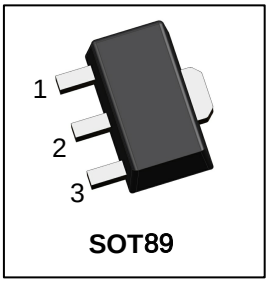
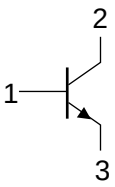
LBTN180Y3T1G
S-LBTN180Y3T1G

NPN power transistors



SOT89



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 = 25ºC)

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

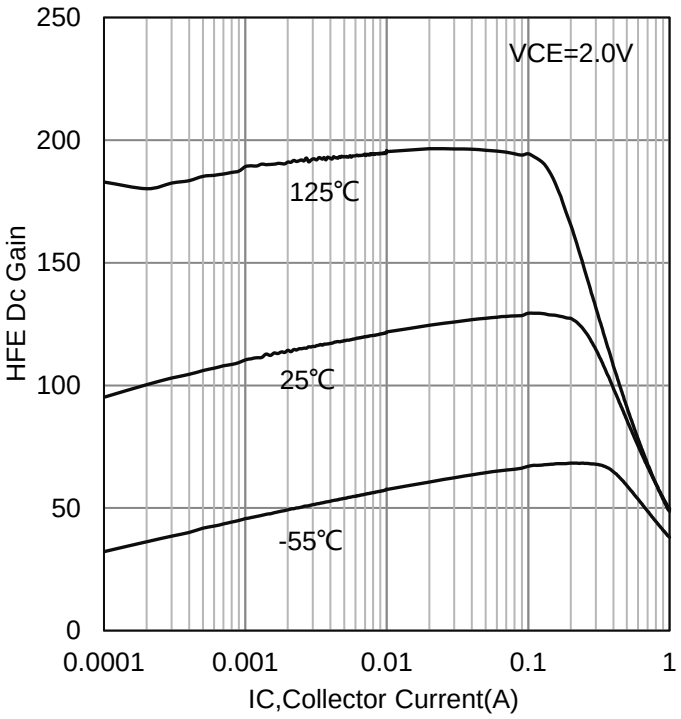
Parameter	Symbol	Limits	Unit
Total Device Dissipation, FR−4 Board (Note 1) @ TA = 25ºC Derate above 25ºC	PD	550 4.4	mW mW/ºC
Thermal Resistance, Junction–to–Ambient Junction–to–Case	 RΘJA RΘJC	 225 50	 ºC/W ºC/W
Junction and Storage temperature	TJ,Tstg	−65~+150	° C

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

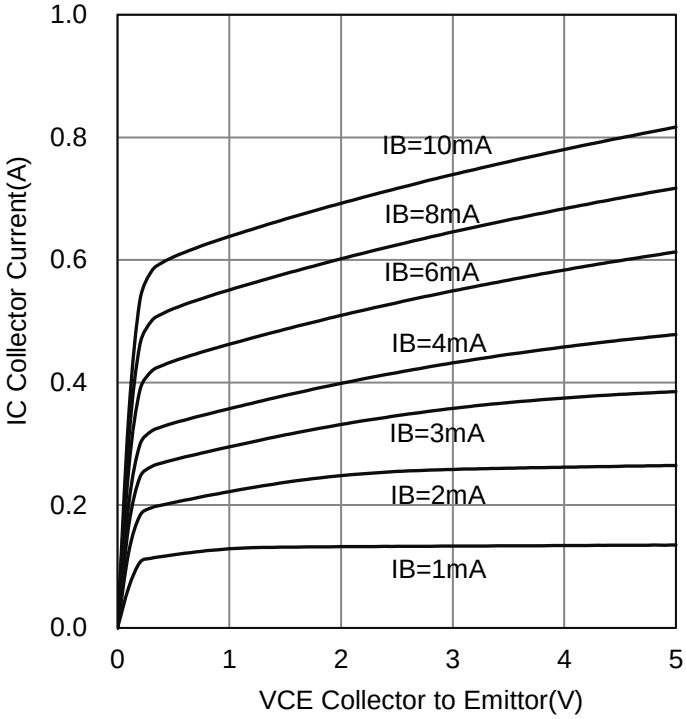
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

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℃)	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

