

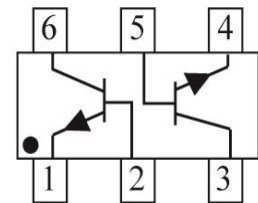
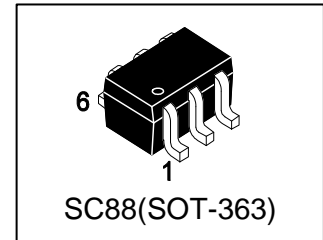
LMBT3904DW1T1G

S-LMBT3904DW1T1G

General Purpose Transistors NPN Silicon

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.
- Low $V_{CE(sat)}$, ≤ 0.4 V
- Simplifies circuit design
- Reduces board space
- Reduces component count
- Available in 8 mm, 7-inch/3,000 unit tape and reel
- h_{FE} , 100–300



2. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LMBT3904DW1T1G	MA	3000/Tape&Reel
LMBT3904DW1T3G	MA	10000/Tape&Reel

3. MAXIMUM RATINGS($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Limits	Unit
Collector–Emitter Voltage	V_{CEO}	40	Vdc
Collector–Base Voltage	V_{CBO}	60	Vdc
Emitter–Base Voltage	V_{EBO}	6	Vdc
Collector Current — Continuous	I_C	200	mAdc

4. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Total Device Dissipation, FR-5 Board (Note 1) @ $T_A = 25^\circ\text{C}$ Derate above 25°C	PD	150 1.2	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction–to–Ambient(Note 1)	$R_{\theta JA}$	833	$^\circ\text{C}/\text{W}$
Junction and Storage temperature	T_J, T_{stg}	$-55 \sim +150$	$^\circ\text{C}$

1. FR-5 = $1.0 \times 0.75 \times 0.062$ in.

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

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector–Emitter Breakdown Voltage (IC = 1.0 mAdc, IB = 0)	VBR(CEO)	40	-	-	V
Collector–Base Breakdown Voltage (IC = 10 µAdc, IE = 0)	VBR(CBO)	60	-	-	V
Emitter–Base Breakdown Voltage (IE = 10 µAdc, IC = 0)	VBR(EBO)	6	-	-	V
Collector Cutoff Current (VCE = 30 Vdc, VEB = 3.0Vdc)	ICEX	-	-	50	nA
Base Cutoff Current (VCE = 30 Vdc, VEB = 3.0Vdc)	IBL	-	-	50	nA

ON CHARACTERISTICS (Note 2.)

DC Current Gain (IC = 0.1 mAdc, VCE = 1.0 Vdc) (IC = 1.0 mAdc, VCE = 1.0 Vdc) (IC = 10 mAdc, VCE = 1.0 Vdc) (IC = 50 mAdc, VCE = 1.0 Vdc) (IC = 100 mAdc, VCE = 1.0 Vdc)	HFE	40 70 100 60 30	- - - - -	- - 300 - -	
Collector–Emitter Saturation Voltage (IC = 10 mAdc, IB = 1.0 mAdc) (IC = 50 mAdc, IB = 5.0 mAdc)	VCE(sat)	- -	- -	0.2 0.3	V
Base–Emitter Saturation Voltage (IC = 10 mAdc, IB = 1.0 mAdc) (IC = 50 mAdc, IB = 5.0 mAdc)	VBE(sat)	0.65 -	- -	0.85 0.95	V

