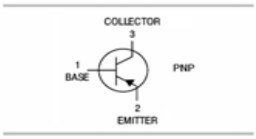
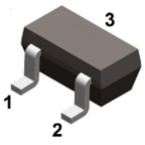
MMBT4403T

SOT-523 Bipolar Transistor(PNP)

Features

- Epitaxial planar die construction
- Complement to MMBT4401T





SOT-523

Mechanic al Data

- Case: SOT-523
- 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
MMBT4403T	SOT-523	3000 pcs / Tape & Reel	2T

Maximum Ratings (@ T_A = 25℃ unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Breakdown Voltage	V_{CEO}	-40	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 *1	P_D	0.15	W
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	833	°C/W
Thermal Resistance Junction-to-Air *2	$R_{\theta JA}$	125	°C/W
Thermal Resistance Junction-to-Case *2	$R_{\theta JC}$	70	°C/W
Thermal Resistance Junction-to-Lead *2	$R_{\theta JL}$	50	°C/W
Operating Junction Temperature	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Electrical Characteristics (@ T_A = 25℃ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = -100μA, I_E = 0	-40	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = -1mA, I_B = 0	-40	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = -100μA, I_C = 0	-5	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB} = -35V, I_E = 0	-	-	-0.1	μA
Collector Cut-off Current	I_{CEX}	V_{CE} = -35V, $V_{EB(OFF)}$ = -0.4V	-	-	-0.1	μA
Base Cut-off Current	I_{BL}	V_{CE} = -35V, $V_{EB(OFF)}$ = -0.4V	-	-	-0.1	μA
DC Current Gain	h_{FE}	V_{CE} = -1V, I_C = -0.1mA	30	-	-	-
		V_{CE} = -1V, I_C = -1mA	60	-	-	-
		V_{CE} = -1V, I_C = -10mA	100	-	-	-
		V_{CE} = -2V, I_C = -150mA	100	-	300	-
		V_{CE} = -2V, I_C = -500mA	20	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	I_C = -150mA, I_B = -15mA	-	-	-0.4	V
		I_C = -500mA, I_B = -50mA	-	-	-0.75	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	I_C = -150mA, I_B = -15mA	-0.75	-	-0.95	V
		I_C = -500mA, I_B = -50mA	-	-	-1.30	V
Current-Gain—Bandwidth Product	f_T	V_{CE} = -10V, I_C = -20mA f = 100MHz	200	-	-	MHz

Notes:

1. Device mounted on a minimum recommended pad layout with 1oz copper that is on a single-sided 1.6mm FR4 PCB; the device is measured under still air conditions whilst operating in a steady-state.
2. The data tested by surface mounted on a 25.4mm * 25.4mm * 1mm FR4-epoxy P.C.B

Ratings and Characteristic Curves (@ T_A = 25℃ unless otherwise specified)

