

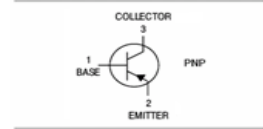
Features

- Epitaxial planar die construction
- Complement to MMBT4401

HF

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
MMBT4403	SOT-23	3000 pcs / Tape & Reel	2T

Maximum Ratings (@ T_A = 25°C 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	P _D	0.35	W
Thermal Resistance Junction-to-Air	R _{θJA}	357	°C/W
Thermal Resistance Junction-to-Case	R _{θJC}	250	°C/W
Junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}, I_E = 0$	-40	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, I_B = 0$	-40	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -100\mu\text{A}, I_C = 0$	-5	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -35\text{V}, I_E = 0$	-	-	-0.1	μA
Collector Cut-off Current	I_{CEX}	$V_{CE} = -35\text{V}, V_{BE} = -0.4\text{V}$	-	-	-0.10	μA
Base Cut-off Current	I_{BL}	$V_{CE} = -35\text{V}, V_{BE} = -0.4\text{V}$	-	-	-0.10	μA
DC Current Gain	h_{FE}	$V_{CE} = -1\text{V}, I_C = -0.1\text{mA}$	30	-	-	-
		$V_{CE} = -1\text{V}, I_C = -1\text{mA}$	60	-	-	-
		$V_{CE} = -1\text{V}, I_C = -10\text{mA}$	100	-	-	-
		$V_{CE} = -2\text{V}, I_C = -150\text{mA}$	100	-	300	-
		$V_{CE} = -2\text{V}, I_C = -500\text{mA}$	20	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -150\text{mA}, I_B = -15\text{mA}$	-	-	-0.4	V
		$I_C = -500\text{mA}, I_B = -50\text{mA}$	-	-	-0.75	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -150\text{mA}, I_B = -15\text{mA}$	-0.75	-	-0.95	V
		$I_C = -500\text{mA}, I_B = -50\text{mA}$	-	-	-1.30	V
Current-Gain—Bandwidth Product	f_T	$V_{CE} = -10\text{V}, I_C = -20\text{mA}$ $f = 100\text{MHz}$	200	-	-	MHz