SMALL–SIGNAL CHARACTERISTICS

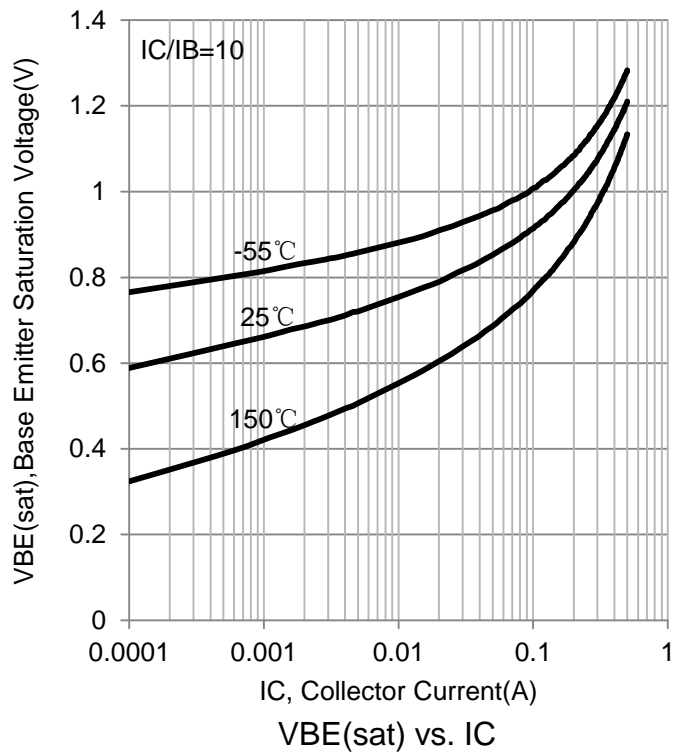
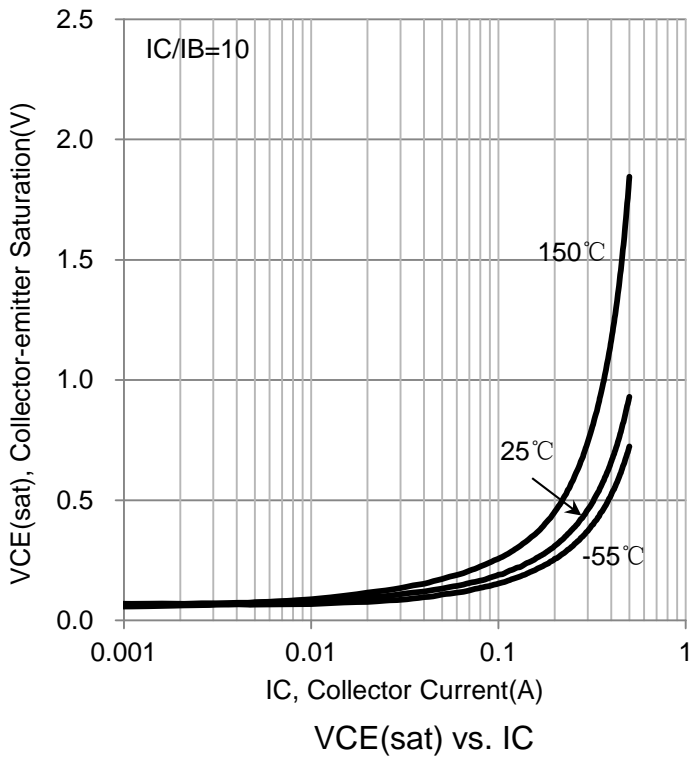
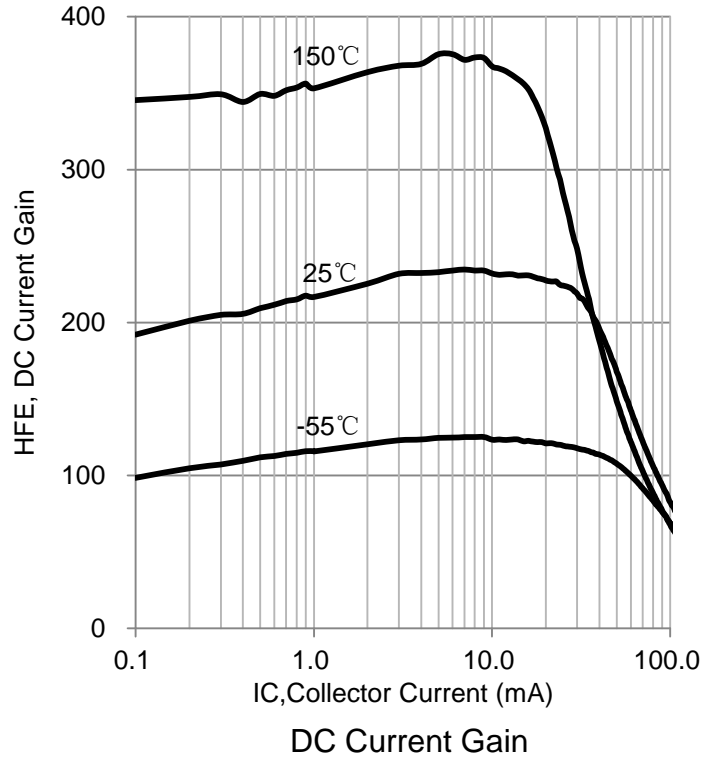
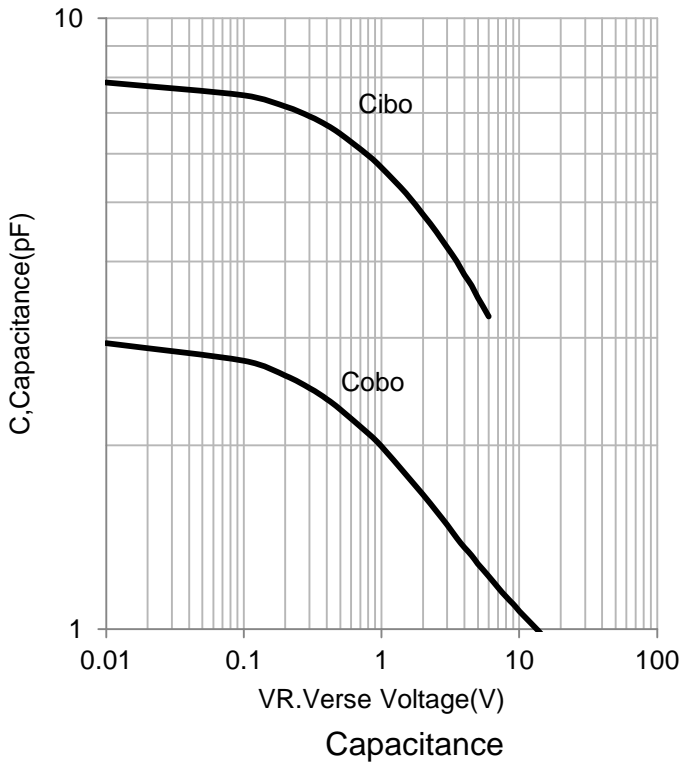
Current–Gain — Bandwidth Product (IC = 10mAdc, VCE= 20Vdc, f = 100MHz)	fT	300	-	-	MHz
Output Capacitance (VCB = 5.0 Vdc, IE = 0, f = 1.0 MHz)	Cobo	-	-	4	pF
Input Capacitance (VEB = 0.5 Vdc, IC = 0, f = 1.0 MHz)	Cibo	-	-	8	pF
Input Impedance (VCE= 10 Vdc, IC = 1.0 mAdc, f = 1.0 kHz)	hie	1	-	10	k Ω
Voltage Feedback Ratio (VCE= 10 Vdc, IC = 1.0 mAdc, f = 1.0 kHz)	hre	0.5	-	8	X 10 ⁻⁴
Small–Signal Current Gain (VCE= 10 Vdc, IC = 1.0 mAdc, f = 1.0 kHz)	hfe	100	-	400	
Output Admittance (VCE= 10 Vdc, IC = 1.0 mAdc, f = 1.0 kHz)	hoe	1	-	40	µmhos
Noise Figure (VCE =5V, IC =100µA, RS =1.0kΩ, f =1.0kHz)	NF	-	-	5	dB

