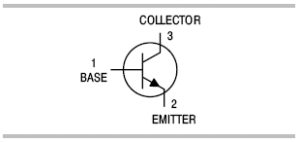
NPN Silicon Epitaxial Planar Transistor

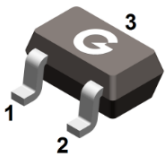
FMMT491W

Features

- Low saturation
- Complement to FMMT591W
- RoHS compliant with Halogen-free

HF





SOT-323

Mechanic al Data

- Case: SOT-323
- 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
FMMT491W	SOT-323	3000pcs / Tape & Reel	491

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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Breakdown Voltage	V_{CEO}	60	V
Emitter-Base Breakdown Voltage	V_{EBO}	5	V
Collector Current (Continuous)	I_C	1	A
Collector Current (Peak)	I_{CM}	2	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	0.35	W
Junction Temperature	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 = 100μA, I_E = 0	80	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 10mA, I_B = 0	60	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 100μA, I_C = 0	5	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB} = 60V, 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} = 5V, I_C = 1mA	100	-	-	-
		V_{CE} = 5V, I_C = 500mA	100	-	300	-
		V_{CE} = 5V, I_C = 1A	80	-	-	-
		V_{CE} = 5V, I_C = 2A	30	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 0.5A, I_B = 0.05A	-	-	0.25	V
		I_C = 1A, I_B = 0.1A	-	-	0.5	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 1A, I_B = 0.1A	-	-	1.1	V
Base-emitter On Voltage	$V_{BE(on)}$	I_C = 1A, V_{CE} = 5V	-	-	1.0	V
Output Capacity	C_{ob}	V_{CB} = 10V, f = 1MHz	-	-	10	pF
Current-Gain—Bandwidth Product	f_T	I_C = 0.05A, V_{CE} = 10V f = 100MHz	150	-	-	MHz

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

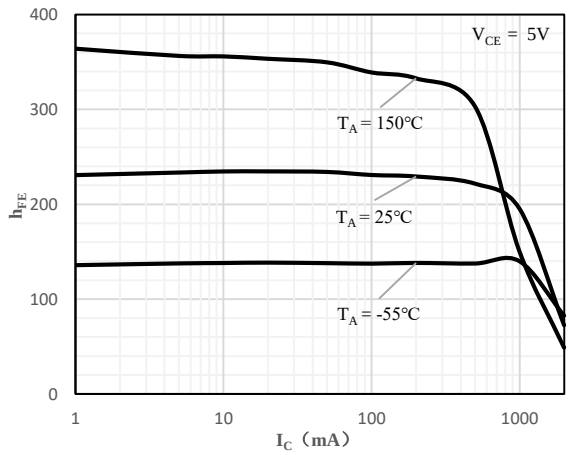


Fig 1 h_{FE} vs. I_C

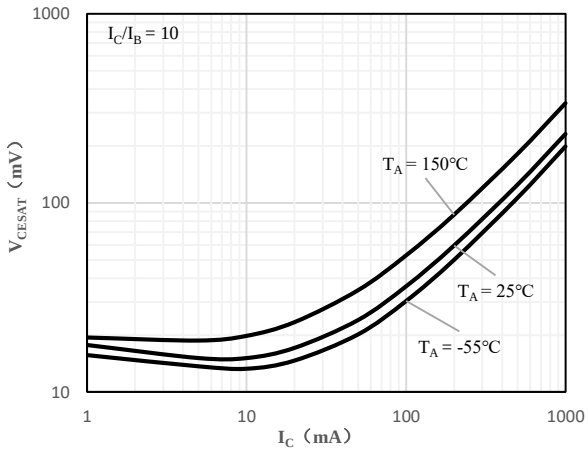


Fig 2 $V_{CE(sat)}$ vs. I_C

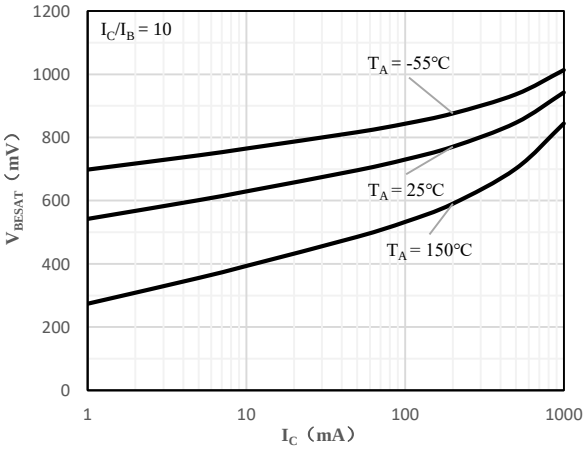


Fig 3 $V_{BE(sat)}$ vs. I_C

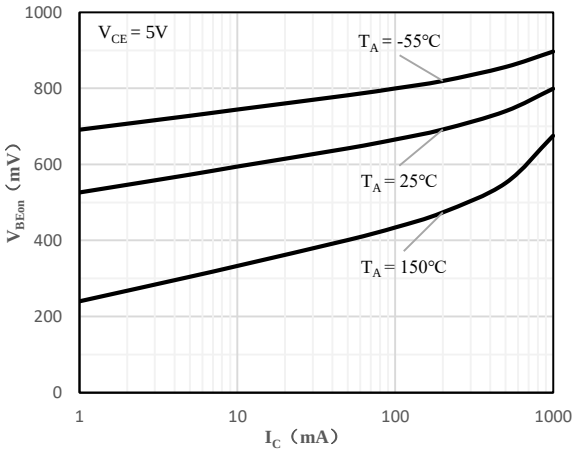
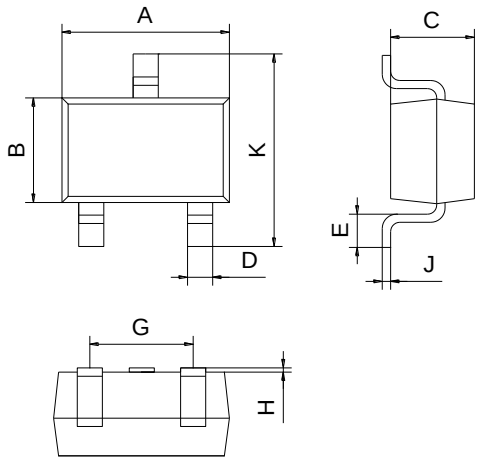


Fig 4 $V_{BE(ON)}$ vs. I_C

Package Outline Dimensions (Unit: mm)



SOT-323		
Dimension	**Min.**	**Max.**
A	2.00	2.20
B	1.15	1.35
C	0.90	1.10
D	0.15	0.35
E	0.25	0.40
G	1.20	1.40
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

Mounting Pad Layout (Unit: mm)

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