



MMBT2222A

NPN Silicon Transistors

Features

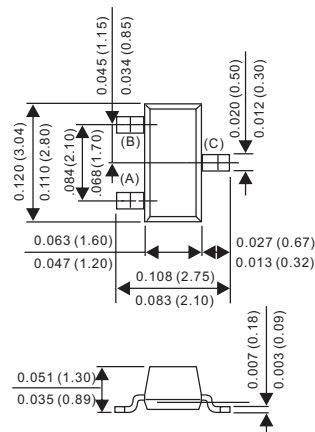
- Epitaxial planar die construction
- Complementary PNP Type available(MMBT2907A)

SOT-23



MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Parameter	Symbol	Value	Un
Collector–Base Voltage	V _{CB0}	75	V
Collector–Emitter Voltage	V _{CEO}	40	V
Emitter–Base Voltage	V _{EBO}	6	V
Collector Current — Continuous	I _C	600	mA
Collector Power Dissipation	P _C	300	mW
Thermal Resistance From Junction To Ambient	R _{thJA}	417	°C/W
Operation Junction and Storage Temperature Range	T _J , T _{stg}	-55~+150	°C



Dimensions in inches and (millimeters)

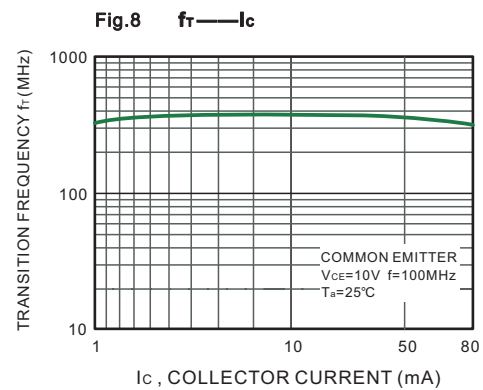
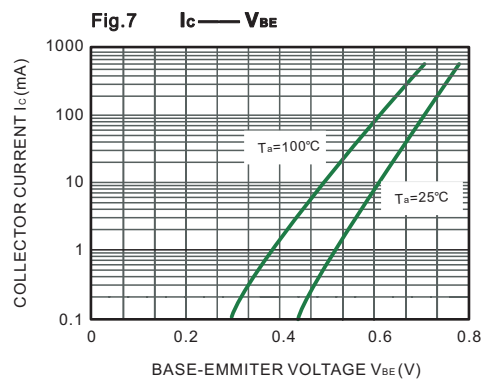
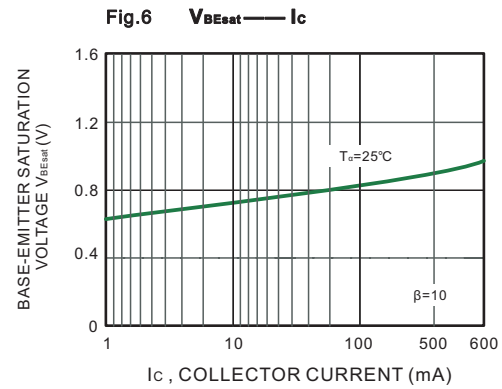
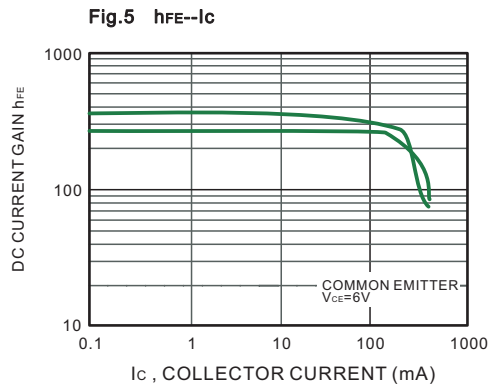
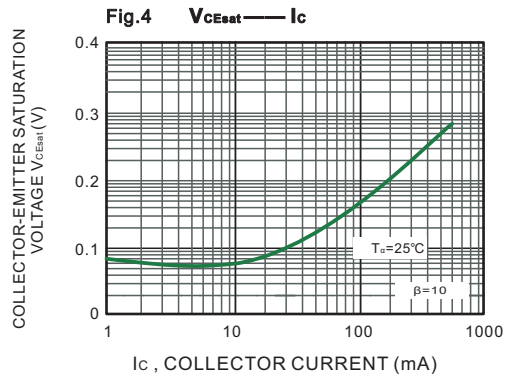
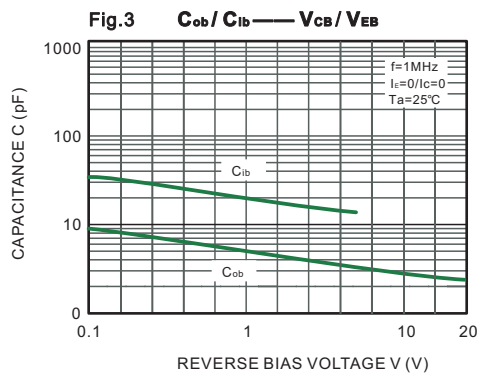
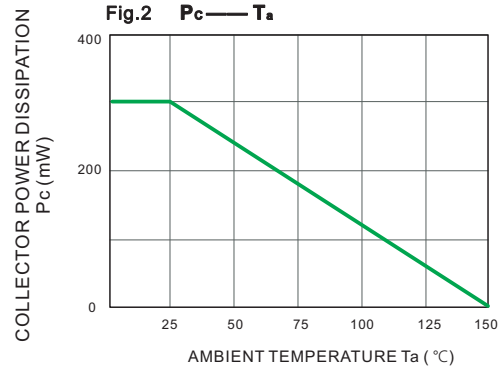
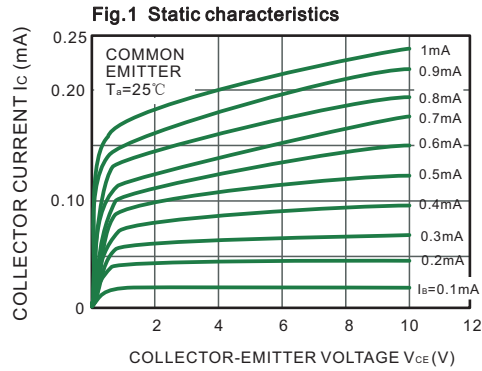
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = 10uA, 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 _E = 10uA, I _C = 0	6			V
Collector cut-off current	I _{CBO}	V _{CB} = 60V, I _E = 0			0.01	uA
