

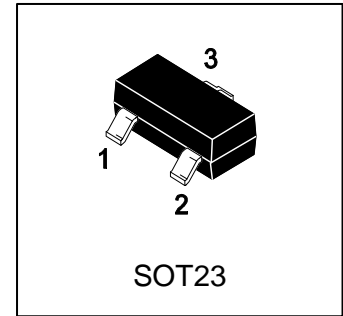
LMBT5401LT1G

S-LMBT5401LT1G

PNP High Voltage Transistor

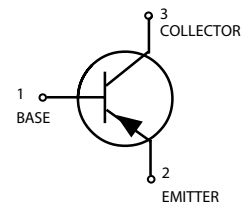
1. FEATURES

- 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
LMBT5401LT1G	2L	3000/Tape&Reel
LMBT5401LT3G	2L	10000/Tape&Reel



3. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector-Emitter Voltage	V _{CEO}	-150	V
Collector-Base voltage	V _{CBO}	-160	V
Emitter-Base Voltage	V _{EBO}	-5	V
Collector current — Continuous	I _C	-500	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, Junction-to-Ambient	R _{θJA}	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, Junction-to-Ambient	R _{θJA}	417	°C/W
Junction and Storage temperature	T _J , T _{stg}	-55~+150	°C

1. FR-5 = 1.0×0.75×0.062 in.

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

5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)
OFF CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown Voltage (IC = -1.0mA, IB=0)	V(BR)CEO	-150	-	-	V
Collector-Base Breakdown voltage (IC = -100μA, IE=0)	V(BR)CBO	-160	-	-	V
Emitter-Base Breakdown Voltage (IE = -10μA, IC=0)	V(BR)EBO	-5	-	-	V
Collector Cutoff Current (VCB = -120 V, IE=0) (VCB = -120 V, IE=0, TA=100°C)	ICBO	-	-	-50	nA μA
Emitter-Base cut-off current (IC = 0, VEB=-5.0V)	IEBO	-	-	-50	nA
Collector-Emitter cutoff Current (VCE = -150V, IB=0)	ICEO	-	-	-10	μA

