

MMBT2222A

NPN GENERAL PURPOSE TRANSISTOR

VOLTAGE	40 Volt	POWER	300 mWatt
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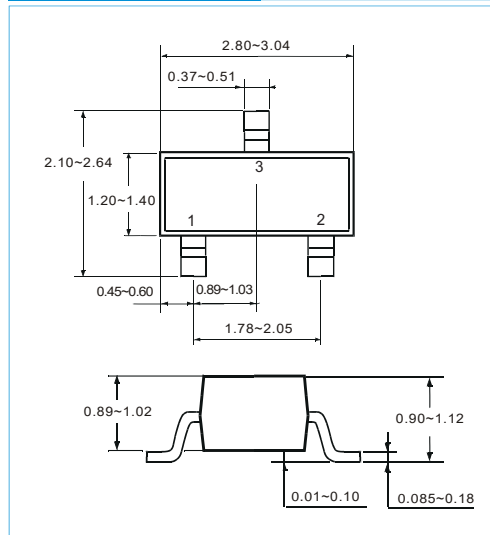
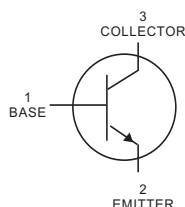
SOT-23	Unit:mm
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FEATURES

- NPN epitaxial silicon, planar design
- Epitaxial planar die construction
- Complementary PNP Type available(MMBT2907A)
- Lead free in compliance with EU RoHS
- Marking: 1P

MECHANICAL DATA

- Case Material: Molded Plastic.
- UL Flammability Classification Rating 94V-0



MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Units
Collector - Emitter Voltage	V_{CE0}	40	V
Collector - Base Voltage	V_{CB0}	75	V
Emitter - Base Voltage	V_{EB0}	6	V
Collector Current - Continuous	I_C	600	mA
Collector Dissipation	P_C	300	mW
Thermal resistance junction to ambient	$R_{\theta JA}$	417	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~+150	$^{\circ}\text{C}$

