

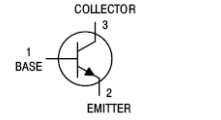
Features

- Low saturation
- Complement to FMMT589

HF

Mechanical Data

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



Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
FMMT489	SOT-23	3000 pcs / Tape & Reel	489

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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	50	V
Collector-Emitter Breakdown Voltage	V _{CEO}	30	V
Emitter-Base Breakdown Voltage	V _{EBO}	7	V
Collector Current (Continuous)	I _C	1	A
Peak Pulse Current	I _{CM}	2	A
Base Current	I _B	0.2	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation (T _A = 25°C) ^{*1}	P _D	0.5	W
Thermal Resistance Junction-to-Air ^{*1}	R _{θJA}	250	°C/W
Thermal Resistance Junction-to-Lead ^{*2}	R _{θJL}	197	°C/W
Junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Notes:

1. For a device mounted with the collector lead on 15mm x 15mm 1oz copper that is on a single-sided 1.6mm FR4 PCB; device is measured under still air conditions whilst operating in a steady-state
2. Thermal resistance from junction to solder-point (at the end of the collector lead)

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}$, $I_E = 0$	50	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}$, $I_B = 0$	30	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}$, $I_C = 0$	7	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 30\text{V}$, $I_E = 0$	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 6\text{V}$, $I_C = 0$	-	-	0.1	μA
Collector-Emitter Cutoff Current	I_{CES}	$V_{CES} = 30\text{V}$	-	-	0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 2\text{V}$, $I_C = 1\text{mA}$	100	-	-	-
		$V_{CE} = 2\text{V}$, $I_C = 1\text{A}$	100	-	300	-
		$V_{CE} = 2\text{V}$, $I_C = 2\text{A}$	60	-	-	-
		$V_{CE} = 2\text{V}$, $I_C = 4\text{A}$	20	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1\text{A}$, $I_B = 0.1\text{A}$	-	-	0.3	V
		$I_C = 2\text{A}$, $I_B = 0.2\text{A}$	-	-	0.6	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 1\text{A}$, $I_B = 0.1\text{A}$	-	-	1.1	V
Base-emitter On Voltage	$V_{BE(on)}$	$I_C = 1\text{A}$, $V_{CE} = 2\text{V}$	-	-	1.0	V
Output Capacity	C_{ob}	$V_{CB} = 10\text{V}$, $f = 1\text{MHz}$	-	-	10	pF
Current-Gain—Bandwidth Product	f_T	$I_C = 0.05\text{A}$, $V_{CE} = 10\text{V}$ $f = 100\text{MHz}$	150	-	-	MHz