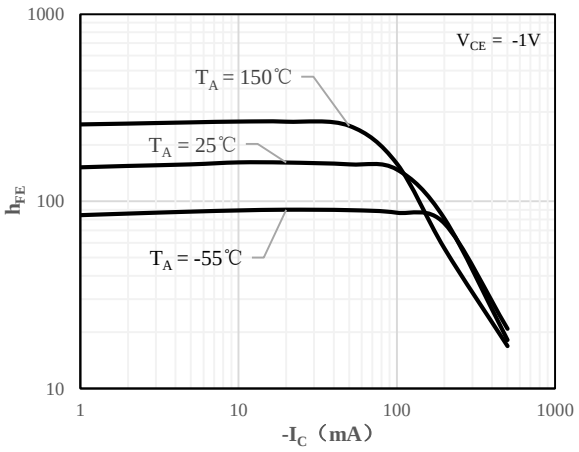


Fig 1 h_{FE} vs. I_C

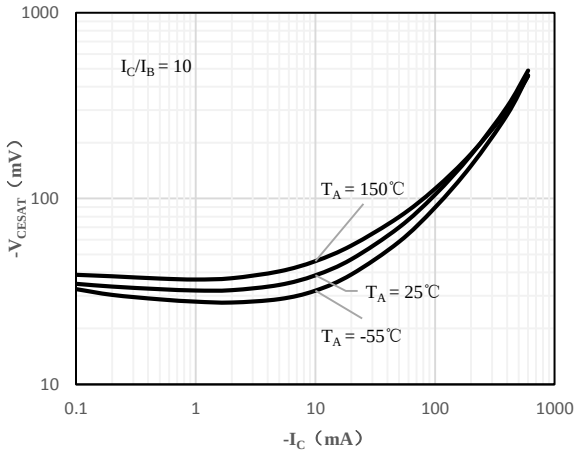


Fig 2 $V_{CE(sat)}$ vs. I_C

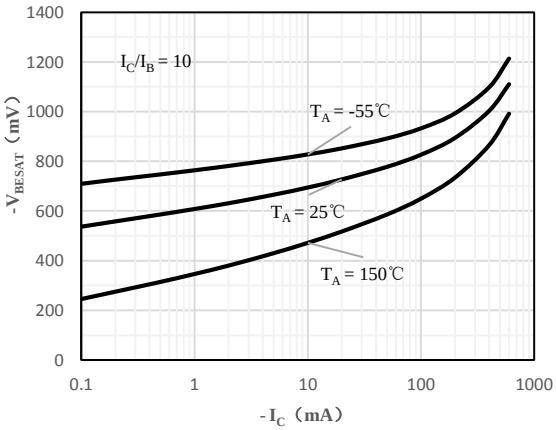


Fig 3 $V_{BE(sat)}$ vs. I_C

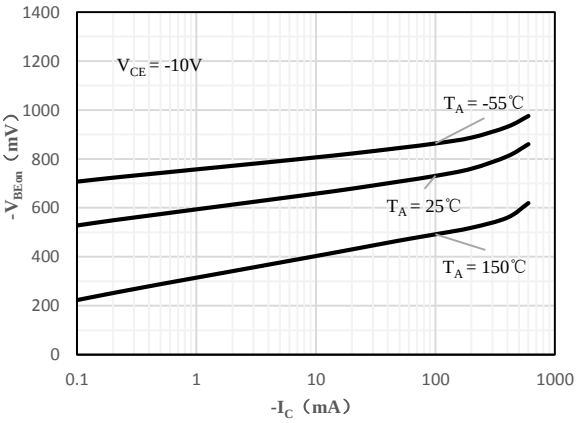


Fig 4 $V_{BE(ON)}$ vs. I_C

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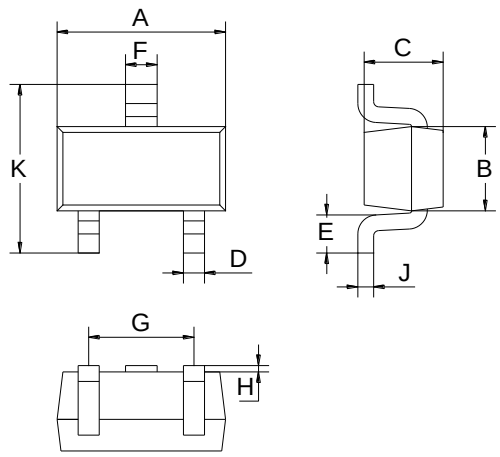
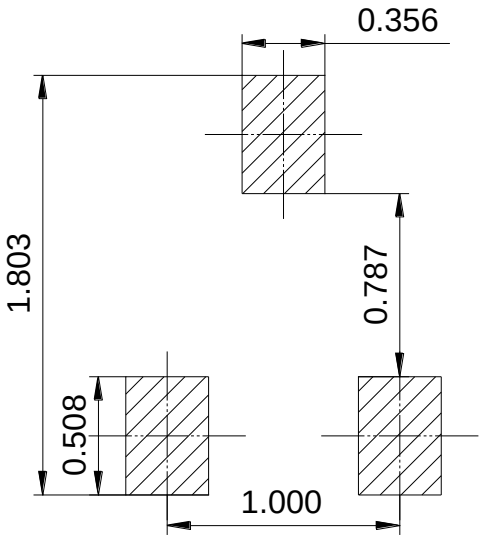
Package Outline Dimensions (Unit: mm)



SOT-523		
Dimension	**Min.**	**Max.**
A	1.50	1.70
B	0.75	0.85
C	0.60	0.80
D	0.15	0.30
E	0.30	0.40
F	0.25	0.40
G	0.90	1.10
H	0.02	0.10
J	0.08	0.18
K	1.45	1.75

Mounting Pad Layout (Unit: mm)

SOT-523



Package	Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
SOT -523	3000pcs	7inch	45,000pcs	203×203×195	180,000pcs	438×438×220
SOT -523	8000pcs	7inch	120,000pcs	203×203×195	480,000pcs	438×438×220