

General Purpose Transistors PNP Silicon

●FEATURES

- 1) We declare that the material of product compliance with RoHS requirements.
- 2) S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

●DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LMBT3906LT1G	2A	3000/Tape&Reel
LMBT3906LT3G	2A	10000/Tape&Reel

●MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector–Emitter Voltage	V _{CEO}	–40	Vdc
Collector–Base Voltage	V _{CBO}	–40	Vdc
Emitter–Base Voltage	V _{EB0}	–5	Vdc
Collector Current — Continuous	I _C	–200	mAdc

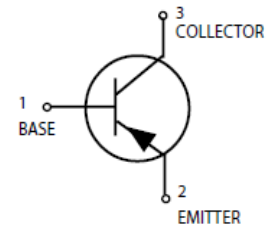
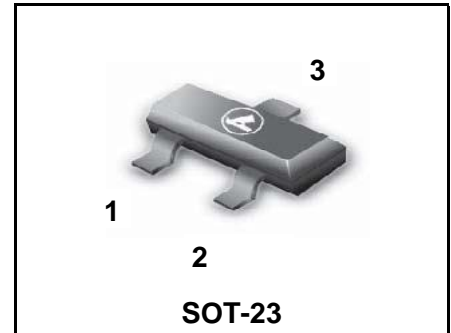
●THERMAL CHARACTERISTICS

Total Device Dissipation, FR–5 Board (Note 1) @ T _A = 25°C Derate above 25°C	P _D	225	mW
		1.8	mW/°C
Thermal Resistance, Junction–to–Ambient(Note 1)	R _{θJA}	556	°C/W
Total Device Dissipation, Alumina Substrate (Note 2) @ T _A = 25°C Derate above 25°C	P _D	300	mW
		2.4	mW/°C
Thermal Resistance, Junction–to–Ambient(Note 2)	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 = 0.4×0.3×0.024 in. 99.5% alumina.

LMBT3906LT1G S-LMBT3906LT1G



LMBT3906LT1G,S-LMBT3906LT1G
● ELECTRICAL CHARACTERISTICS (Ta= 25°C)
OFF CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector–Emitter Breakdown Voltage (I _C = -1.0 mA _{dc} , I _B = 0)	V _{BR(CEO)}	-40	–	–	V
Collector–Base Breakdown Voltage (I _C = -10 μA _{dc} , I _E = 0)	V _{BR(CBO)}	-40	–	–	V
Emitter–Base Breakdown Voltage (I _E = -10 μA _{dc} , I _C = 0)	V _{BR(EBO)}	-5	–	–	V
Collector Cutoff Current (V _{CE} = -30 V _{dc} , V _{EB} = -3.0V _{dc})	I _{CEX}	–	–	-50	nA
Base Cutoff Current (V _{CE} = -30 V _{dc} , V _{EB} = -3.0V _{dc})	I _{BL}	–	–	-50	nA

ON CHARACTERISTICS (Note 1.)

DC Current Gain (I _C = -0.1 mA _{dc} , V _{CE} = -1.0 V _{dc}) (I _C = -1.0 mA _{dc} , V _{CE} = -1.0 V _{dc}) (I _C = -10 mA _{dc} , V _{CE} = -1.0 V _{dc}) (I _C = -50 mA _{dc} , V _{CE} = -1.0 V _{dc}) (I _C = -100 mA _{dc} , V _{CE} = -1.0 V _{dc})	h _{FE}	60 80 100 60 30	– – – – –	– – 300 – –	
Collector–Emitter Saturation Voltage(3) (I _C = -10 mA _{dc} , I _B = -1.0 mA _{dc}) (I _C = -50mA _{dc} , I _B = -5.0 mA _{dc})	V _{CE(sat)}	– –	– –	-0.25 -0.4	V
Base–Emitter Saturation Voltage (I _C = -10 mA _{dc} , I _B = -1.0 mA _{dc}) (I _C = -50mA _{dc} , I _B = -5.0 mA _{dc})	V _{BE(sat)}	-0.65 –	– –	-0.85 -0.95	V

SMALL–SIGNAL CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Current–Gain — Bandwidth Product (I _C = -10mA _{dc} , V _{CE} = -20V _{dc} , f = 100MHz)	f _T	250	–	–	MHz
Output Capacitance (V _{CB} = -5.0 V _{dc} , I _E = 0, f = 1.0 MHz)	C _{obo}	–	–	4.5	pF
Input Capacitance (V _{EB} = -0.5 V _{dc} , I _C = 0, f = 1.0 MHz)	C _{ibo}	–	–	10	pF
Input Impedance (V _{CE} = -10 V _{dc} , I _C = -1.0 mA _{dc} , f = 1.0 kHz)	h _{ie}	2	–	12	k Ω
Voltage Feedback Ratio (V _{CE} = -10 V _{dc} , I _C = -1.0 mA _{dc} , f = 1.0 kHz)	h _{re}	0.1	–	10	X 10 ⁻⁴
Small–Signal Current Gain (V _{CE} = -10 V _{dc} , I _C = -1.0 mA _{dc} , f = 1.0 kHz)	h _{fe}	100	–	400	
Output Admittance (V _{CE} = -10 V _{dc} , I _C = -1.0 mA _{dc} , f = 1.0 kHz)	h _{oe}	3	–	60	μmhos
Noise Figure (V _{CE} = -5V, I _C = -100μA, R _S = 1.0kΩ, f = 1.0kHz)	NF	–	–	4	dB

