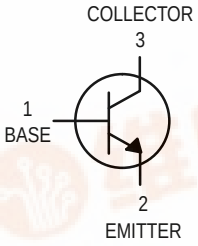
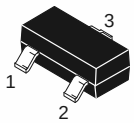
NPN Silicon





SOT–23 (TO–236AB)

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector–Emitter Voltage	V_{CEO}		Vdc
Collector–Base Voltage	V_{CBO}		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°C Derate above 25°C	P_D	225 1.8	mW mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C/W
Total Device Dissipation Alumina Substrate,(2) T_A = 25°C Derate above 25°C	P_D		mW mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$		°C/W
Junction and Storage Temperature	T_J, T_{stg}	–55 to +150	°C

DEVICE MARKING

MMBT5550LT1 = M1F; MMBT5551LT1 = G1

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector–Emitter Breakdown Voltage(3) (I_C = 1.0 mAdc, I_B = 0)	$V_{(BR)CEO}$	 160	— —	Vdc
Collector–Base Breakdown Voltage (I_C = 100 μAdc, I_E = 0)	$V_{(BR)CBO}$	 180	— —	Vdc
Emitter–Base Breakdown Voltage (I_E = 10 μAdc, I_C = 0)	$V_{(BR)EBO}$	6.0	—	Vdc
Collector Cutoff Current (V_{CB} = 120 Vdc, I_E = 0) (V_{CB} = 120 Vdc, I_E = 0, T_A = 100°C)	I_{CBO}	 — —	 50 50	nAdc μAdc
Emitter Cutoff Current (V_{EB} = .0 Vdc, I_C = 0)	I_{EBO}	—	50	nAdc

Wing Shing Computer Components Co., (H.K.)Ltd. Tel:(852) 2341 9276 Fax:(852) 2797 8153
Homepage: http://www.wingshing.com E-mail: wsccltd@hk star.com

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

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