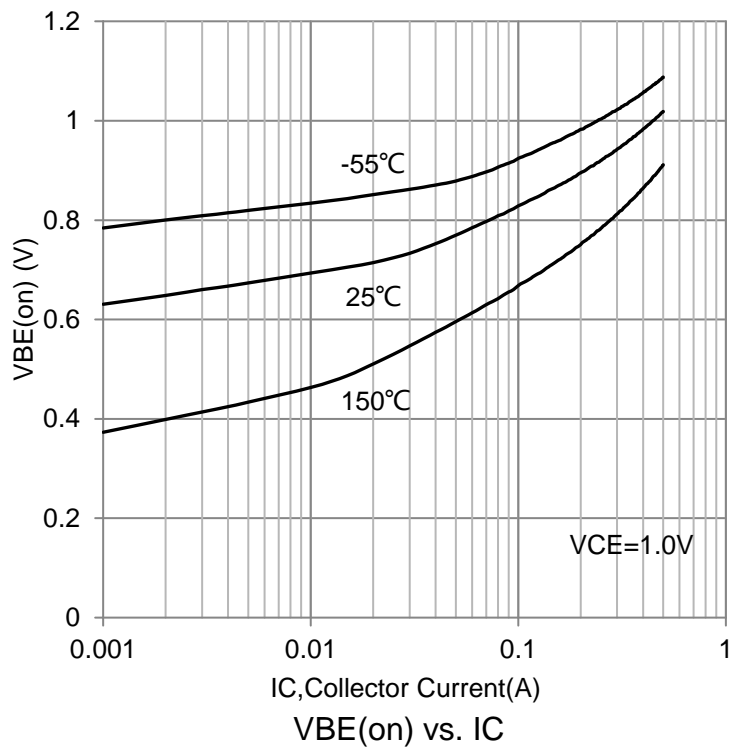
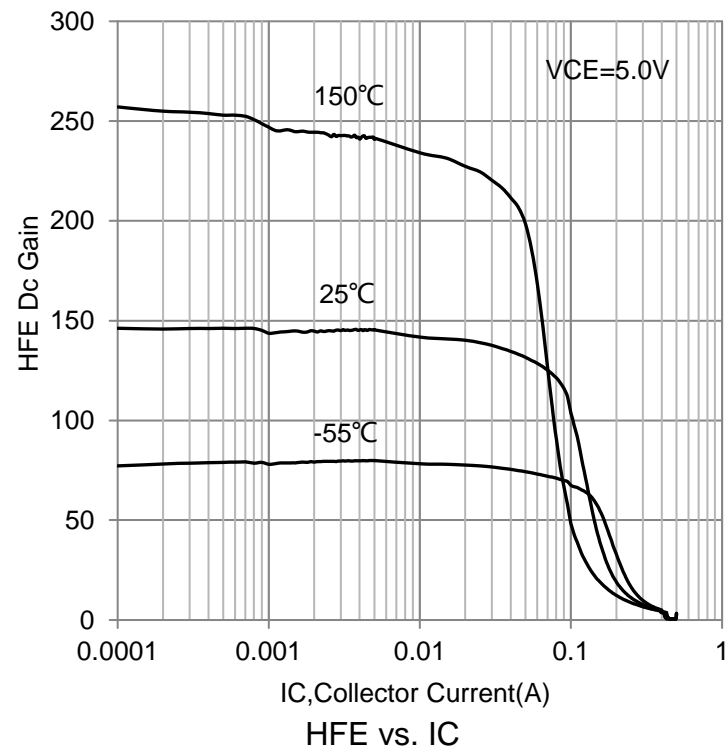
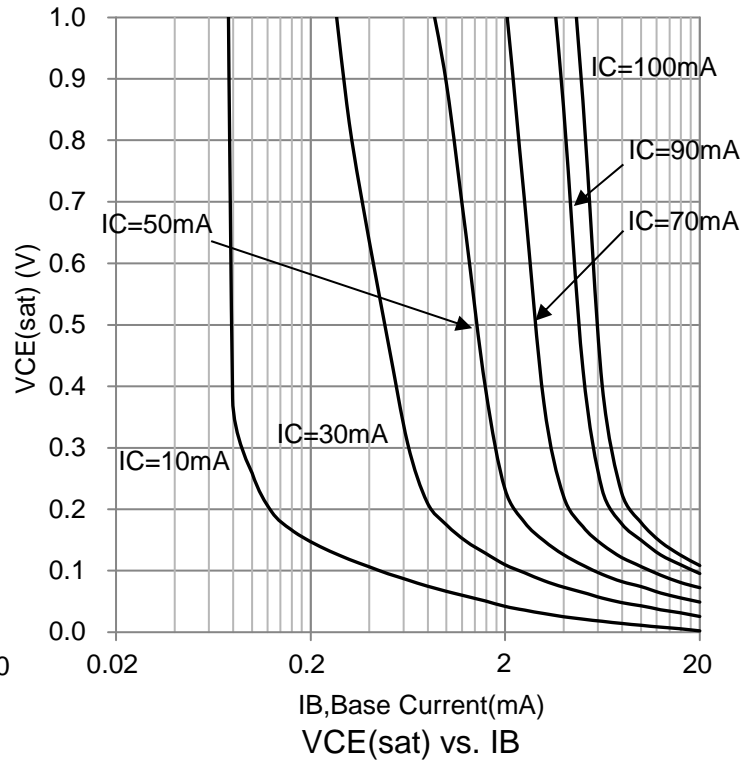
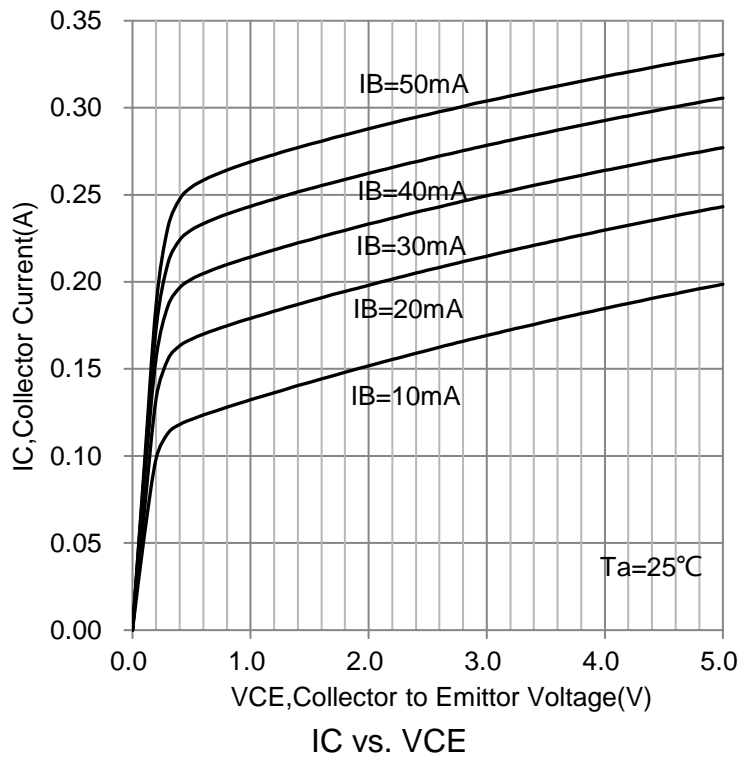
ON CHARACTERISTICS

