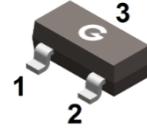
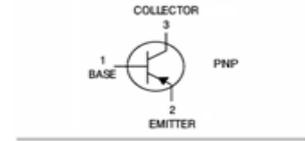


Features

- Epitaxial planar die construction
- Complementary to MMBTA06
- RoHS compliant with Halogen-free

HF



SOT-23

Mechanical Data

- Case: SOT-23
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
MMBTA56	SOT-23	3000 pcs / Tape & Reel	2GM

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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V _{CBO}	-80	V
Collector-Emitter Breakdown Voltage	V _{CEO}	-80	V
Emitter-Base Breakdown Voltage	V _{EBO}	-4	V
Continuous Collector Current	I _C	-0.5	A
Peak Collector Current	I _{CM}	-1	A
Base Current	I _B	-0.2	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation (T _A = 25°C)	P _D	350	mW
Thermal Resistance Junction-to-Air *1	R _{θJA}	330	°C/W
Thermal Resistance Junction-to-Case *1	R _{θJC}	160	°C/W
Thermal Resistance Junction-to-Lead *1	R _{θJL}	120	°C/W
Junction Temperature Range	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 (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}, I_E = 0$	-80	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, I_B = 0$	-80	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -100\mu\text{A}, I_C = 0$	-4	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -80\text{V}, I_E = 0$	-	-	-0.1	μA
Collector Cut-off Current	I_{CES}	$V_{CE} = -60\text{V}, I_B = 0$	-	-	-0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = -1\text{V}, I_C = -10\text{mA}$	100	-	-	-
		$V_{CE} = -1\text{V}, I_C = -100\text{mA}$	100	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}, I_B = -10\text{mA}$	-	-	-0.25	V
Base-emitter Saturation Voltage	$V_{BE(on)}$	$V_{CE} = -1\text{V}, I_C = -100\text{mA}$	-	-	-1.2	V
Transition Frequency	f_T	$I_C = -100\text{mA}, V_{CE} = -1\text{V}$ $f = 100\text{MHz}$	50	-	-	MHz

