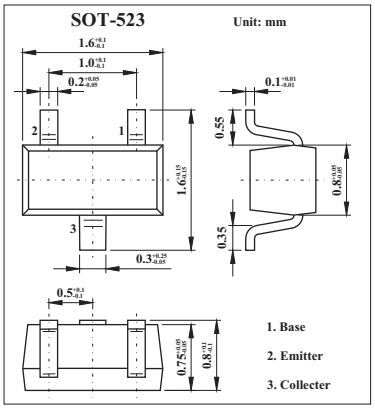
TY Semicondutor®

Product specification

MMBT2222AT



■ Features

- Ultra-Small Surface Mount Package
- Complementary PNP type available(MMBT2907AT)

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	75	V
Collector-emitter voltage	V_{CEO}	40	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I_C	600	mA
Power dissipation	P_D	150	mW
Thermal resistance from junction to ambient	$R_{\theta JA}$	833	℃/W
Operating and Storage and Temperature Range	T_j, T_{STG}	-55 to +150	℃

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 10 μA, I_E = 0	75			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 10 mA, I_B = 0	40			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_C = 10 μA, I_C = 0	6			V
Collector cutoff current	I_{CBO}	V_{CB}=60V, I_E=0			10	nA
Collector cut-off current	I_{CEX}	V_{CE}=30V,$V_{BE(off)}$=3V			10	nA
Emitter cutoff current	I_{EBO}	V_{EB}= 3V, I_C=0			100	nA
DC current gain	h_{FE}	V_{CE}=10V, I_C= 0.1mA	40			
		V_{CE}=10V, I_C= 150mA	100		300	
		V_{CE}=10V, I_C= 500mA	42			
collector-emitter saturation voltage *	$V_{CE(sat)}$	I_C = 150 mA; I_B = 15 mA			0.3	V
		I_C = 500 mA; I_B = 50 mA			1	V
base-emitter saturation voltage *	$V_{BE(sat)}$	I_C = 150 mA; I_B = 15 mA	0.6		1.2	V
		I_C = 500 mA; I_B = 50 mA			2	V
Transition frequency	f_T	I_C = 20 mA; V_{CE} = 20 V; f = 100 MHz	300			MHz
Delay time	t_d	V_{CC}=30V, $V_{BE(off)}$=-0.5V, I_C=150mA , I_{B1}= 15mA			10	ns
Rise time	t_r				25	ns
Storage time	t_s	V_{CC}=30V, I_C=150mA,I_{B1}=-I_{B2}=15mA			225	ns
Fall time	t_f				60	ns

* pulse test: Pulse Width ≤300μs, Duty Cycle≤ 2.0%.

■ Marking

Marking	1P