DC Current Gain (IC = -1.0mA, VCE = -5.0 V) (IC = -10 mA, VCE = -5.0 V) (IC = -50 mA, VCE = -5.0 V)	HFE	50 60 50	- - -	- 240 -	
Collector-Emitter Saturation Voltage (IC = -10 mA, IB = -1.0 mA) (IC = -50 mA, IB = -5.0 mA)	VCE(S)	- -	- -	-0.2 -0.5	V
Base-Emitter Saturation Voltage (IC = -10 mA, IB = -1.0 mA) (IC = -50 mA, IB = -5.0 mA)	VBE(S)	- -	- -	-1 -1	V

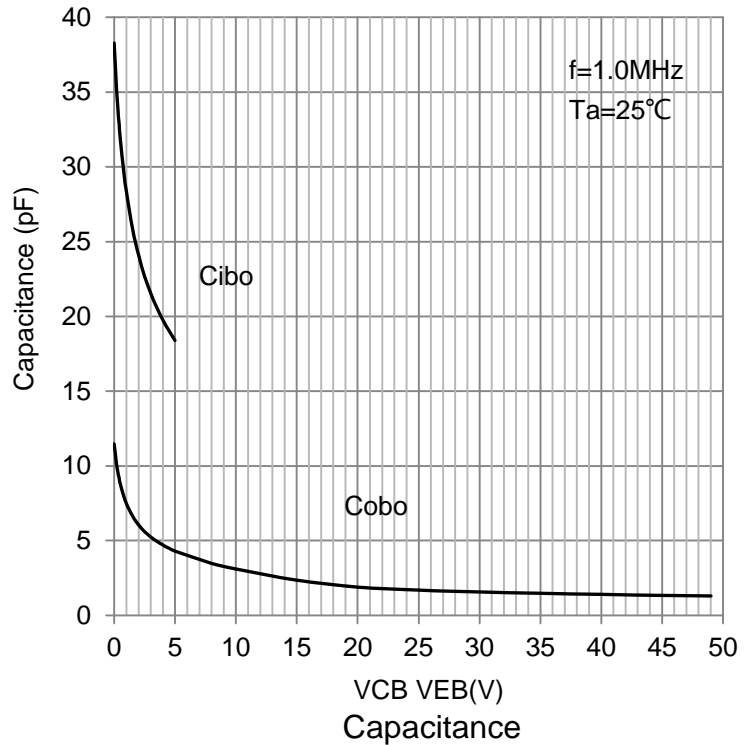
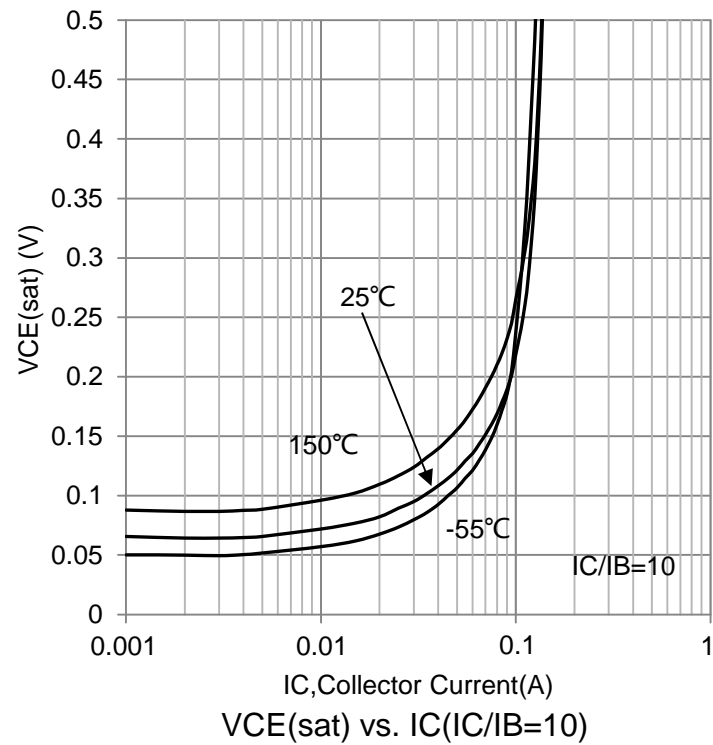
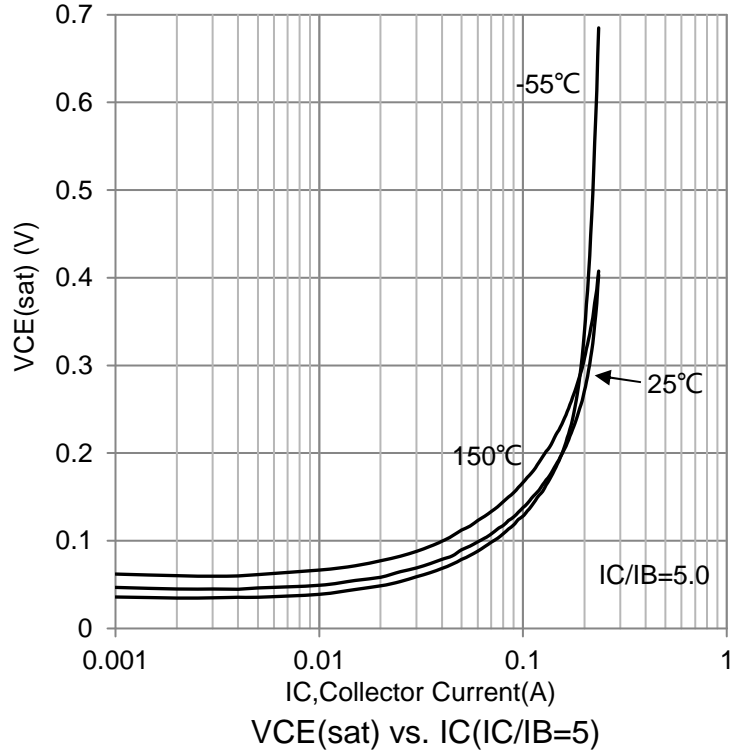
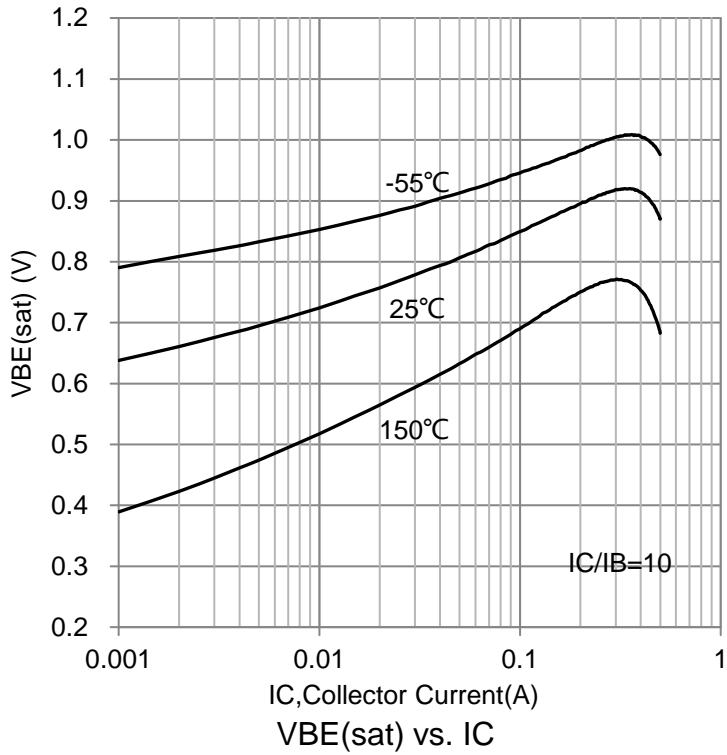
SMALL-SIGNAL CHARACTERISTICS

