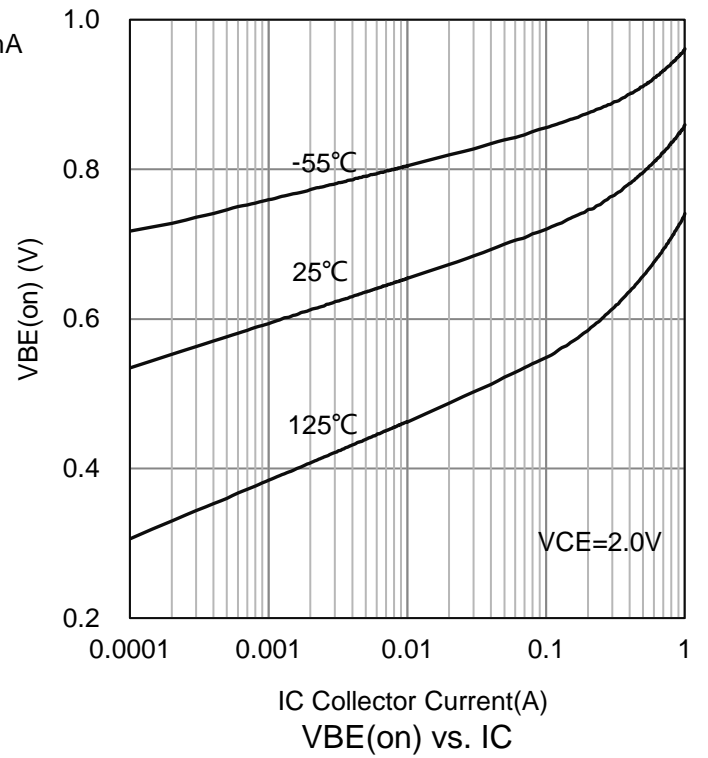
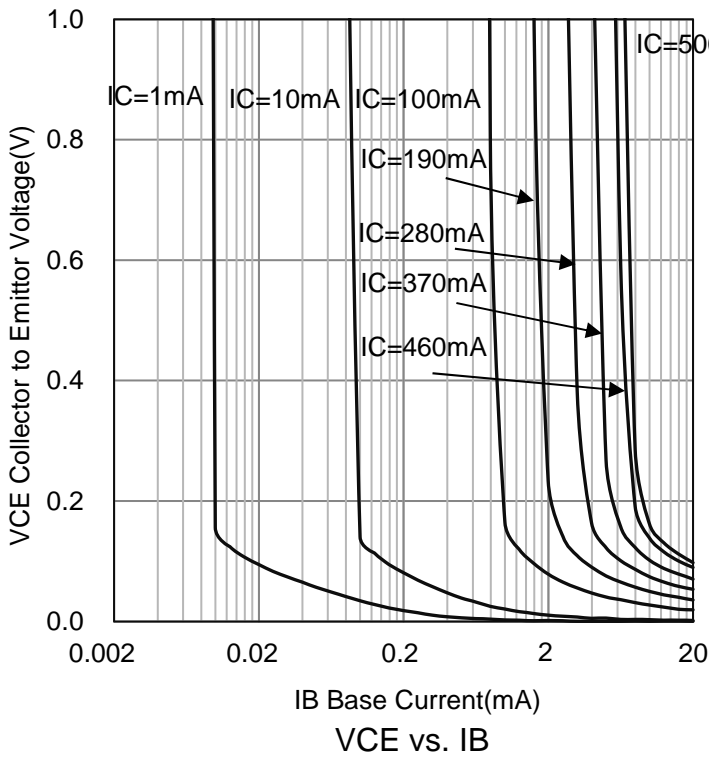
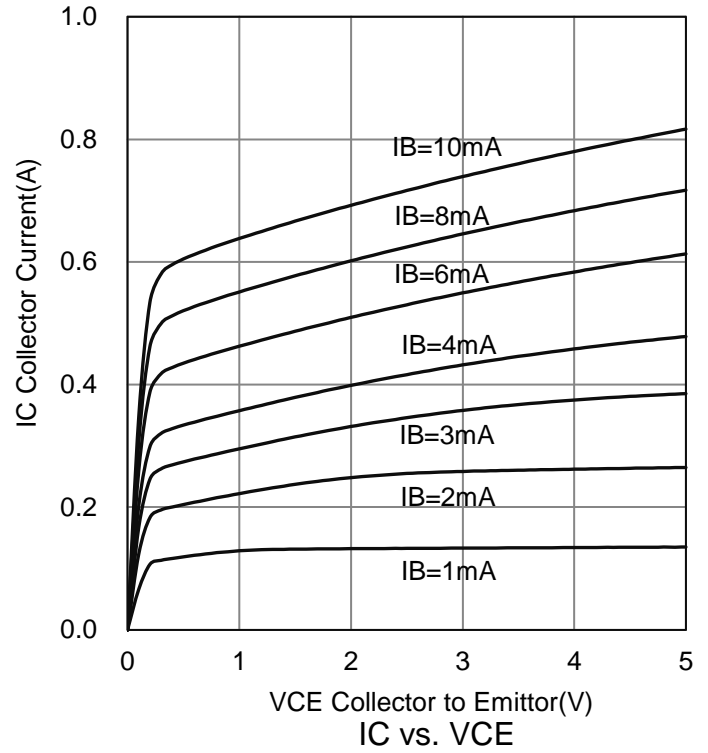
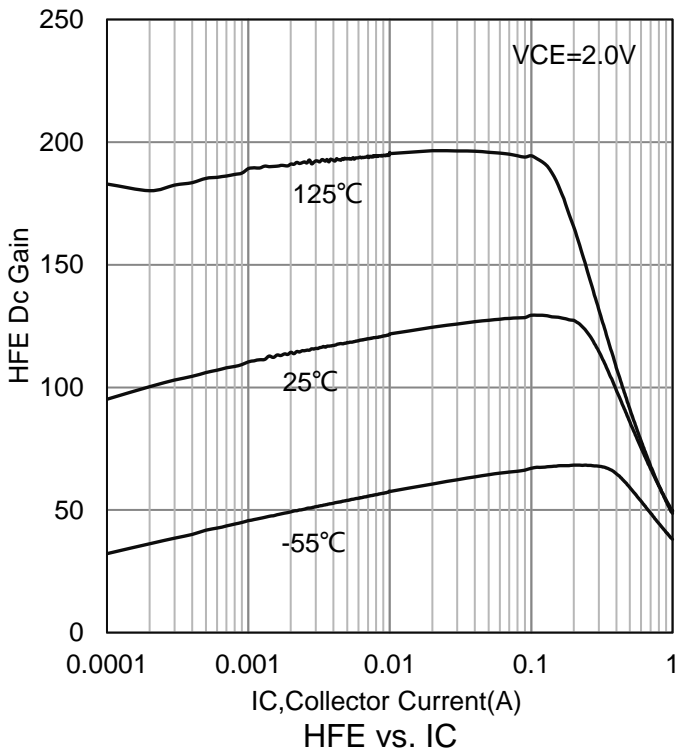
1.PCB Size:30.0mm×25.0mm×1.6mm,FR-4 Board;



