

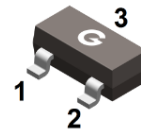
Features

- High current gain

HF

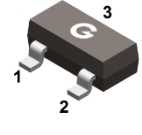
Mechanical Data

- Case: SOT-23, SOT-23-3L
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



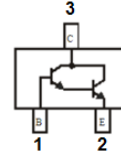
MMBTA28

SOT-23



MMBTA28-3L

SOT-23-3L



Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
MMBTA28	SOT-23	3000 pcs / Tape & Reel	3SS
MMBTA28-3L	SOT-23-3L	3000 pcs / Tape & Reel	3SS

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}	12	V
Collector Current (Continuous)	I _C	0.5	A
Collector Current (Peak)	I _{CM}	1	A

Thermal Characteristics

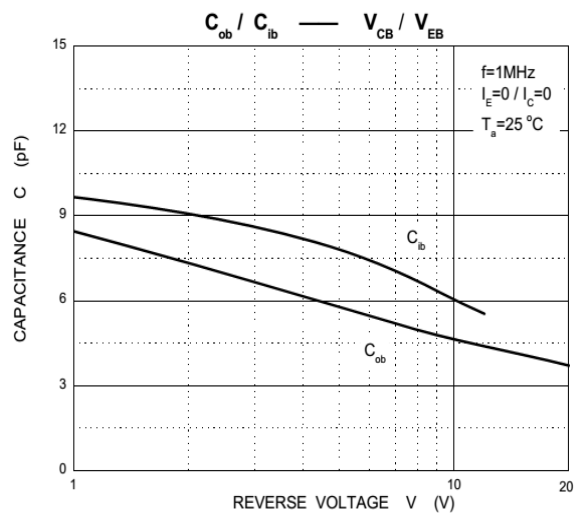
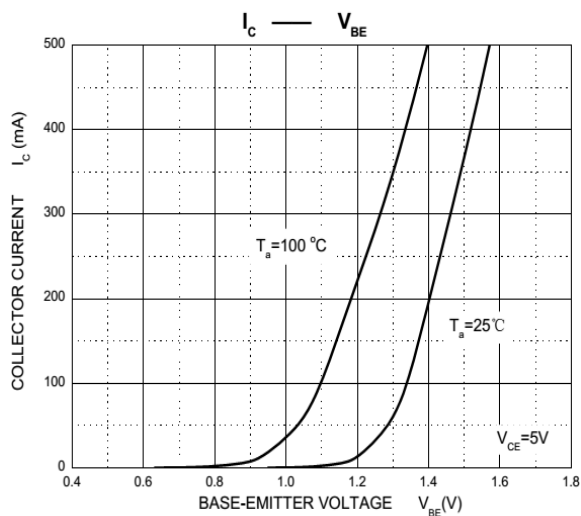
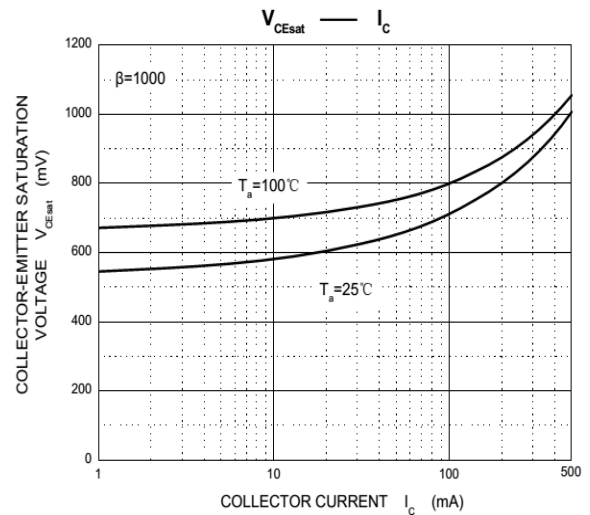
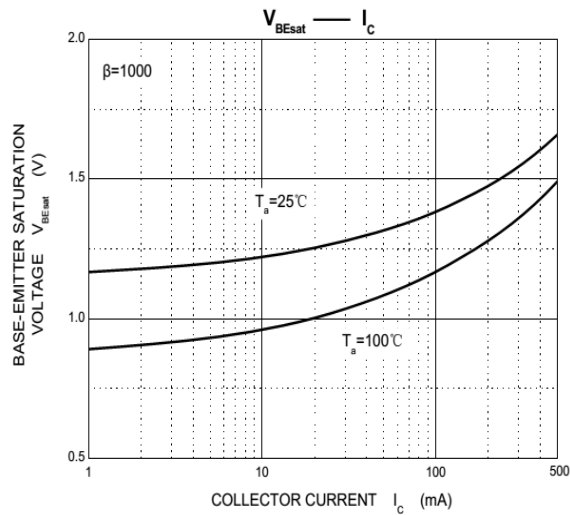
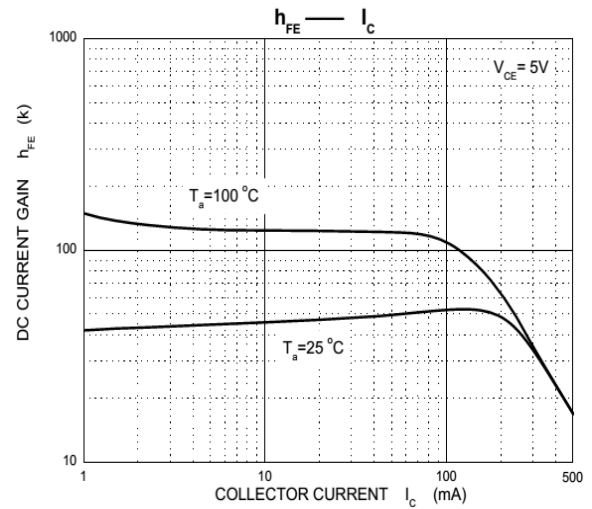
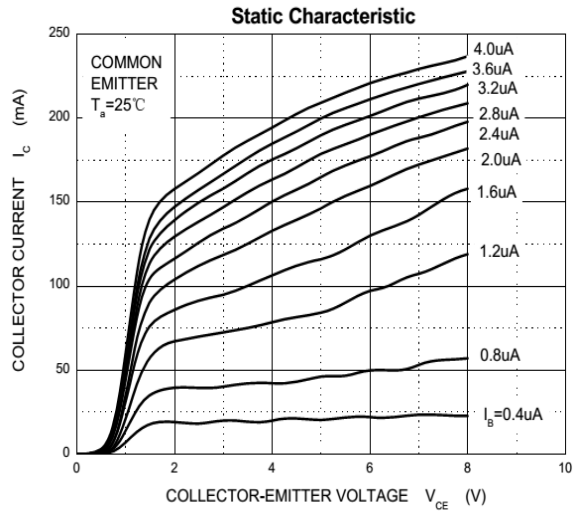
Parameter	Symbol	Value	Unit
Power Dissipation (T _A = 25°C)	P _D	0.2	W
Thermal Resistance Junction-to-Air ^{*1}	R _{θJA}	220	°C/W
Thermal Resistance Junction-to-Case ^{*1}	R _{θJC}	120	°C/W
Thermal Resistance Junction-to-Lead ^{*1}	R _{θJL}	150	°C/W
Junction Temperature Range	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