3. Pulse Test: Pulse Width <300 μs, Duty Cycle <2.0%.

LMBT3906LT1G,S-LMBT3906LT1G

● ELECTRICAL CHARACTERISTICS (Ta= 25°C)
SWITCHING CHARACTERISTICS

Delay Time	(V _{CC} = -3.0 Vdc, V _{BE} = 0.5 Vdc, I _C = -10 mAdc, I _{B1} = -1.0 mAdc)	t _d	-	-	35	ns
Rise Time		t _r	-	-	35	
Storage Time	(V _{CC} = -3.0 Vdc, I _C = -10 mAdc, I _{B1} = I _{B2} = -1.0 mAdc)	t _s	-	-	225	
Fall Time		t _f	-	-	75	

Electrical Characteristics Curves

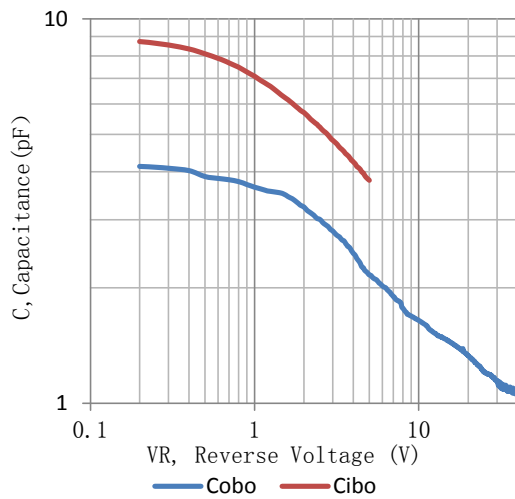


Figure 1. Capacitance

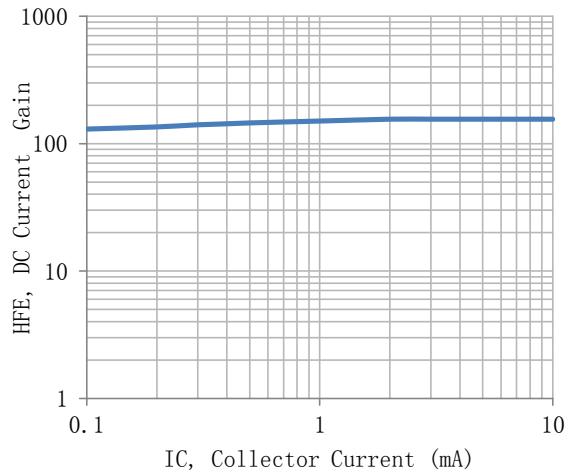


Figure 2. Current Gain

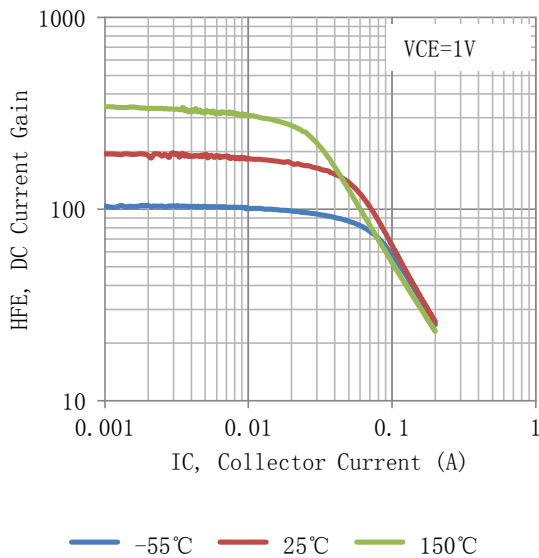


Figure 3. DC Current Gain

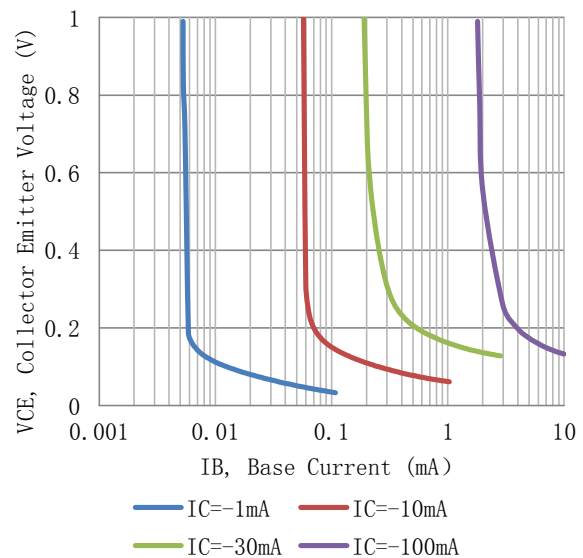


Figure 4. Collector Saturation Region

