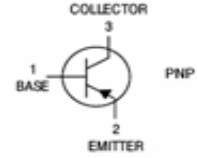


Features

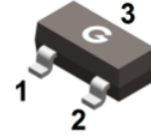
- Epitaxial planar die construction
- Complimentary to MMBT2222A
- Ultra-small surface mount package

HF



Mechanical Data

- Case: SOT-23
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



SOT-23

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
MMBT2907A	SOT-23	3000 pcs / Tape & Reel	2F

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V _{CBO}	-60	V
Collector-Emitter Breakdown Voltage	V _{CEO}	-60	V
Emitter-Base Breakdown Voltage	V _{EBO}	-5	V
Collector Current (Continuous)	I _C	-0.6	A
Collector Current (Peak)	I _{CM}	-1.2	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	300	mW
Thermal Resistance (Junction-to-Ambient) *1	R _{θJA}	417	°C/W
Thermal Resistance (Junction-to-Case) *1	R _{θJC}	380	°C/W
Thermal Resistance (Junction-to-Lead) *1	R _{θJL}	350	°C/W
Operating junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Note 1: The data tested by surface mounted on a 15mm * 15mm * 1mm FR4-epoxy P.C.B

Electrical Characteristics (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	V _{(BR)CBO}	I _C = -10μA, I _E = 0	-60	-	-	V
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C = -10mA, I _B = 0	-60	-	-	V
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	I _E = -10μA, I _C = 0	-5	-	-	V
Collector Cut-off Current	I _{CBO}	V _{CB} = -50V, I _E = 0	-	-	-10	nA
Collector Cut-off Current	I _{CEX}	V _{CE} = -30V, V _{EB(OFF)} = -0.5V	-	-	-50	nA
Base Cut-off Current	I _{BL}	V _{CE} = -30V, V _{EB(OFF)} = -0.5V	-	-	-50	nA
DC Current Gain	h _{FE}	V _{CE} = -10V, I _C = -0.1mA	75	-	-	-
		V _{CE} = -10V, I _C = -1mA	100	-	-	-
		V _{CE} = -10V, I _C = -10mA	100	-	-	-
		V _{CE} = -10V, I _C = -150mA	100	-	300	-
		V _{CE} = -10V, I _C = -500mA	50	-	-	-
Collector-emitter Saturation Voltage	V _{CE(sat)}	I _C = -500mA, I _B = -50mA	-	-	-1.6	V
		I _C = -150mA, I _B = -15mA	-	-	-0.4	V
Base-emitter Saturation Voltage	V _{BE(sat)}	I _C = -500mA, I _B = -50mA	-	-	-2.6	V
		I _C = -150mA, I _B = -15mA	-	-	-1.3	V
Transition Frequency	f _T	I _C = -50mA, V _{CE} = -20V f = 100MHz	200	-	-	MHz
Collector Output Capacitance	C _{OBO}	V _{CB} = -10V, I _E = 0, f = 1MHz	-	-	8	pF
Input Capacitance	C _{IBO}	V _{EB} = -2V, I _C = 0, f = 1MHz	-	-	30	pF
Delay Time	t _d	V _{CC} = -30V, I _C = -150mA I _{B1} = -15mA	-	-	10	ns
Rise Time	t _r		-	-	40	ns
Storag Time	t _s	V _{CC} = -6V, I _C = -150mA	-	-	80	ns
Fall Time	t _f	I _{B1} = I _{B2} = -15mA	-	-	30	ns