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

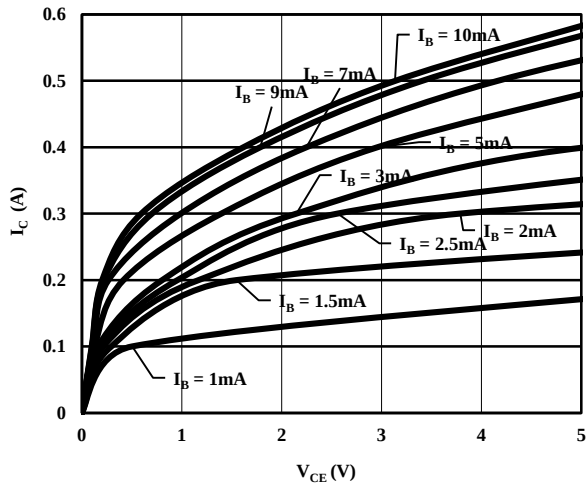


Fig. 1 I_C vs. V_{CE}

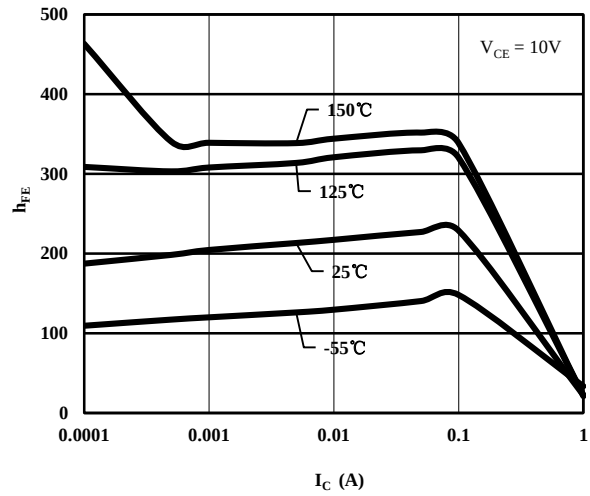


Fig. 2 h_{FE} vs. I_C

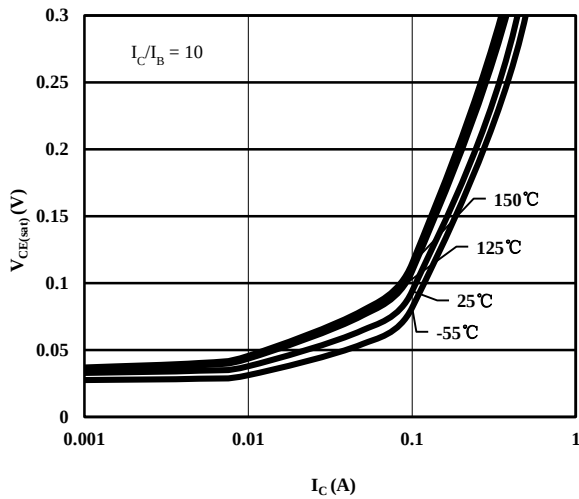


Fig. 3 $V_{CE(sat)}$ vs. I_C

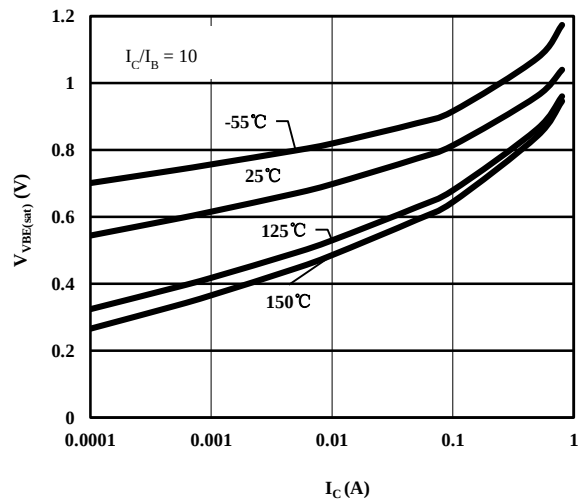
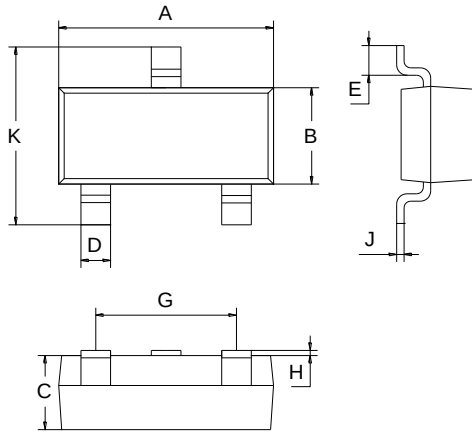


Fig. 4 $V_{BE(sat)}$ vs. I_C

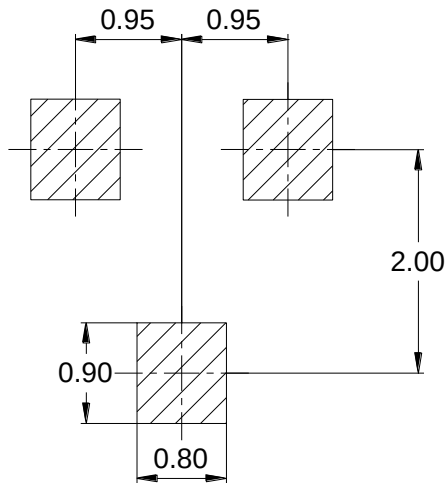
Package Outline Dimensions (Unit: mm)



SOT-23		
Dimension	Min.	Max.
A	2.70	3.10
B	1.10	1.50
C	0.9	1.1
D	0.3	0.5
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.05	0.15
K	2.20	2.60

Package Outline Dimensions (Unit: mm)

SOT-23



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