

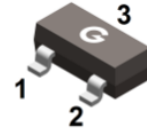
Features

- Low collector-emitter saturation voltage
- High collector current capability
- I_c up to 4A peak pulse current

HF

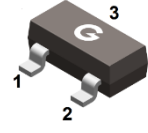
Mechanical Data

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



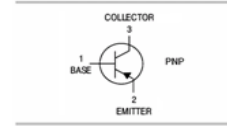
FMMT720

SOT-23



FMMT720-3L

SOT-23-3L



Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
FMMT720	SOT-23	3000 pcs / Tape & Reel	720
FMMT720-3L	SOT-23-3L	3000 pcs / Tape & Reel	720

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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown 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	-2	A
Collector Current (Peak, $t_p \leq 1\text{ms}$)	I_{CM}	-4	A
Base Current	I_B	-0.5	A

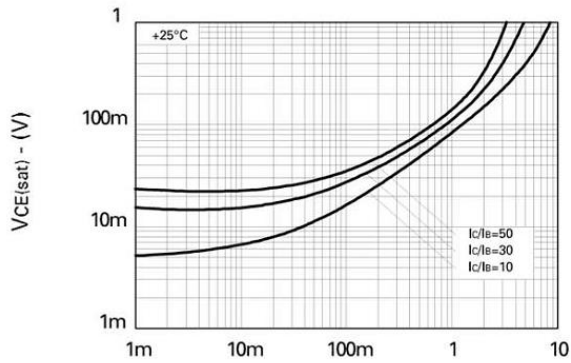
Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	0.35	W
Thermal Resistance Junction-to-Air	$R_{\theta JA}$	357	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case	$R_{\theta JC}$	215	$^\circ\text{C/W}$
Junction Temperature Range	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

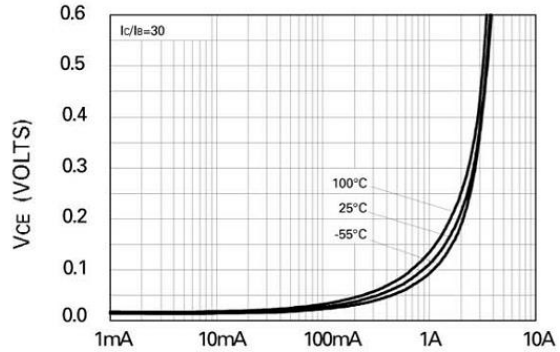
Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

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	-95	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10\text{mA}, I_B = 0$	-40	-85	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -100\mu\text{A}, I_C = 0$	-5	-8.8	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -35\text{V}, I_E = 0$	-	-	-0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -4\text{V}, I_C = 0$	-	-	-0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = -2\text{V}, I_C = -10\text{mA}$	300	480	-	-
		$V_{CE} = -2\text{V}, I_C = -100\text{mA}$	300	450	-	-
		$V_{CE} = -2\text{V}, I_C = -1\text{A}$	180	290	-	-
		$V_{CE} = -2\text{V}, I_C = -1.5\text{A}$	60	130	-	-
		$V_{CE} = -2\text{V}, I_C = -3\text{A}$	12	22	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -0.1\text{A}, I_B = -10\text{mA}$	-	-0.025	-0.040	V
		$I_C = -1\text{A}, I_B = -50\text{mA}$	-	-0.150	-0.220	V
		$I_C = -1.5\text{A}, I_B = -100\text{mA}$	-	-0.245	-0.330	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -1.5\text{A}, I_B = -75\text{mA}$	-	-0.80	-1.00	V
Base-emitter Voltage	$V_{BE(on)}$	$I_C = -1.5\text{A}, V_{CE} = -2\text{V}$	-	-	-1.2	V
Transition Frequency	f_T	$V_{CE} = -10\text{V}, I_C = -50\text{mA}$ $f = 100\text{MHz}$	150	190	-	MHz
Output Capacitance	C_{ob}	$V_{CB} = -10\text{V}, f = 1\text{MHz}$	-	19	25	pF
Turn-On Time	$t_{(on)}$	$V_{CC} = -15\text{V}, I_C = -0.75\text{A}$	-	40	-	-
Turn-Off Time	$t_{(off)}$	$I_{B1} = I_{B2} = -15\text{mA}$	-	435	-	-