Ratings and Characteristics Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

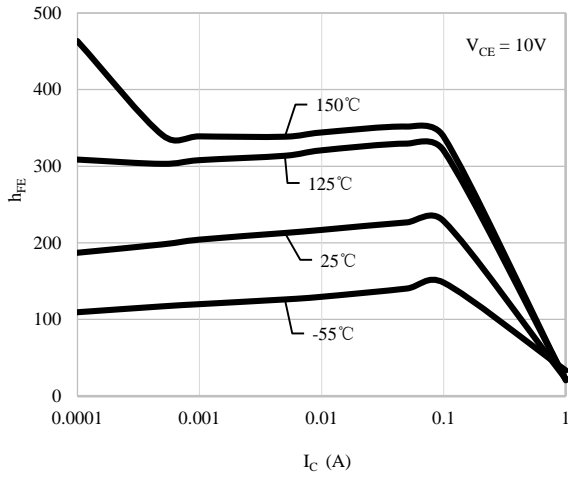


Fig 1 h_{FE} vs. I_C

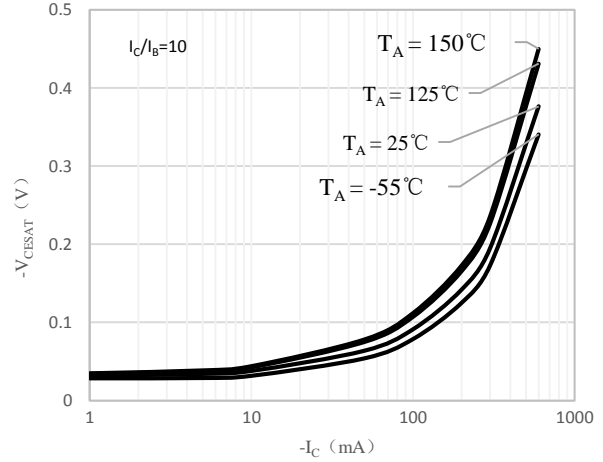


Fig 2 $V_{CE(sat)}$ vs. I_C

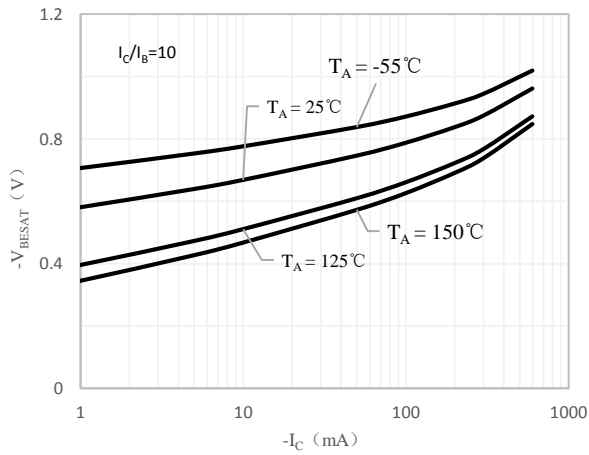


Fig 3 $V_{BE(sat)}$ vs. I_C