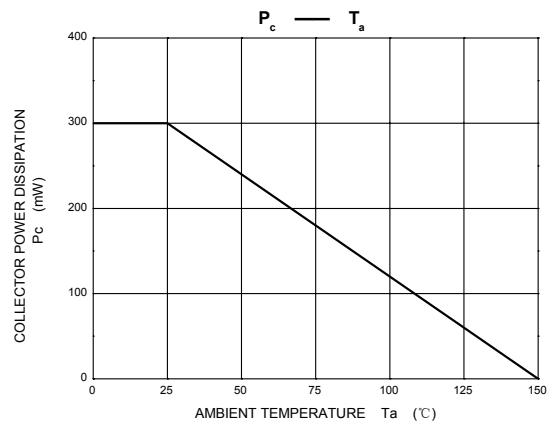
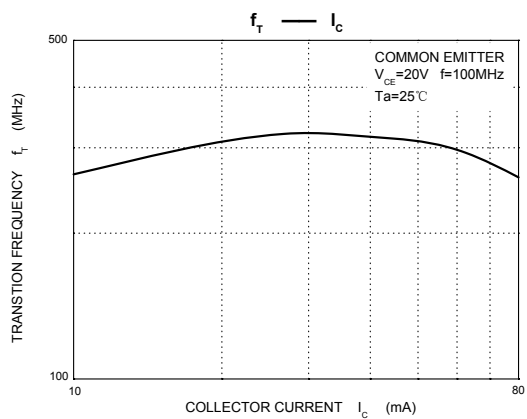
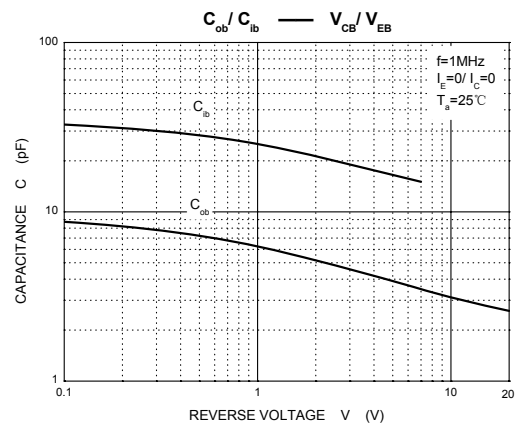
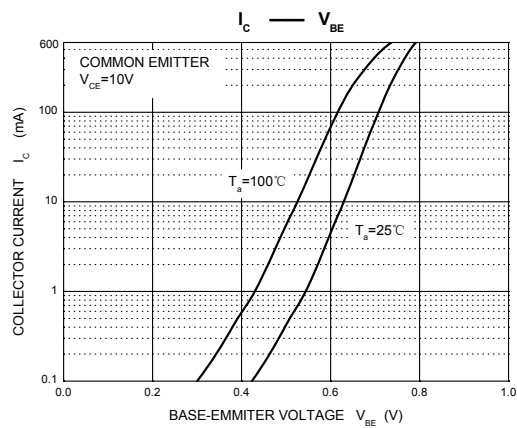
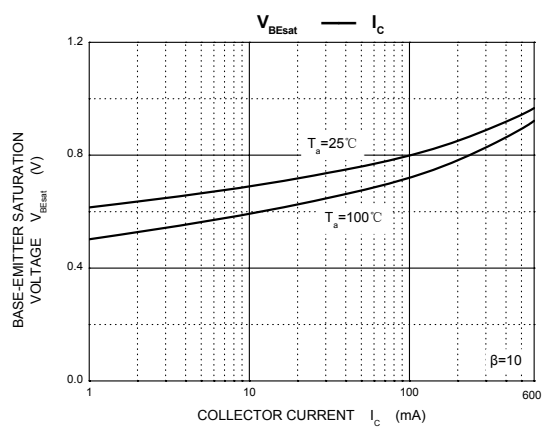
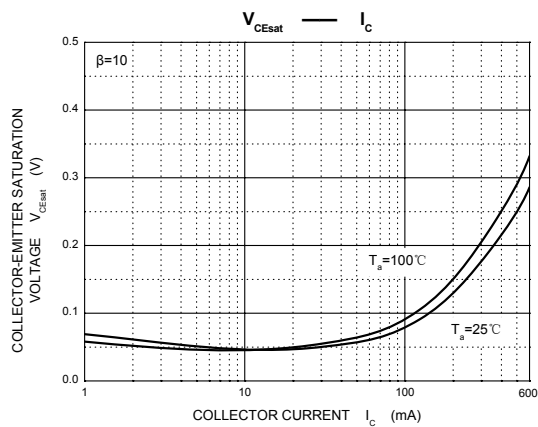
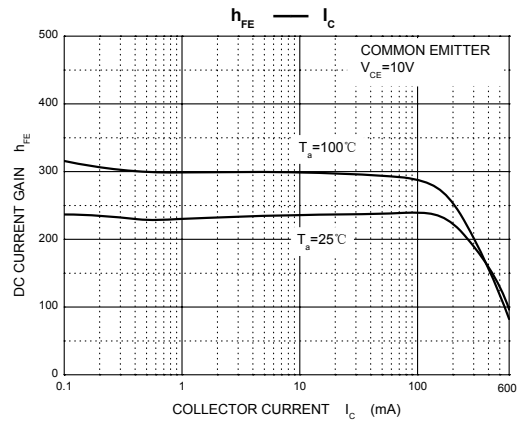
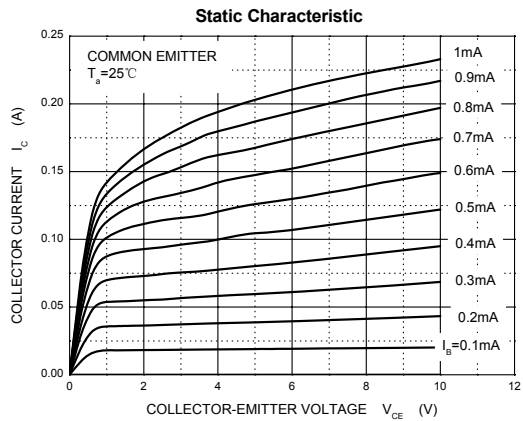
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ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	75		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	40		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	6		V
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$		10	nA
Collector cut-off current	I_{CEX}	$V_{CE}=30\text{V}, V_{BE(off)}=3\text{V}$		10	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=3\text{V}, I_C=0$		100	nA
DC current gain	h_{FE1}	$V_{CE}=10\text{V}, I_C=150\text{mA}$	100	300	
	h_{FE2}	$V_{CE}=10\text{V}, I_C=0.1\text{mA}$	40		
	h_{FE3}	$V_{CE}=10\text{V}, I_C=500\text{mA}$	42		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$ $I_C=150\text{mA}, I_B=15\text{mA}$		1.0 0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$ $I_C=150\text{mA}, I_B=15\text{mA}$		2.0 1.2	V
Transition frequency	f_T	$V_{CE}=20\text{V}, I_C=20\text{mA}, f=100\text{MHz}$	300		MHz
Delay Time	t_d	$V_{CC}=30\text{V}, V_{BE}=0.5\text{V}$		10	nS
Rise Time	t_r	$I_C=150\text{mA}, I_{B1}=15\text{mA}$		25	nS
Storage Time	t_s	$V_{CC}=30\text{V}, I_C=150\text{mA}$		225	nS
Fall Time	t_f	$I_{B1}=I_{B2}=15\text{mA}$		60	nS

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Typical Characteristics

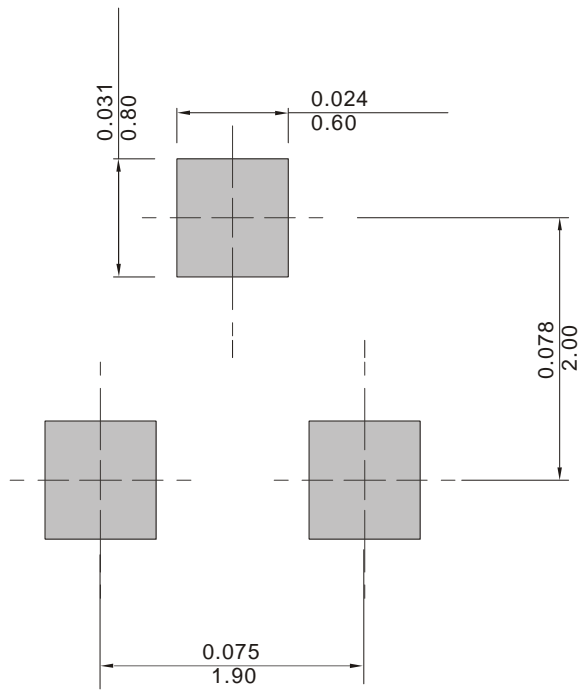


MMBT2222A

MOUNTING PAD LAYOUT

SOT-23

Unit:Inch(mm)



ORDER INFORMATION

- Packing information

MMBT2222A	Packing Quantity
Tape&Reel	7inch; 3Kpcs/Reel
Bulk(Tube/Box)	N/A