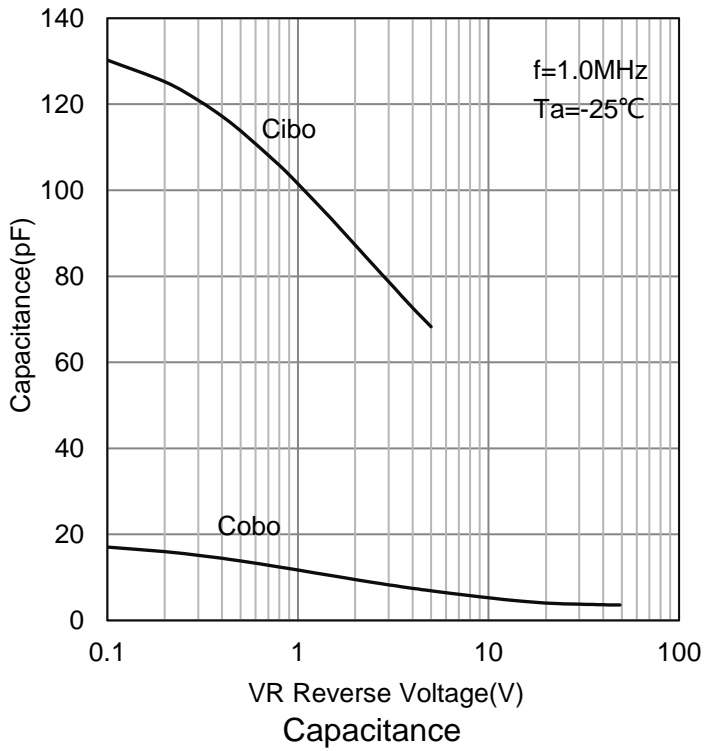
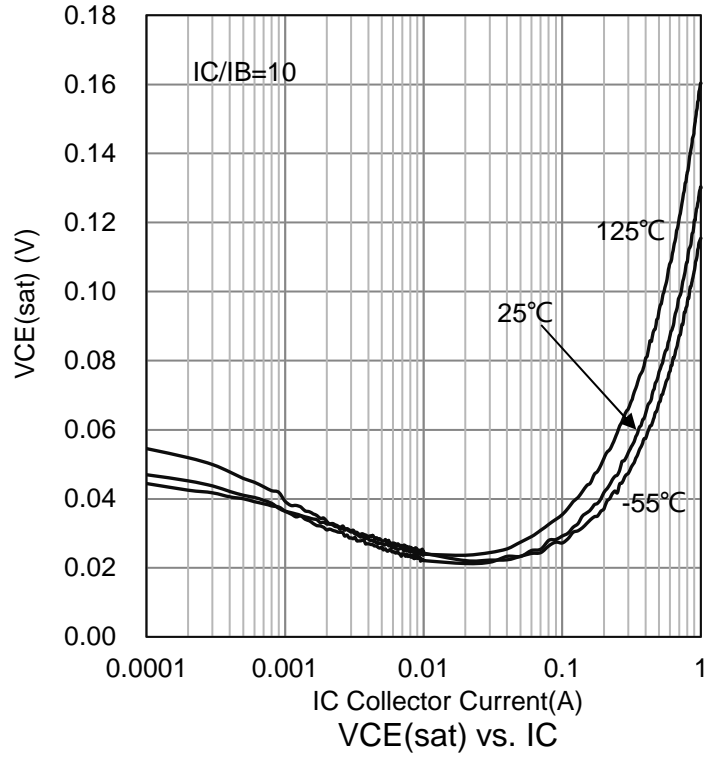
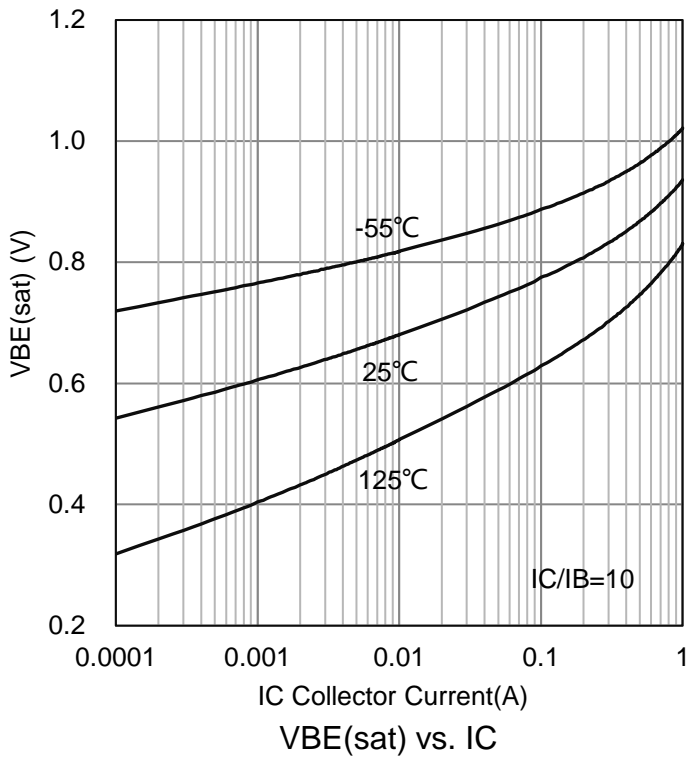
**6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)**