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

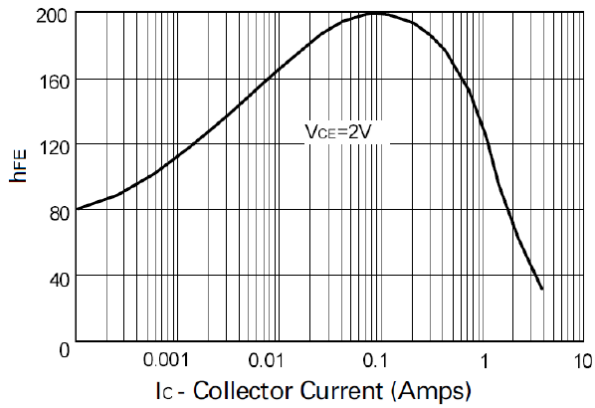


Fig 1 h_{FE} vs. I_C

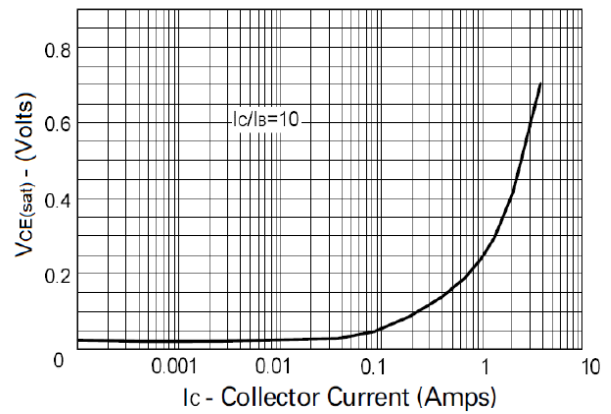


Fig 2 $V_{CE(sat)}$ vs. I_C

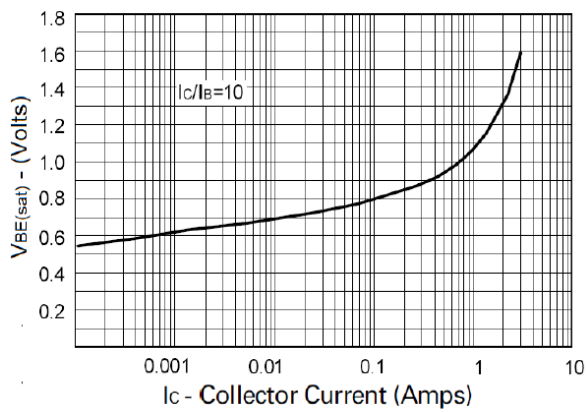


Fig 3 $V_{BE(sat)}$ vs. I_C

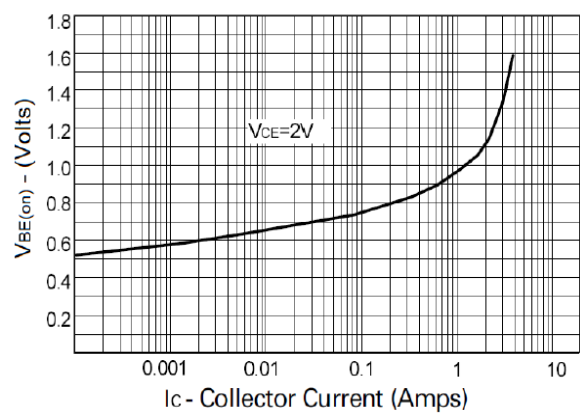
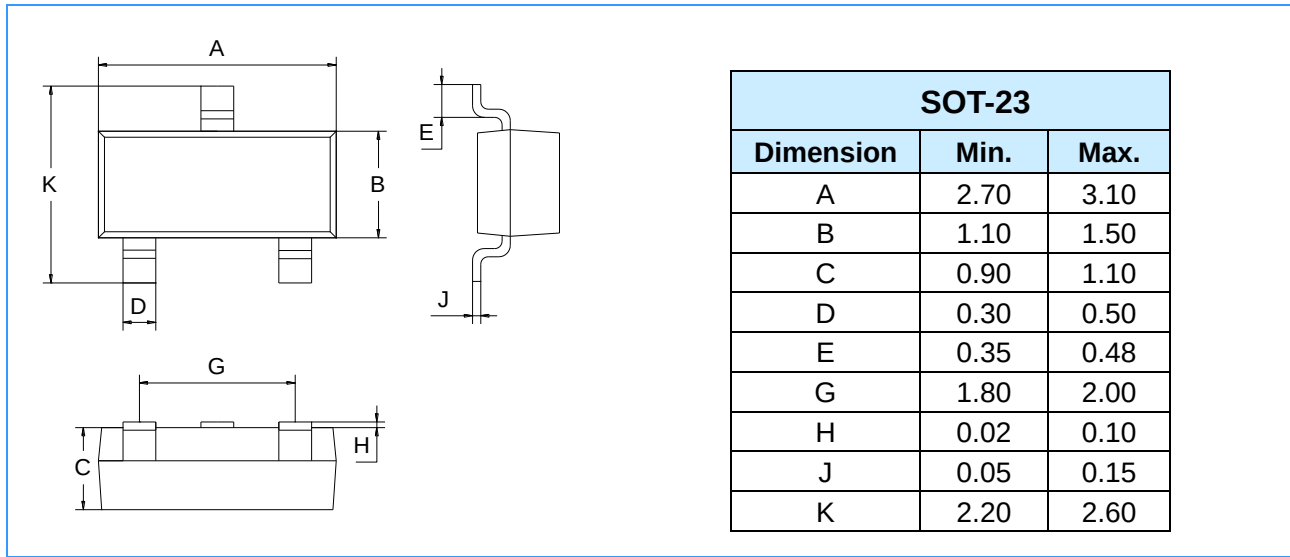
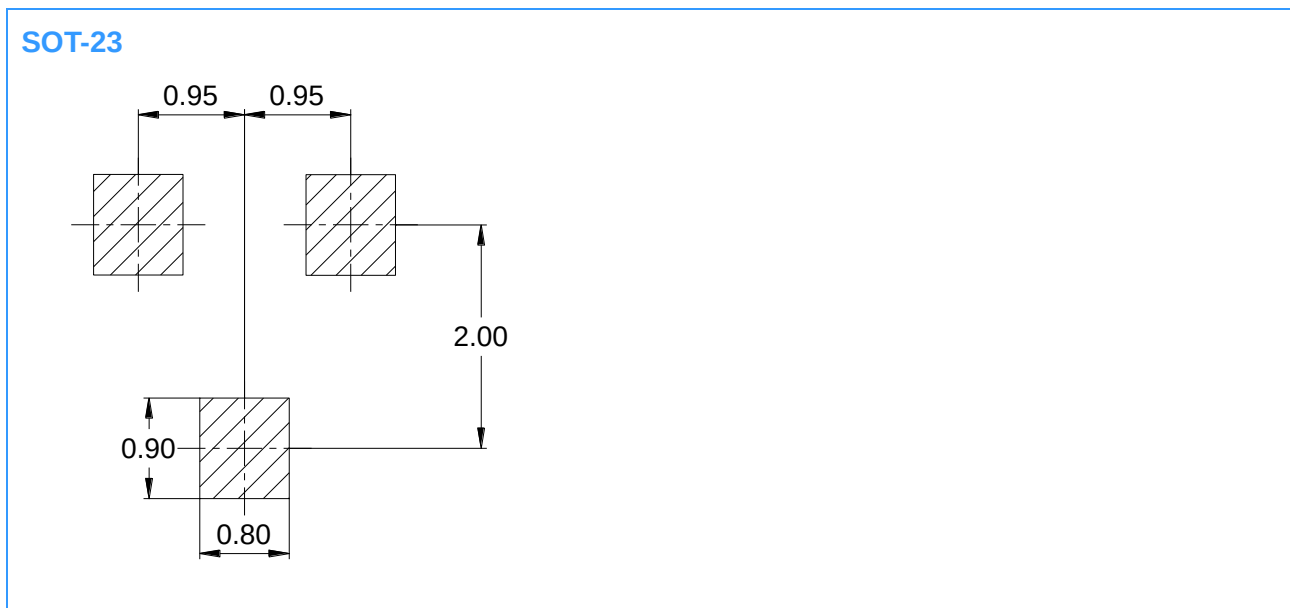


Fig 4 $V_{BE(on)}$ vs. I_C

Package Outline Dimensions (Unit: mm)



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