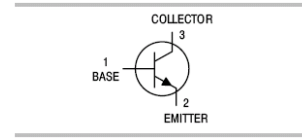




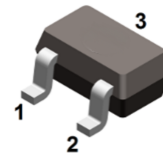
### Features

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



### Mechanical Data

- Case: SOT-323
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



SOT-323

### Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
FMMT491W	SOT-323	3000pcs / Tape & Reel	491

### Maximum Ratings (@ T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CB0</sub>	80	V
Collector-Emitter Breakdown Voltage	V <sub>CEO</sub>	60	V
Emitter-Base Breakdown Voltage	V <sub>EB0</sub>	5	V
Collector Current (Continuous)	I <sub>C</sub>	1	A
Collector Current (Peak)	I <sub>CM</sub>	2	A

### Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P <sub>D</sub>	0.35	W
Junction Temperature	T <sub>J</sub>	-55 ~ +150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 ~ +150	°C



# FMMT491W

## SOT-323 Bipolar Transistor(NPN)



### Electrical Characteristics (@ T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 100μA, I <sub>E</sub> = 0	80	-	-	V
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = 10mA, I <sub>B</sub> = 0	60	-	-	V
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 100μA, I <sub>C</sub> = 0	5	-	-	V
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> = 60V, I <sub>E</sub> = 0	-	-	0.1	μA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> = 4V, I <sub>C</sub> = 0	-	-	0.1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 1mA	100	-	-	-
		V <sub>CE</sub> = 5V, I <sub>C</sub> = 500mA	100	-	300	-
		V <sub>CE</sub> = 5V, I <sub>C</sub> = 1A	80	-	-	-
		V <sub>CE</sub> = 5V, I <sub>C</sub> = 2A	30	-	-	-
Collector-emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 0.5A, I <sub>B</sub> = 0.05A	-	-	0.25	V
		I <sub>C</sub> = 1A, I <sub>B</sub> = 0.1A	-	-	0.5	V
Base-emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = 1A, I <sub>B</sub> = 0.1A	-	-	1.1	V
Base-emitter On Voltage	V <sub>BE(on)</sub>	I <sub>C</sub> = 1A, V <sub>CE</sub> = 5V	-	-	1.0	V
Output Capacity	C <sub>ob</sub>	V <sub>CB</sub> = 10V, f = 1MHz	-	-	10	pF
Current-Gain—Bandwidth Product	f <sub>T</sub>	I <sub>C</sub> = 0.05A, V <sub>CE</sub> = 10V f = 100MHz	150	-	-	MHz



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

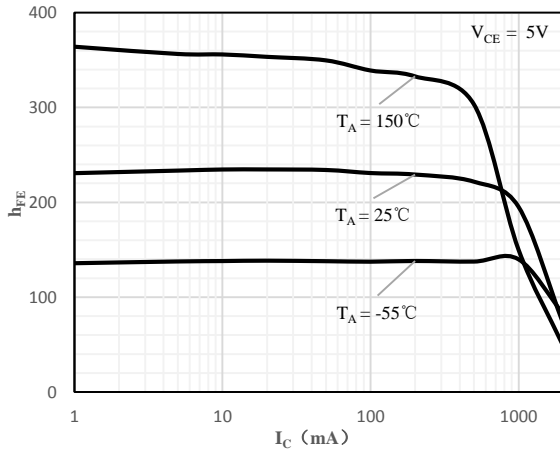


Fig 1  $h_{FE}$  vs.  $I_C$

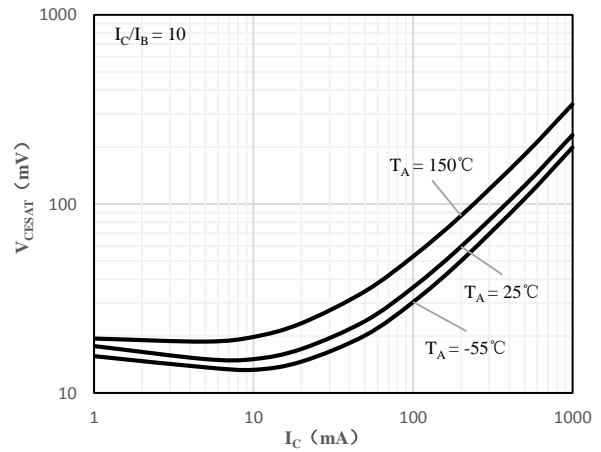


Fig 2  $V_{CE(sat)}$  vs.  $I_C$

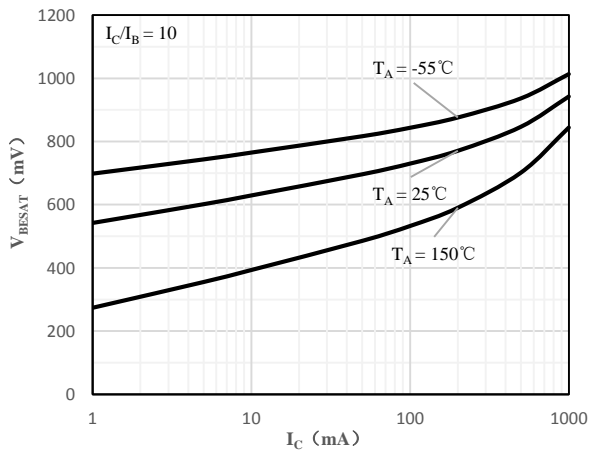


Fig 3  $V_{BE(sat)}$  vs.  $I_C$

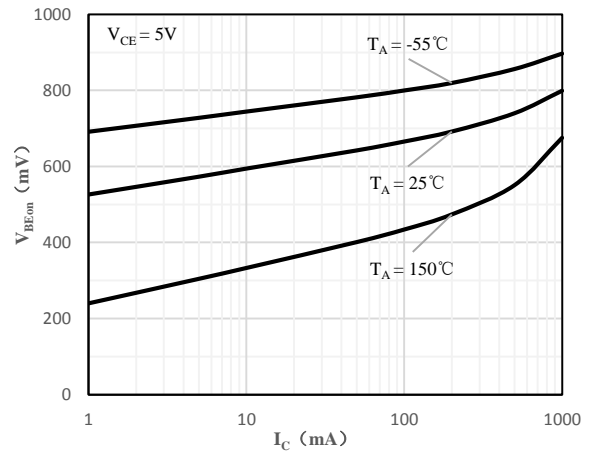
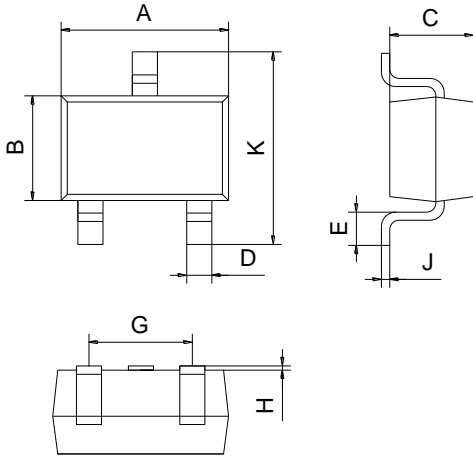


Fig 4  $V_{BE(on)}$  vs.  $I_C$



### Package Outline Dimensions (Unit: mm)



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)

#### SOT-323