Collector cut-off current	I _{CEX}	V _{CE} = 30V, V _{BE(off)} = 3V			0.01	uA
Emitter cut-off current	I _{EBO}	V _{EB} = 3V, I _C = 0			0.1	uA
DC current gain	h _{FE1}	V _{CE} = 10V, I _C = 150mA	100		300	
	h _{FE2}	V _{CE} = 10V, I _C = 0.1mA	40			
	h _{FE3}	V _{CE} = 10V, I _C = 500mA	42			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = 500mA, I _B = 50mA			1.0	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C = 150mA, I _B = 15mA			0.3	V
Transition frequency	f _T	V _{CE} = 20V, I _C = 20mA, f = 100MHz	300			MHz
Delay time	t _d	V _{CC} = 30V, V _{BE(off)} = -0.5V			10	ns
Rise time	t _r	I _C = 150mA, I _{B1} = 15mA			25	ns
Storage time	t _s	V _{CC} = 30V, I _C = 150mA			225	ns
Fall time	t _f	I _{B1} = -I _{B2} = 15mA			60	ns

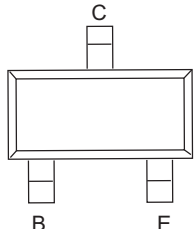
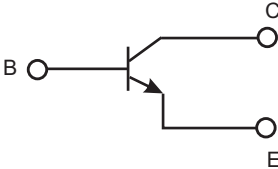
CLASSIFICATION OF h_{FE} (2)

Rank	L	H
Range	100-200	200-300

Rating and characteristic curves



Pinning information

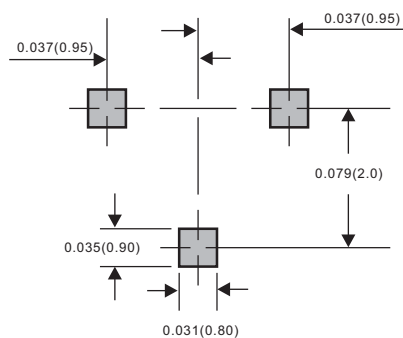
Pin	Simplified outline	Symbol
PinB Base PinC Collector PinE Emitter		

Marking

Type number	Marking code
MMBT2222A	1P

Suggested solder pad layout

SOT-23



Dimensions in inches and (millimeters)