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

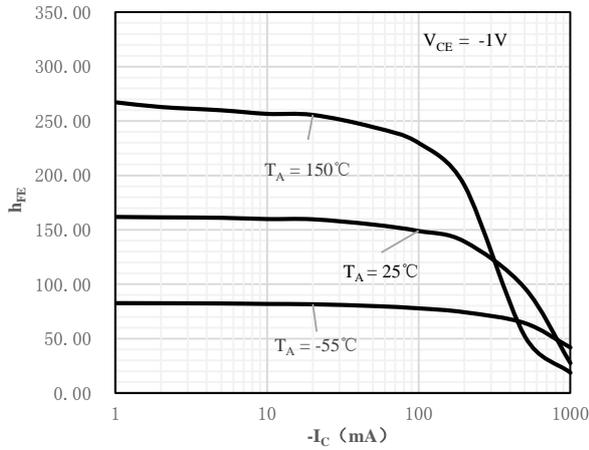


Fig 1 h_{FE} vs. I_c

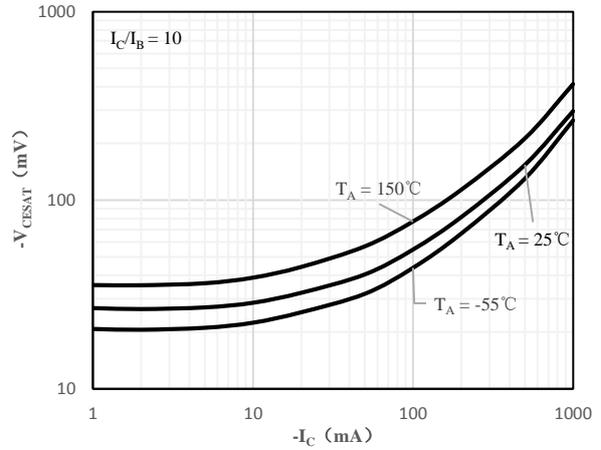


Fig 2 $V_{CE(sat)}$ vs. I_c

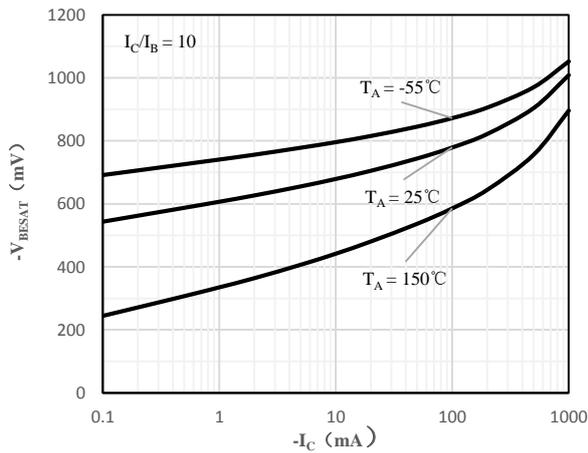


Fig 3 $V_{BE(sat)}$ vs. I_c

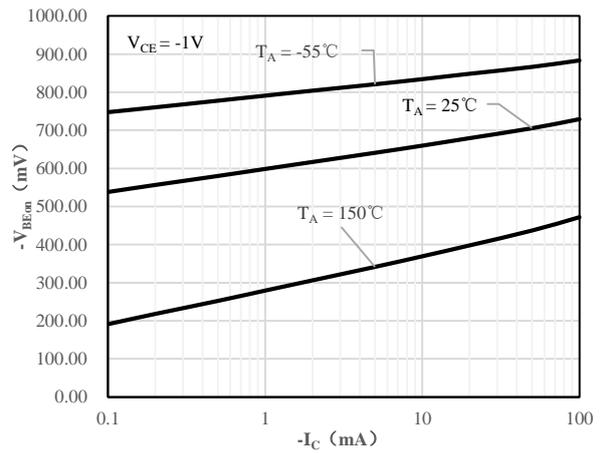


Fig 4 $V_{BE(on)}$ vs. I_c

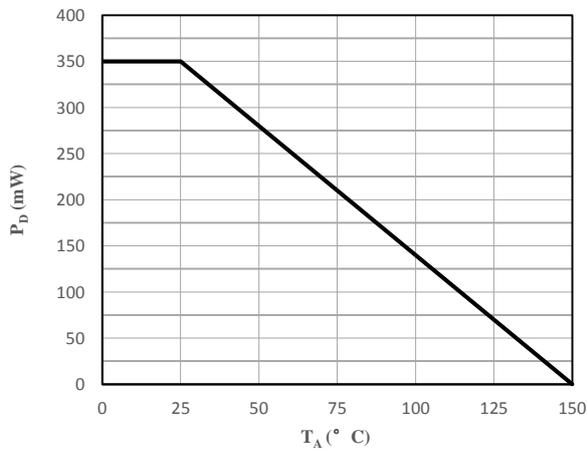
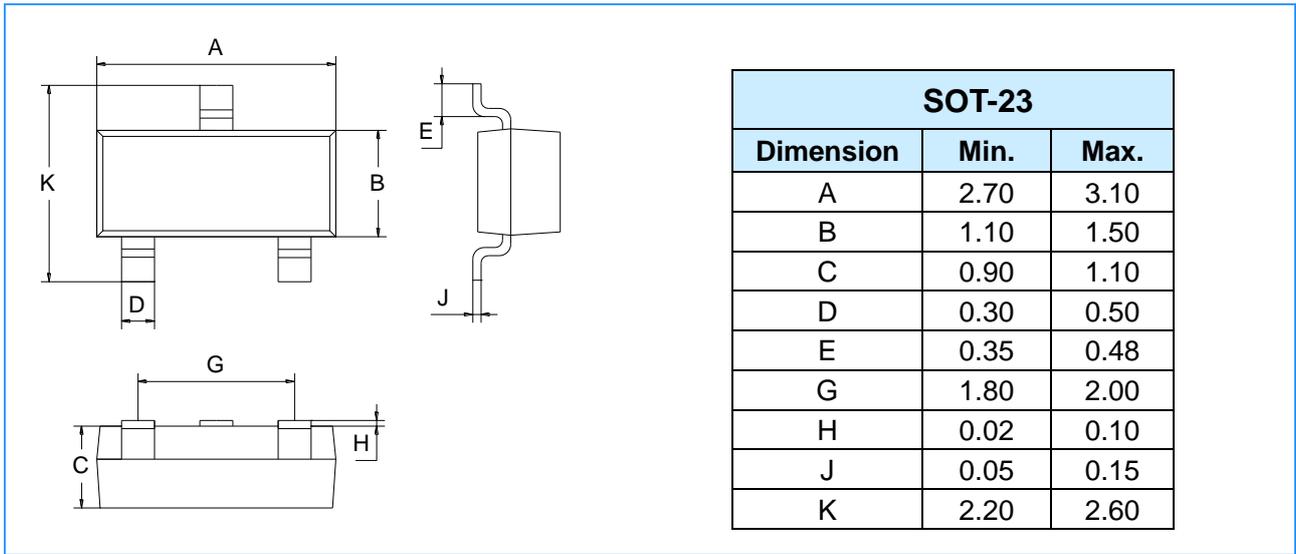


Fig 5 P_D vs. T_A

Package Outline Dimensions (Unit: mm)



Package Outline Dimensions (Unit: mm)