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector–Emitter Breakdown Voltage (IC = 1 mA, IB = 0)	VBR(CEO)	80	-	-	V
Collector–Base Breakdown Voltage (IC = 100 μA, IE = 0)	VBR(CBO)	100	-	-	V
Emitter–Base Breakdown Voltage (IE = 100 μA, IC = 0)	VBR(EBO)	5	-	-	V
Collector Cutoff Current (VCB = 30 V, IE = 0 A) (VCB = 30 V, IE = 0 A, Tj = 150°C)	ICBO	-	-	100 10	nA μA
Emitter Cut-off Current (VEB = 5V, IC = 0)	IEBO	-	-	100	nA
Collector-Emitter cutoff Current (VCE = 80V, IB = 0)	ICEO	-	-	10	μA
DC Current Gain (VCE = 2 V, IC = 5 mA) (VCE = 2 V, IC = 150 mA) (VCE = 2 V, IC = 500 mA)	HFE	63 100 45	- - -	- 250 -	
Collector–Emitter Saturation Voltage (IC = 500 mA, IB = 50 mA)	VCE(sat)	-	-	0.5	V
Base-Emitter voltage (VCE = 2 V, IC = 500 mA)	VBE	-	-	1	V
Transition Frequency (VCE = 5 V, IC = 50 mA, f = 100 MHz)	fT	100	180	-	MHz
Collector Capacitance (VCB = 10 V, IE = ie = 0 A, f = 1 MHz)	Cc	-	6	-	pF

