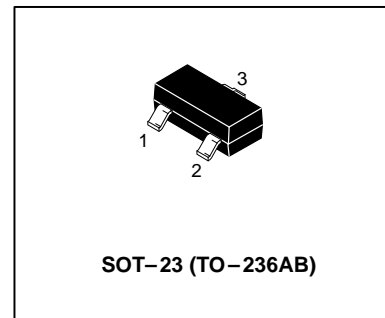
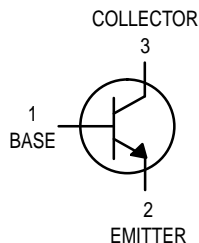




WMBT5551LT1

NPN Silicon Transistor



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector–Emitter Voltage	V_{CEO}	160	Vdc
Collector–Base Voltage	V_{CBO}	180	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⁾ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	225	mW
		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⁾ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D		mW
			mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$		$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	T_J, T_{stg}	–55 to +150	$^\circ\text{C}$

DEVICE MARKING

MMBT5550LT1 = M1F; MMBT5551LT1 = G1

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 ($V_{CB} = 120 \text{ Vdc}, I_E = 0$) ($V_{CB} = 120 \text{ Vdc}, I_E = 0, T_A = 100^\circ\text{C}$)	I_{CBO}	—	50	nAdc μAdc
Emitter Cutoff Current ($V_{EB} = 5.0 \text{ Vdc}, I_C = 0$)	I_{EBO}	—	50	nAdc

WMBT5551LT1

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

Characteristic	Symbol	Min	Max	Unit
ON CHARACTERISTICS				
DC Current Gain ($I_C = 1.0\text{ mA dc}$, $V_{CE} = 5.0\text{ V dc}$)	h_{FE}	80	—	—
($I_C = 10\text{ mA dc}$, $V_{CE} = 5.0\text{ V dc}$)		80	250	
($I_C = 50\text{ mA dc}$, $V_{CE} = 5.0\text{ V dc}$)		80	—	
Collector–Emitter Saturation Voltage ($I_C = 10\text{ mA dc}$, $I_B = 1.0\text{ mA dc}$)	$V_{CE(\text{sat})}$	—	0.15	Vdc
($I_C = 50\text{ mA dc}$, $I_B = 5.0\text{ mA dc}$)		—	0.20	
Base–Emitter Saturation Voltage ($I_C = 10\text{ mA dc}$, $I_B = 1.0\text{ mA dc}$)	$V_{BE(\text{sat})}$	—	1.0	Vdc
($I_C = 50\text{ mA dc}$, $I_B = 5.0\text{ mA dc}$)		—	1.0	