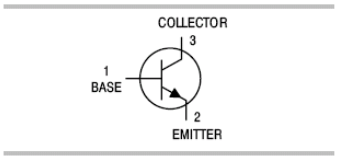
NPN Silicon Epitaxial Planar Transistor

FMMT449

Features

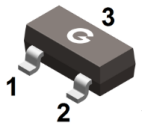
HF

- Low equivalent on-resistance
- Complimentary to FMMT549



Mechanical Data

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



SOT-23

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
FMMT449	SOT-23	3000 pcs / Tape & Reel	449

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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	50	V
Collector-Emitter Breakdown Voltage	V_{CEO}	30	V
Emitter-Base Breakdown Voltage	V_{EBO}	5	V
Collector Current (Continuous)	I_C	1	A
Collector Current (Peak)	I_{CM}	2	A
Base Current (Continuous)	I_B	0.2	A
Power Dissipation	P_D	0.5	W
Junction Temperature Range	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Electrical Characteristics (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 1mA, I_E = 0	50	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 10mA, I_B = 0	30	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 100μA, I_C = 0	5	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB} = 40V, I_E = 0	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 4V, I_C = 0	-	-	0.1	μA
DC Current Gain	h_{FE}	V_{CE} = 2V, I_C = 50mA	70	-	-	-
		V_{CE} = 2V, I_C = 500mA	100	-	300	-
		V_{CE} = 2V, I_C = 1A	80	-	-	-
		V_{CE} = 2V, I_C = 2A	40	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 1A, I_B = 100mA	-	-	0.5	V
		I_C = 2A, I_B = 200mA	-	-	1.0	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 1A, I_B = 100mA	-	-	1.25	V
Base-emitter on Voltage	$V_{BE(on)}$	V_{CE} = 2V, I_C = 1A	-	-	1	V
Transition Frequency	f_T	I_C = 50mA, V_{CE} = 10V f = 100MHZ	150	-	-	MHz
Collector Output Capacitance	C_{OB}	V_{CB} = 10V, I_E = 0, f = 1MHZ	-	-	15	pF

Ratings and Characteristics Curves (@ T_A = 25°C unless otherwise specified)

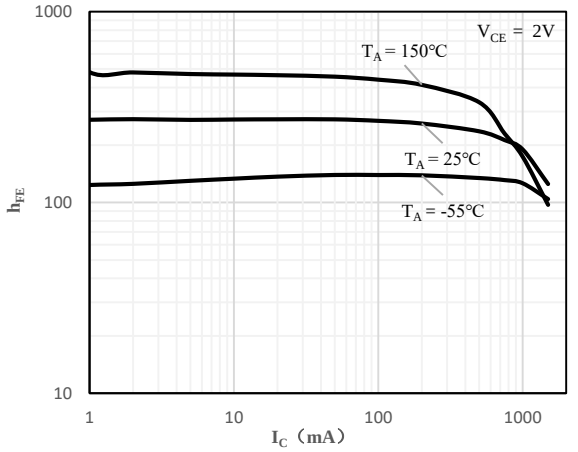


Fig 1 h_{FE} vs. I_C (H)