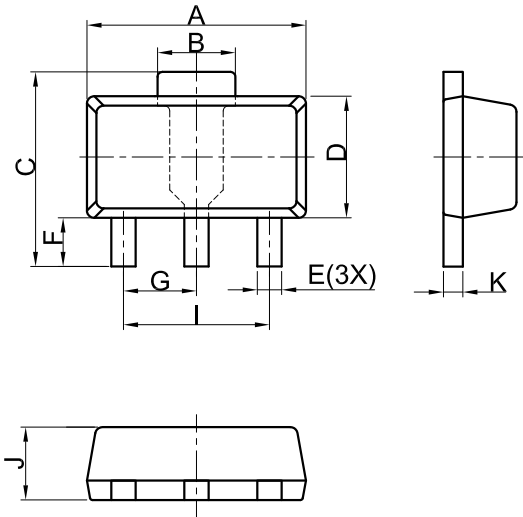
**7.ELECTRICAL CHARACTERISTICS CURVES**



7.ELECTRICAL CHARACTERISTICS CURVES(Con.)



### 8.OUTLINE AND DIMENSIONS

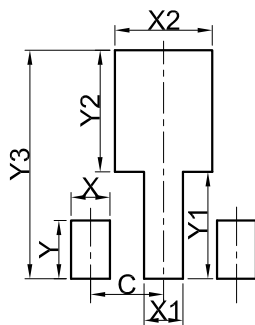


SOT89			
DIM	MIN	NOR	MAX
A	4.30	4.50	4.70
B	1.40	1.60	1.80
C	3.90	4.00	4.25
D	2.30	2.50	2.70
E	0.40	0.50	0.58
F	0.90	1.00	1.20
G	1.50 BSC		
I	3.00 BSC		
J	1.40	1.50	1.60
K	0.34	0.40	0.50
All Dimensions in mm			

#### 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.

### 9.SOLDERING FOOTPRINT



SOT89	
DIM	(mm)
X	0.80
Y	1.20
X1	0.80
Y1	2.20
X2	2.00
Y2	2.50
C	1.50
Y3	4.70

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