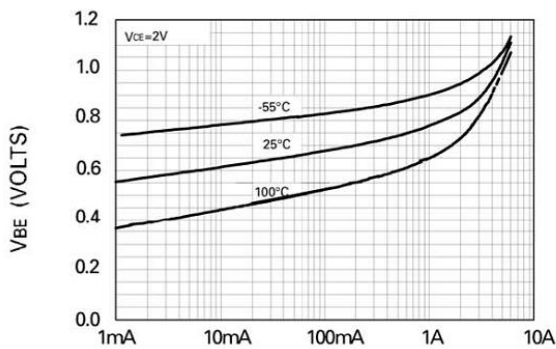
Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)



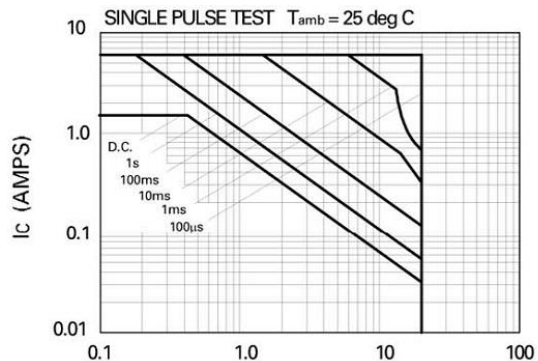
I_C - Collector Current (A)



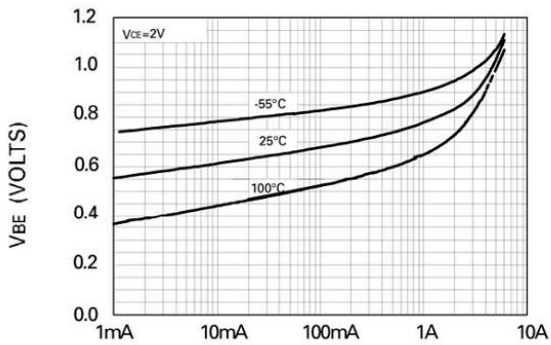
Collector Current



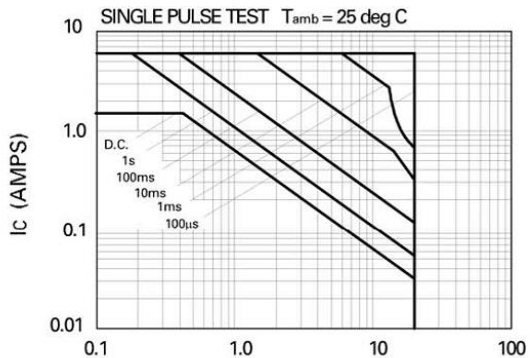
Collector Current



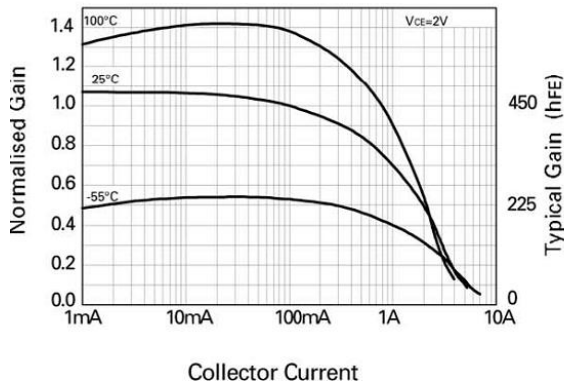
V_{CE} (VOLTS)



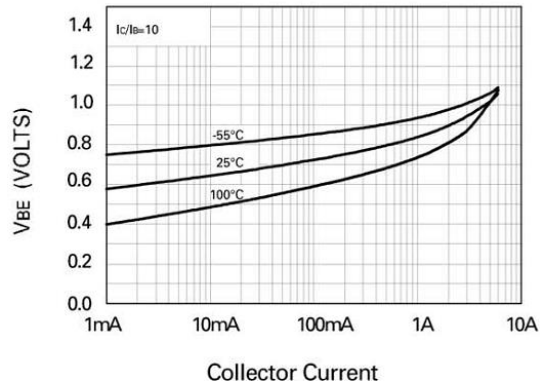
Collector Current



V_{CE} (VOLTS)