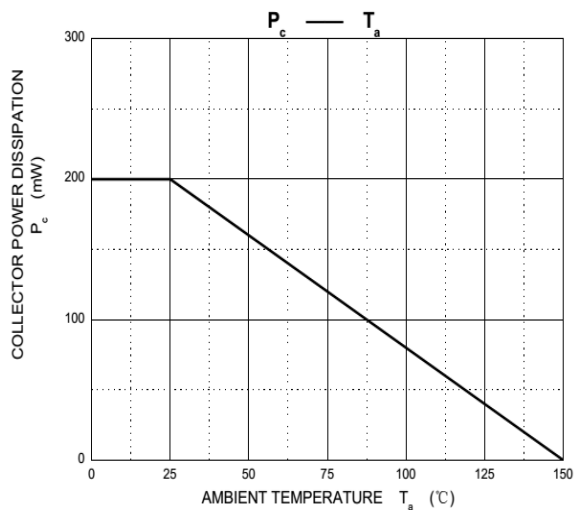
Note 1: The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper

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

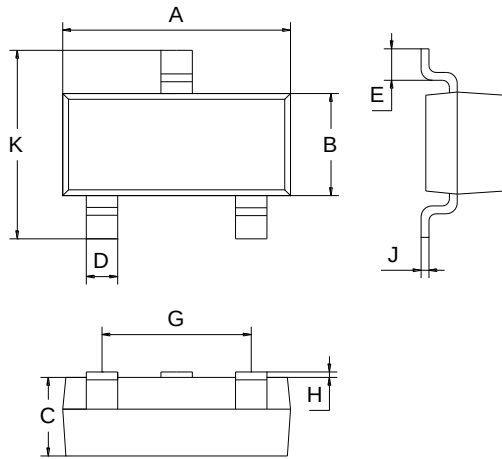
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	80	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, I_B = 0$	80	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	12	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 60\text{V}, I_E = 0$	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 10\text{V}, I_C = 0$	-	-	0.1	μA
Collector Emitter Cut-off Current	I_{CES}	$V_{CES} = 60\text{V}$	-	-	0.5	μA
DC Current Gain	h_{FE}	$V_{CE} = 5\text{V}, I_C = 10\text{mA}$	10K	-	-	-
		$V_{CE} = 5\text{V}, I_C = 100\text{mA}$	10K	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 0.01\text{A}, I_B = 0.01\text{mA}$	-	-	1.2	V
		$I_C = 0.1\text{A}, I_B = 0.1\text{mA}$	-	-	1.5	V
Base-emitter Voltage	$V_{BE(on)}$	$I_C = 0.1\text{A}, V_{CE} = 5\text{V}$	-	-	2	V
Transition Frequency	f_T	$V_{CE} = 5\text{V}, I_C = 10\text{mA}$ $f = 100\text{MHz}$	125	-	-	MHz
Output Capacitance	C_{ob}	$V_{CB} = 1\text{V}, f = 1\text{MHz}$	-	-	8	pF

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

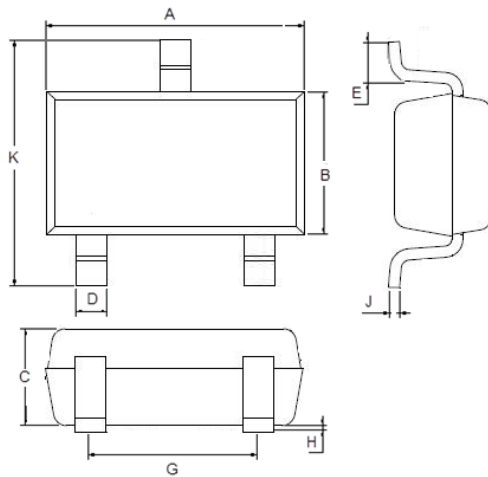




Package Outline Dimensions (Unit: mm)



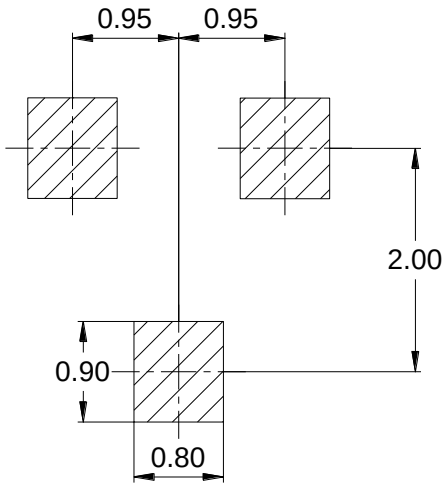
SOT-23		
Dimension	Min.	Max.
A	2.70	3.10
B	1.10	1.50
C	0.9	1.1
D	0.3	0.5
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.05	0.15
K	2.20	2.60



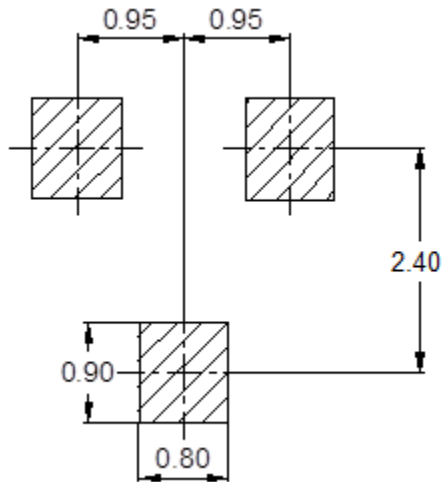
SOT-23-3L		
Dimension	Min.	Max.
A	2.80	3.00
B	1.50	1.70
C	1.00	1.20
D	0.35	0.45
E	0.35	0.55
G	1.80	2.00
H	0.02	0.10
J	0.10	0.20
K	2.60	3.00

Mounting Pad Layout (Unit: mm)

SOT-23



SOT-23-3L



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