General Purpose Transistor

PNP Silicon

LMBT2907AWT1G
S-LMBT2907AWT1G

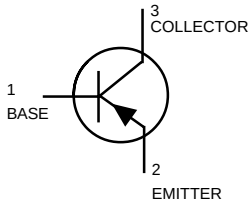
FEATURE

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

CASE 419–02 , STYLE 3
SOT–323 / SC – 70

ORDERING INFORMATION

Device	Marking	Shipping
LMBT2907AWT1G S-LMBT2907AWT1G	20	3000/Tape&Reel
LMBT2907AWT3G S-LMBT2907AWT3G	20	10000/Tape&Reel



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector–Emitter Voltage	V_{CEO}	– 60	Vdc
Collector–Base Voltage	V_{CBO}	– 60	Vdc
Emitter–Base Voltage	V_{EBO}	– 5.0	Vdc
Collector Current — Continuous	I_C	– 600	mAdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR– 5 Board, (1) T_A = 25°C	P_D	150	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	833	°C/W
Junction and Storage Temperature	T_J , T_{stg}	–55 to +150	°C

DEVICE MARKING

LMBT2907AWT1G =20

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector–Emitter Breakdown Voltage(2) (I_C = – 10 mAdc, I_B = 0)	$V_{(BR)CEO}$	–60	—	Vdc
Collector–Emitter Breakdown Voltage (I_C = – 10 μ Adc, I_E = 0)	$V_{(BR)CBO}$	–60	—	Vdc
Emitter–Base Breakdown Voltage (I_E = –10μAdc, I_C = 0)	$V_{(BR)EBO}$	–5.0	—	Vdc
Base Cutoff Current (V_{CE} = –30Vdc, $V_{EB(OFF)}$ = –0.5Vdc)	I_{BL}	—	– 50	nAdc
Collector Cutoff Current (V_{CE} = –30Vdc, $V_{EB(OFF)}$ = –0.5Vdc)	I_{CEX}	—	– 50	nAdc

1. FR–5 = 1.0 x 0.75 x 0.062 in.
2. Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.

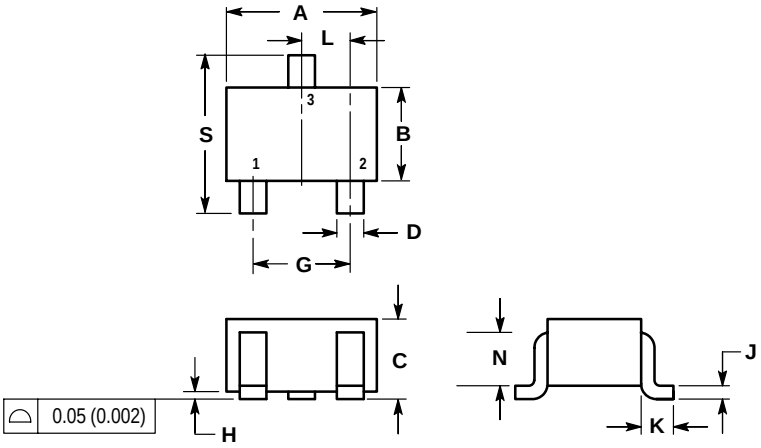
ELECTRICAL CHARACTERISTICS (T A = 25°C unless otherwise noted) (Continued)

Characteristic	Symbol	Min	Max	Unit
ON CHARACTERISTICS				
DC Current Gain(1)	h_{FE}			—
(I_C =–0.1 mAdc, V_{CE} =–10 Vdc)		75	—	
(I_C = –1.0 mAdc, V_{CE} = –10 Vdc)		100	—	
(I_C = –10 mAdc, V_{CE} = –10 Vdc)		100	—	
(I_C = –150mAdc, V_{CE} = –10Vdc)		100	300	
(I_C = –500mAdc, V_{CE} =–10 Vdc)		50	—	
Collector–Emitter Saturation Voltage(1)	$V_{CE(sat)}$			Vdc
(I_C = –150 mAdc, I_B = –15 mAdc)		—	–0.4	
(I_C = –500 mAdc, I_B = –50 mAdc)		—	–1.6	
Base–Emitter Saturation Voltage(1)	$V_{BE(sat)}$			Vdc
(I_C = –150 mAdc, I_B = –15mAdc)		—	–1.3	
(I_C = –500mAdc, I_B = –50mAdc)		—	–2.6	
SMALL–SIGNAL CHARACTERISTICS				
Current–Gain — Bandwidth Product(4) (I_C = –50mAdc, V_{CE}= 20Vdc, f = 100MHz)	f_T	200	—	MHz
Output Capacitance (V_{CB} = –10 Vdc, I_E = 0, f = 1.0 MHz)	C_{obo}	—	8.0	pF
Input Capacitance (V_{EB} = –2.0Vdc, I_C = 0, f = 1.0 MHz)	C_{ibo}	—	30	pF
SWITCHING CHARACTERISTICS				
Turn–On Time	(V_{CC} = –30 Vdc,	t_{on}	—	45	
Delay Time	I_C = –150 mAdc, I_{B1} = –15 mAdc)	t_d	—	10	ns
Rise Time		t_r	—	40	
Storage Time	(V_{CC} = –6.0 Vdc,	t_s	—	225	
Fall Time	I_C = –150 mAdc,I_{B1} = I_{B2} = 15 mAdc)	t_f	—	60	ns
Turn–Off Time		t_{off}	—	280	

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

SC–70 / SOT–323

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



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.032	0.040	0.80	1.00
D	0.012	0.016	0.30	0.40
G	0.047	0.055	1.20	1.40
H	0.000	0.004	0.00	0.10
J	0.004	0.010	0.10	0.25
K	0.017 REF		0.425 REF	
L	0.026 BSC		0.650 BSC	
N	0.028 REF		0.700 REF	
S	0.079	0.095	2.00	2.40