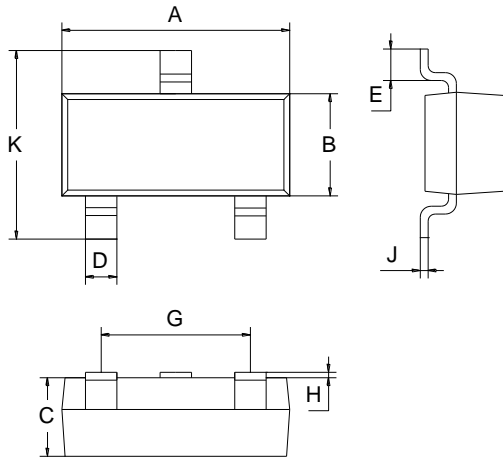


Collector Current

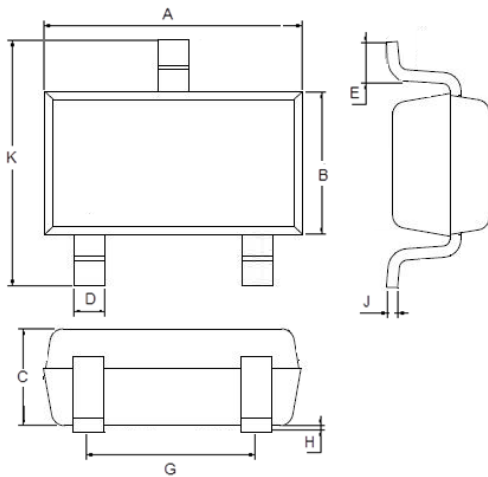


Collector Current

Package Outline Dimensions (Unit: mm)



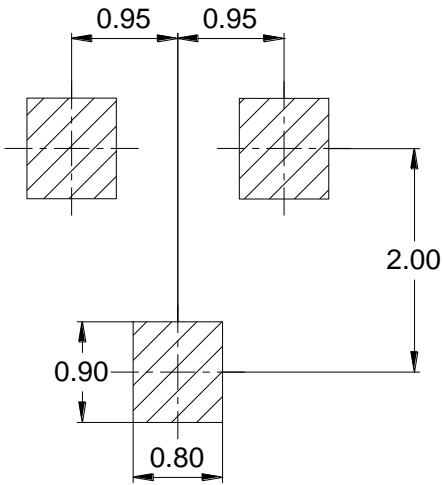
SOT-23		
Dimension	Min.	Max.
A	2.70	3.10
B	1.10	1.50
C	0.9	1.1
D	0.3	0.5
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.05	0.15
K	2.20	2.60



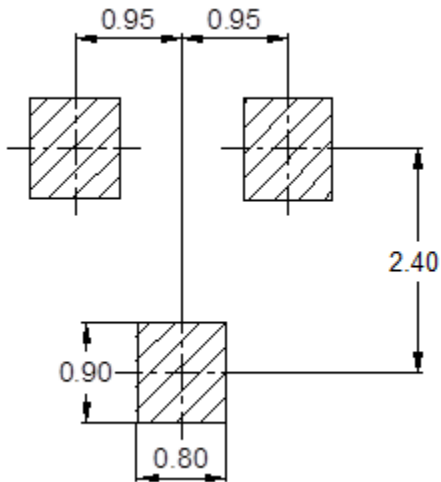
SOT-23-3L		
Dimension	Min.	Max.
A	2.80	3.00
B	1.50	1.70
C	1.00	1.20
D	0.35	0.45
E	0.35	0.55
G	1.80	2.00
H	0.02	0.10
J	0.10	0.20
K	2.60	3.00

Mounting Pad Layout (Unit: mm)

SOT-23



SOT-23-3L



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