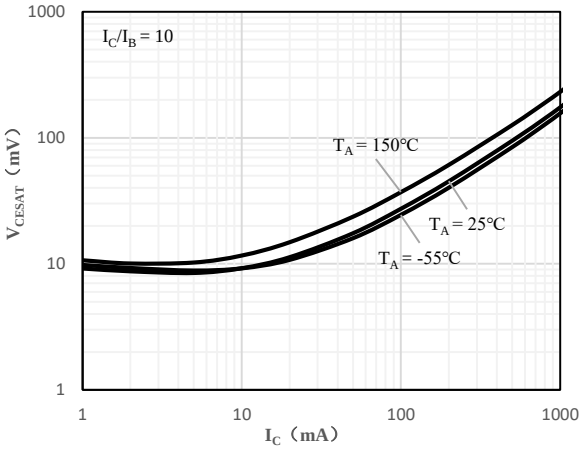


Fig 2 $V_{CE(sat)}$ vs. I_C

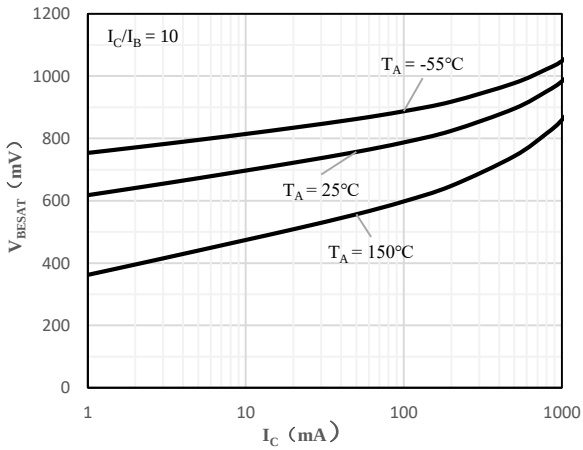


Fig 3 $V_{BE(sat)}$ vs. I_C

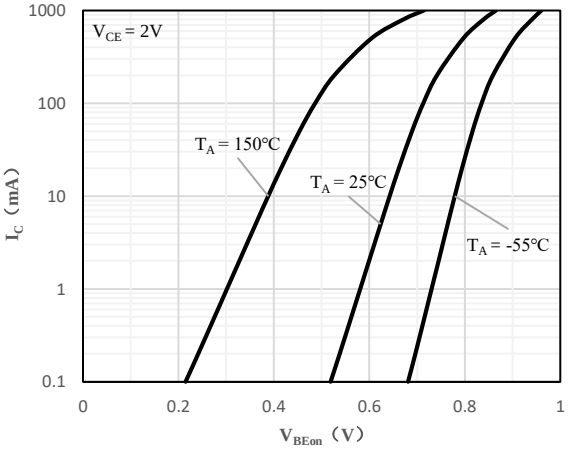


Fig 4 $V_{BE(ON)}$ vs. I_C

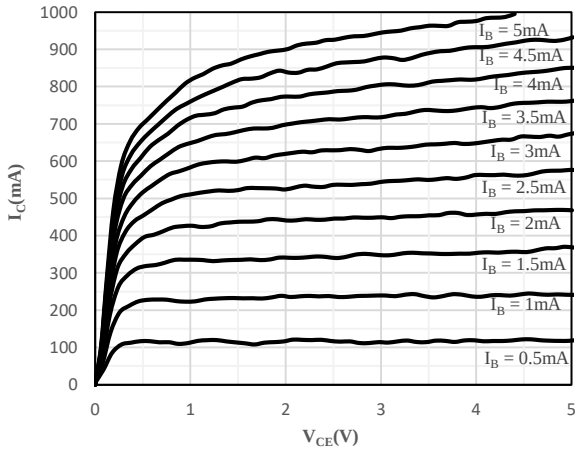


Fig 5 I_C vs. V_{CE}

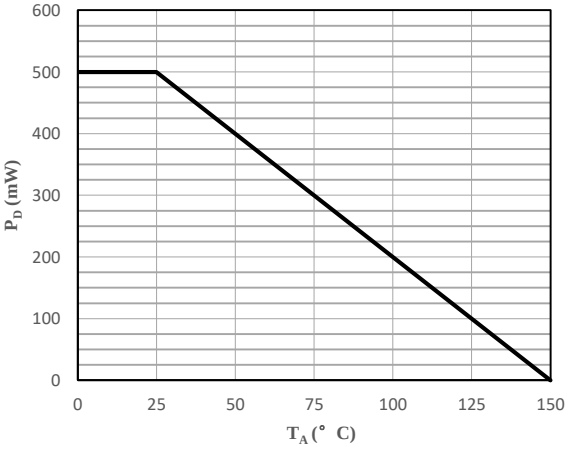
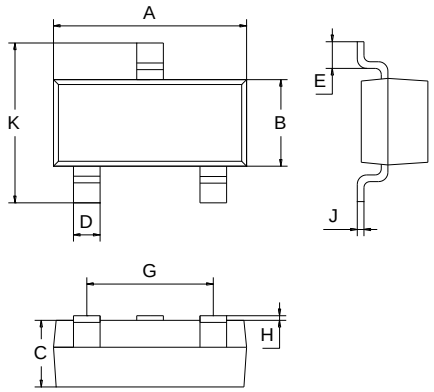


Fig 6 Steady State Power Derating

Package Outline Dimensions (Unit: mm)



SOT-23		
Dimension	**Min.**	**Max.**
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60

Package Outline Dimensions (Unit: mm)

SOT-23