LMBT3906LT1G,S-LMBT3906LT1G

Electrical Characteristics Curves

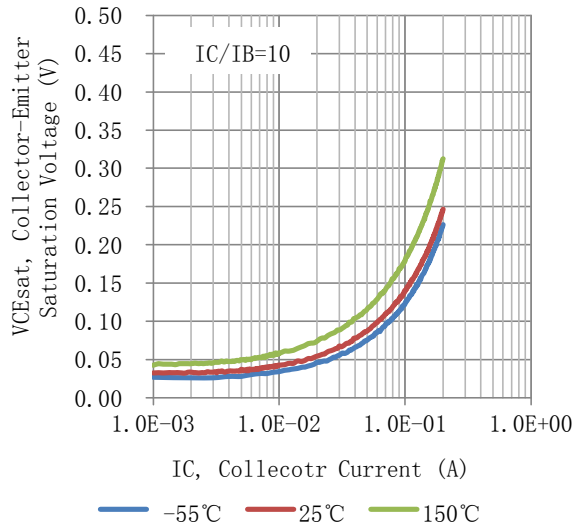


Figure 5. Collector Emitter Saturation Voltage vs. Collector Current

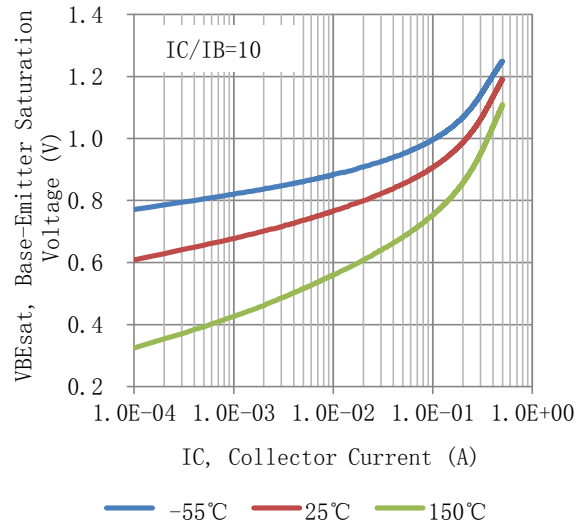


Figure 6. Base Emitter Saturation Voltage vs. Collector Current

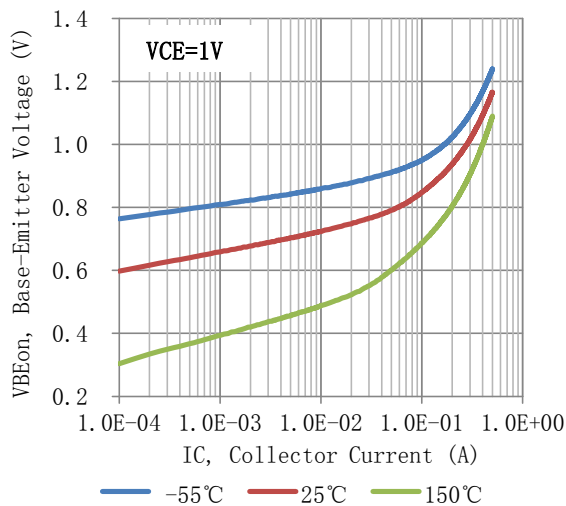
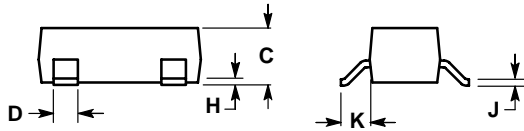
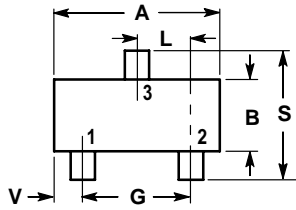


Figure 7. Base Emitter Voltage vs. Collector Current

LMBT3906LT1G,S-LMBT3906LT1G

SOT-23

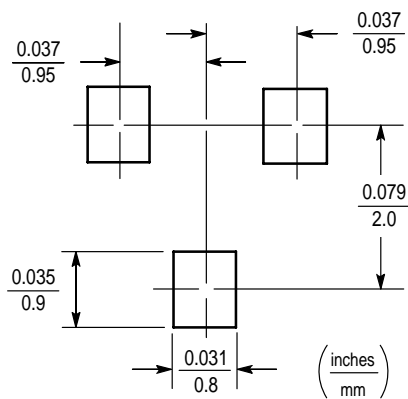


NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

- PIN 1. BASE
 2. EMITTER
 3. COLLECTOR



单击下面可查看定价，库存，交付和生命周期等信息

[>>LRC\(乐山无线电\)](#)