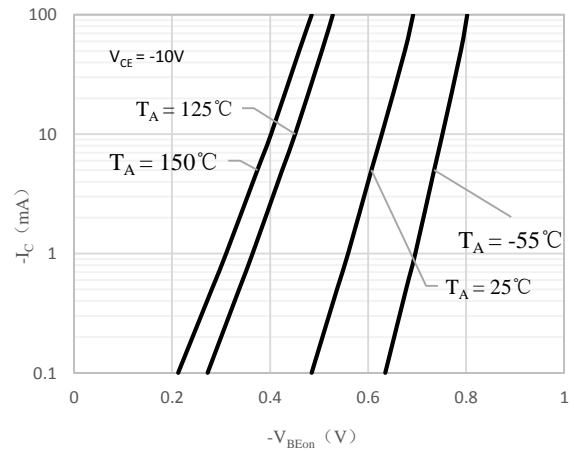
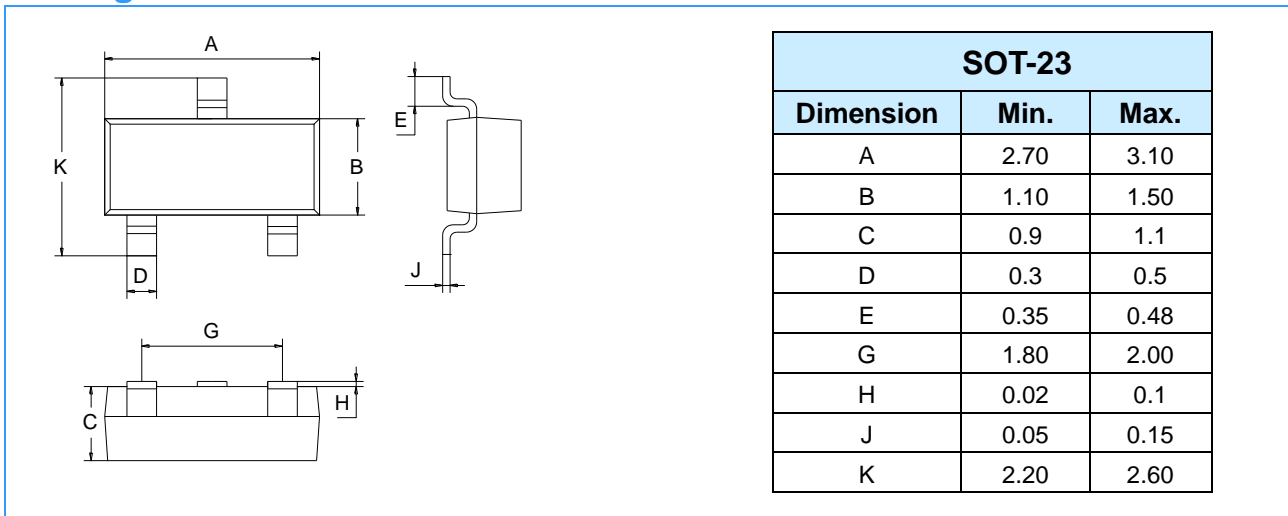
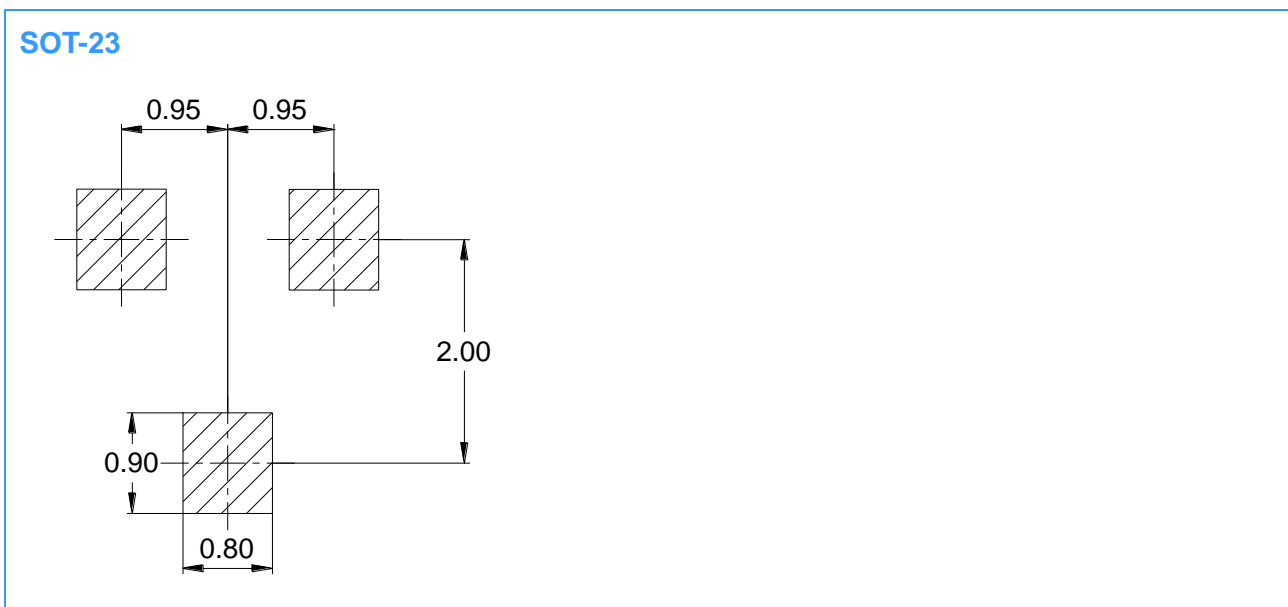


Fig 4 $V_{BE(on)}$ vs. I_C

Package Outline Dimensions (Unit: mm)



Package Outline Dimensions (Unit: mm)



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