Current-Gain — Bandwidth Product (IC = -10 mA, VCE = -10 V, f = 100 MHz)	fT	100	-	300	MHz
Output Capacitance (VCB = -10 V, IE = 0, f = 1.0 MHz)	Cobo	-	-	6	PF
Small-Signal Current Gain (IC = -1.0mA, VCE = -10V, f = 1.0 kHz)	hfe	40	-	200	
Noise Figure (IC = -200 μA, VCE = -5.0 V, Rs=10Ω, f=1.0 kHz)	NF	-	-	8	dB

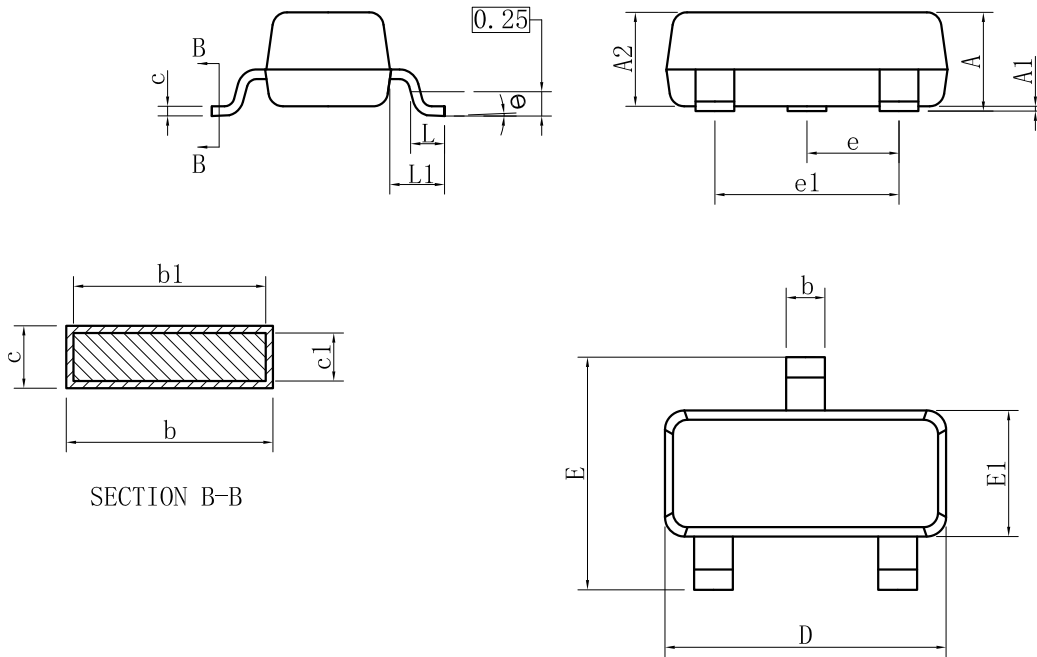
6.ELECTRICAL CHARACTERISTICS CURVES



6.ELECTRICAL CHARACTERISTICS CURVES(Con.)



7.OUTLINE AND DIMENSIONS

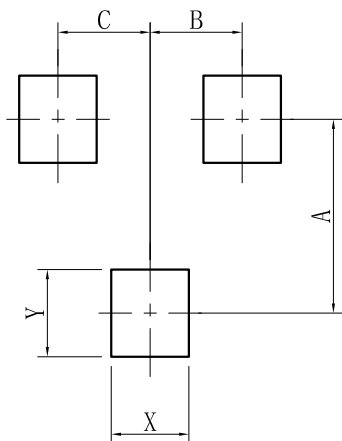


SOT23			
DIM	MIN	NOR	MAX
A	0.89	-	1.12
A1	0.01	-	0.10
A2	0.88	0.95	1.02
b	0.30	-	0.50
b1	0.30	0.40	0.45
c	0.08	-	0.20
c1	0.08	0.10	0.16
D	2.80	2.90	3.04
E	2.10	-	2.64
E1	1.20	1.30	1.40
e	0.95BSC		
e1	1.90BSC		
L	0.40	0.46	0.60
L1	0.54REF		
θ	0°	-	8°
All Dimensions in mm			

GENERAL NOTES

1. Top package surface finish Ra0.4±0.2um
2. Bottom package surface finish Ra0.7±0.2um
3. Side package surface finish Ra0.4±0.2um

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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