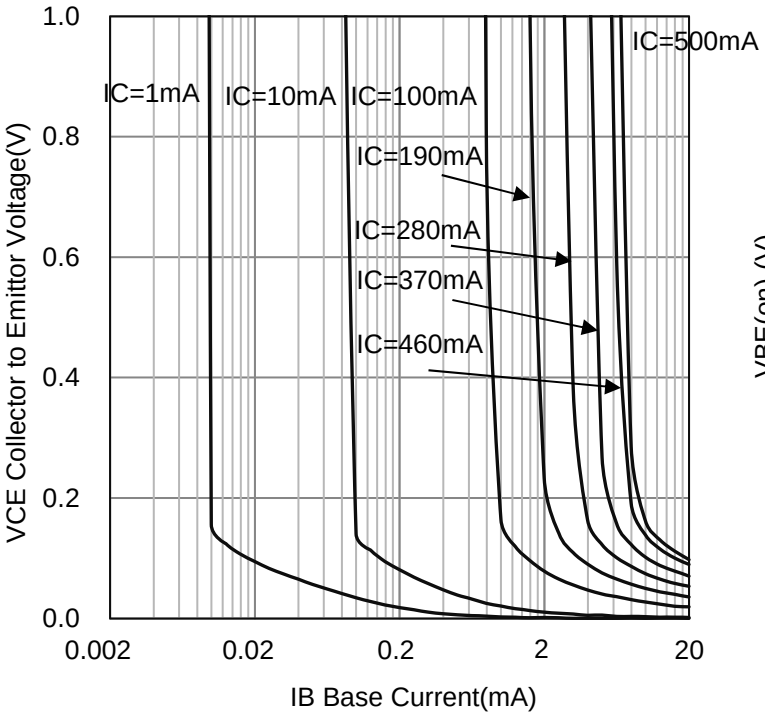
7.ELECTRICAL CHARACTERISTICS CURVES



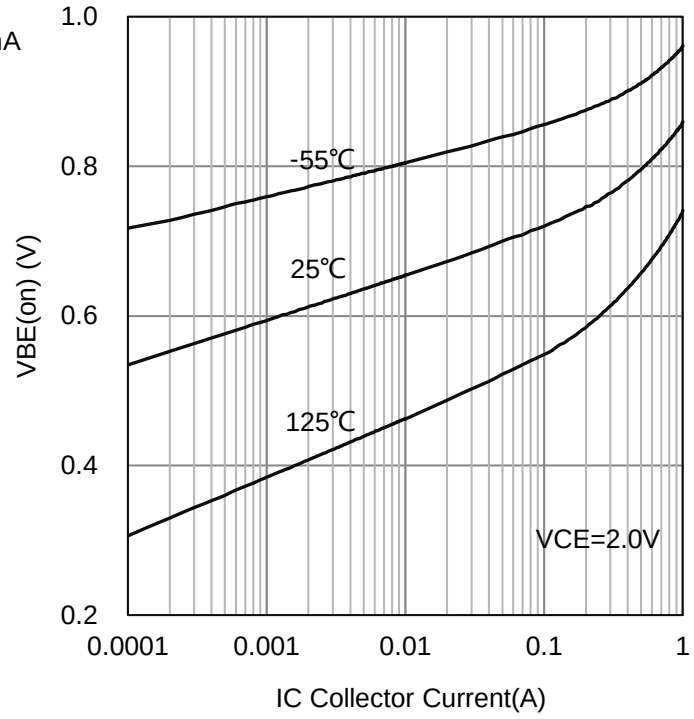
HFE vs. IC



IC vs. VCE

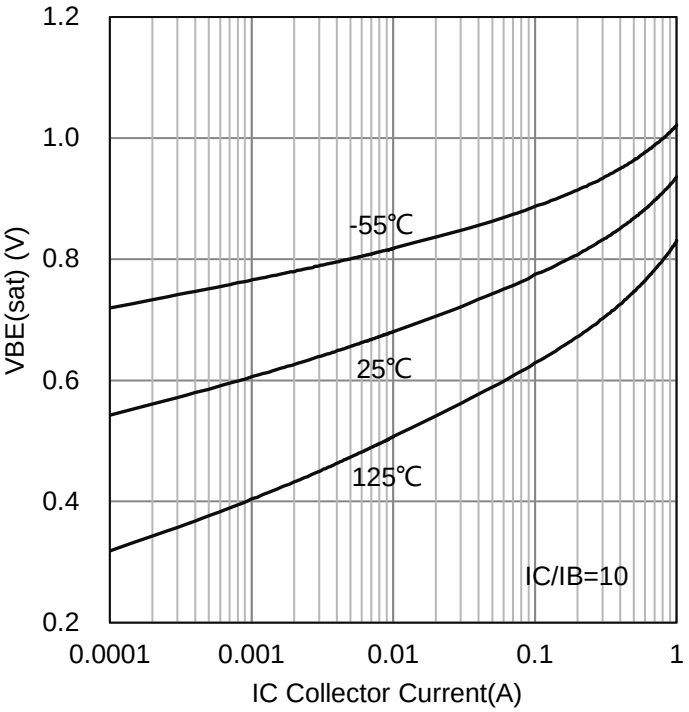


VCE vs. IB

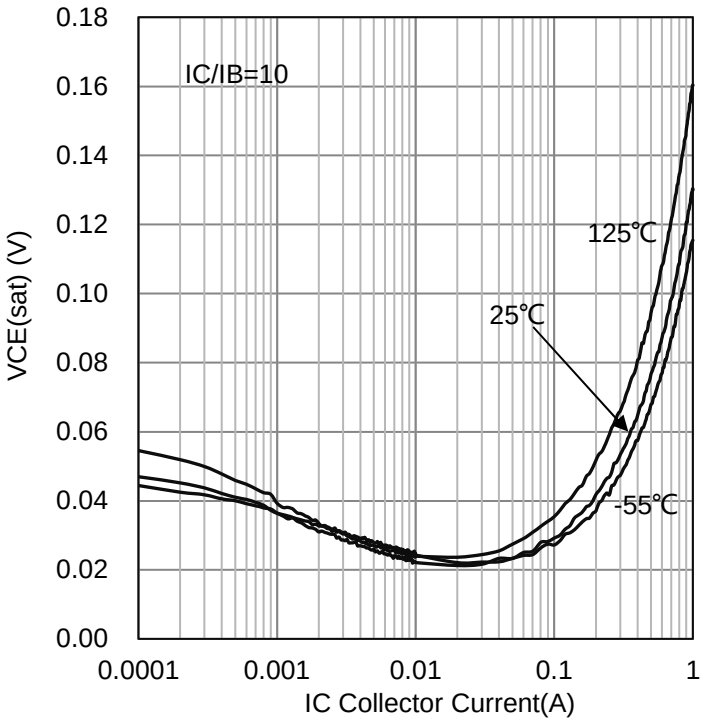


VBE(on) vs. IC

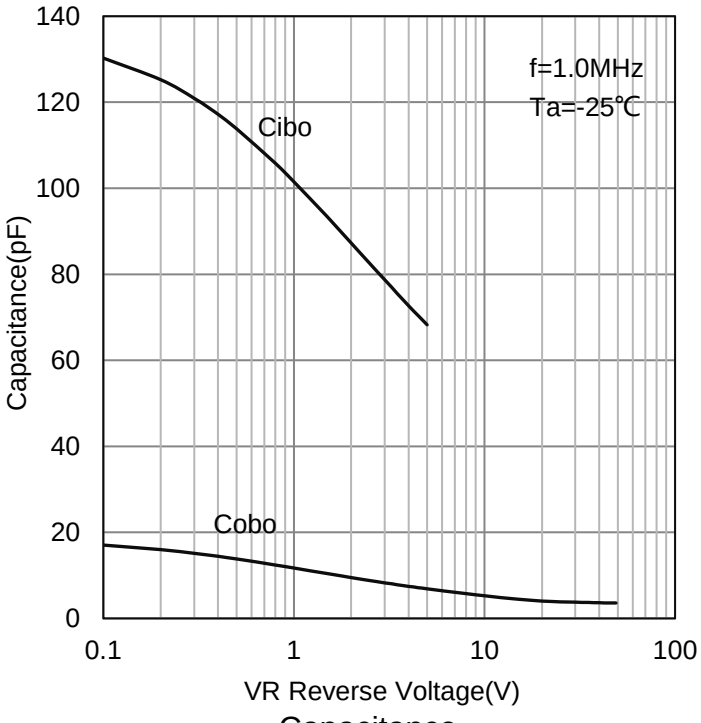
7.ELECTRICAL CHARACTERISTICS CURVES(Con.)



VBE(sat) vs. IC

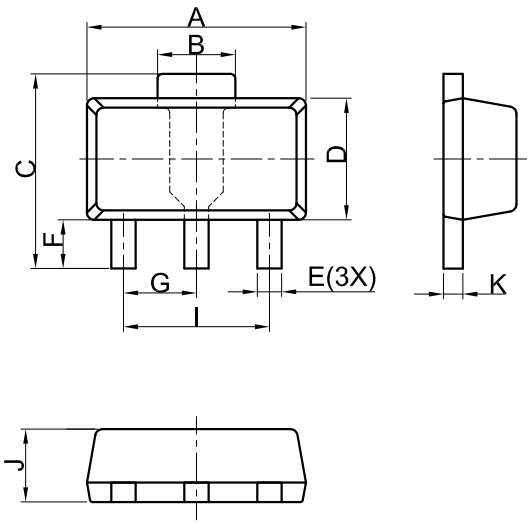


VCE(sat) vs. IC



Capacitance

8.OUTLINE AND DIMENSIONS

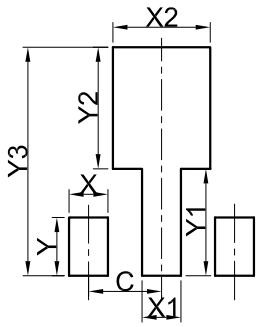


SOT89			
DIM	MIN	NOR	MAX
A	4.30	4.50	4.70
B	1.40	1.60	1.80
C	3.90	4.00	4.25
D	2.30	2.50	2.70
E	0.40	0.50	0.58
F	0.90	1.00	1.20
G	1.50 BSC		
I	3.00 BSC		
J	1.40	1.50	1.60
K	0.34	0.40	0.50
All Dimensions in mm			

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

DISCLAIMER

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