SWITCHING CHARACTERISTICS

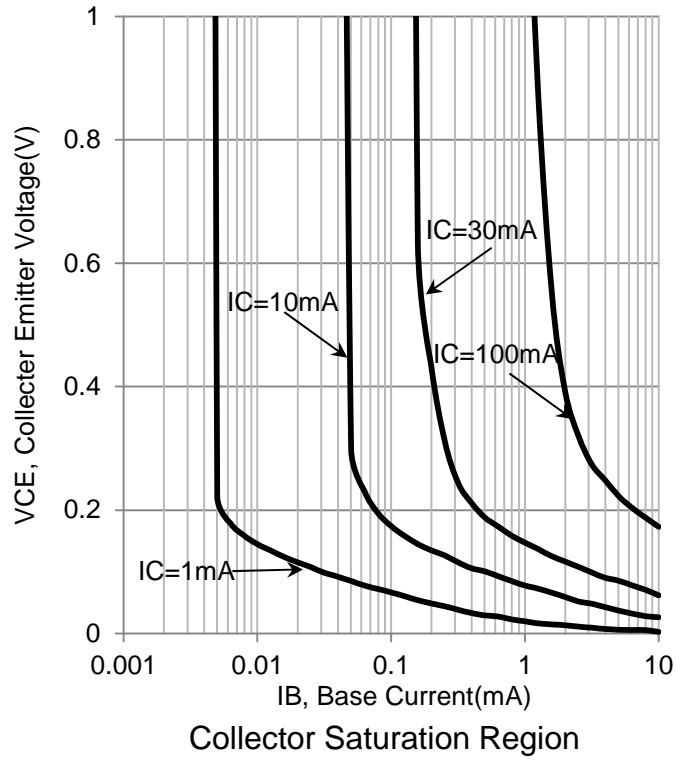
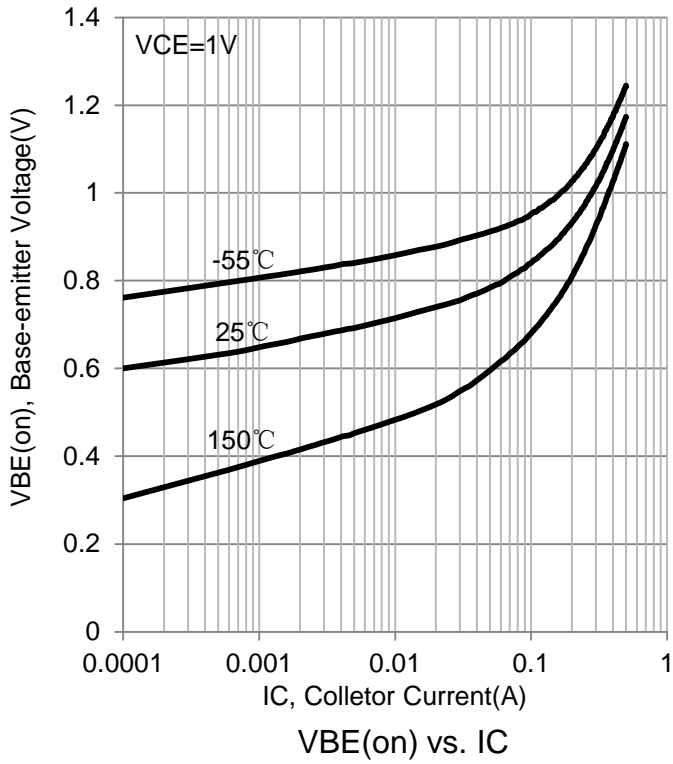
Delay Time	(VCC = 3.0 Vdc, VBE=-0.5Vdc, IC = 10mAdc, IB1 = 1.0 mAdc)	td	-	-	35	ns
Rise Time		tr	-	-	35	
Storage Time	(VCC = 3.0 Vdc, IC = 10 mAdc, IB1 = IB2 = 1.0 mAdc)	ts	-	-	200	
Fall Time		tf	-	-	50	

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

6. ELECTRICAL CHARACTERISTICS CURVES



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单击下面可查看定价，库存，交付和生命周期等信息

[>>LRC\(乐山无线电\)](#)