

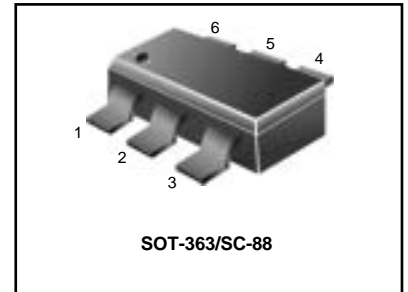
DUAL NPN SMALL SIGNAL SURFACE MOUNT TRANSISTOR

FEATURE

- We declare that the material of product compliance with RoHS requirements.

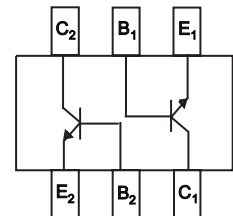
DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LMBT5551DW1T1G	G1	3000/Tape&Reel
LMBT5551DW1T3G	G1	10000/Tape&Reel



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector–Emitter Voltage	V_{CEO}	140	Vdc
Collector–Base Voltage	V_{CBO}	160	Vdc
Emitter–Base Voltage	V_{EBO}	6.0	Vdc
Collector Current — Continuous	I_C	600	mAdc



THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR–5 Board, (1) $T_A = 25^\circ\text{C}$	P_D	225	mW
Derate above 25°C		1.8	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate, (2) $T_A = 25^\circ\text{C}$	P_D	300	mW
Derate above 25°C		2.4	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector–Emitter Breakdown Voltage(3) ($I_C = 1.0 \text{ mAdc}, I_B = 0$)	$V_{(BR)CEO}$	160	—	Vdc
Collector–Base Breakdown Voltage ($I_C = 100 \mu\text{Adc}, I_E = 0$)	$V_{(BR)CBO}$	180	—	Vdc
Emitter–Base Breakdown Voltage ($I_E = 10 \mu\text{Adc}, I_C = 0$)	$V_{(BR)EBO}$	6.0	—	Vdc
Collector Cutoff Current ($V_{CB} = 120\text{Vdc}, I_E = 0$)	I_{CBO}	—	50	nAdc
($V_{CB} = 120\text{Vdc}, I_E = 0, T_A = 100^\circ\text{C}$)		—	50	μAdc
Emitter Cutoff Current ($V_{BE} = 4.0\text{Vdc}, I_C = 0$)	I_{EBO}	—	50	nAdc

1. FR–5 = $1.0 \times 0.75 \times 0.062$ in.
2. Alumina = $0.4 \times 0.3 \times 0.024$ in. 99.5% alumina.
3. Pulse Test: Pulse Width = $300 \mu\text{s}$, Duty Cycle = 2.0%.



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

Characteristic	Symbol	Min	Max	Unit
ON CHARACTERISTICS				
DC Current Gain (I _C = 1.0 mAdc, V _{CE} = 5.0 Vdc)	h_{FE}	80	—	—
(I _C = 10 mAdc, V _{CE} = 5.0 Vdc)		80	250	
(I _C = 50 mAdc, V _{CE} = 5.0Vdc)		30	—	
Collector–Emitter Saturation Voltage (I _C = 10 mAdc, I _B = 1.0 mAdc)	$V_{CE(sat)}$	—	0.15	Vdc
(I _C = 50 mAdc, I _B = 5.0 mAdc)		—	0.20	
Base–Emitter Saturation Voltage (I _C = 10 mAdc, I _B = 1.0 mAdc)	$V_{BE(sat)}$	—	1.0	Vdc
(I _C = 50 mAdc, I _B = 5.0 mAdc)		—	1.0	