

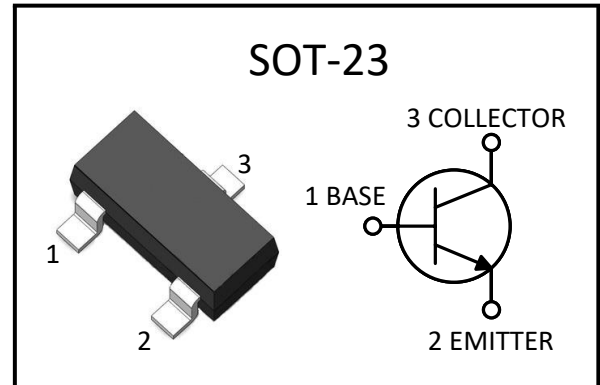
FMMT493

NPN Plastic-Encapsulate Transistor

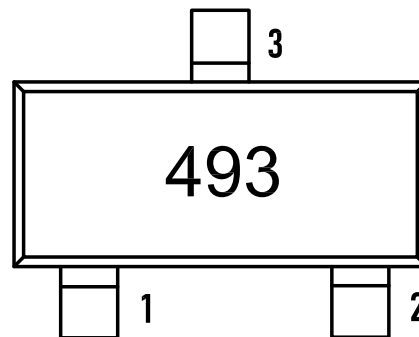
Features

- $V_{CE}=100V$
- $I_C=1A$
- $f_T=150MHz$ @ $V_{CE}=10V$, $I_C=50mA$, $f=100MHz$
- High voltage and high current.
- Excellent hFE linearity.
- Low noise.

Package



Marking



Ordering information

Order code	Package	Marking	Base qty	Delivery mode
FMMT493	SOT-23	493	3K	Tape and reel

Absolute Maximum Ratings @ $T_A=25^{\circ}C$ unless otherwise noted

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	1	A
I_{CM}	Peak Pulse Current	2	A
I_B	Base Current	0.2	A
P_C	Collector Power Dissipation	250	mW
T_J, T_{stg}	Operation Junction And Storage Temperature Range	-55 to + 150	$^{\circ}C$



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

Symbol	Parameter	Test condition	Min.	Typ.	Max.	Unit
V _{(BR)CBO}	Collector-base breakdown voltage	I _C = 100μA, I _E =0	120	—	—	V
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =10mA, I _B =0	100	—	—	
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =100μA, I _C =0	5	—	—	
I _{CBO}	Collector cut-off current	V _{CB} =100V, I _E =0	—	—	0.1	uA
I _{CES}	Collector cut-off current	V _{CES} =100V, I _E =0	—	—	0.1	
I _{EBO}	Emitter cut-off current	V _{EB} =4V, I _C =0	—	—	0.1	
V _{CE(sat)}	Collector-emitter saturation voltage	I _C =500mA, I _B =50mA	—	—	0.3	V
		I _C =1A, I _B =100mA	—	—	0.6	
V _{BE(sat)}	Base-emitter saturation voltage	I _C =1A, I _B =100mA	—	—	1.15	V
V _{BE(on)}	Base-Emitter Turn On Voltage	I _C =1A, V _{CE} =10V	—	—	1.0	
h _{FE}	Static Forward Current Transfer Ratio	V _{CE} =10V, I _C =1mA	100	—	—	
		V _{CE} =10V, I _C =250mA	100	—	300	
		V _{CE} =10V, I _C =500mA	60	—	—	
		V _{CE} =10V, I _C =1A	20	—	—	
f _T	Transition frequency	V _{CE} =10V, I _C =50mA, f=100MHZ	150	—	—	MHZ
C _{obo}	Collector-Base Breakdown Voltage	V _{CB} =10V, f=1MHZ	—	—	10	pF

Note: Measured under pulsed conditions. Pulse width=300ms. Duty cycle≤2%.



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Typical Performance Characteristics($T_J = 25^\circ\text{C}$, unless otherwise noted)

Figure 1 : $V_{CE(sat)}-I_C$

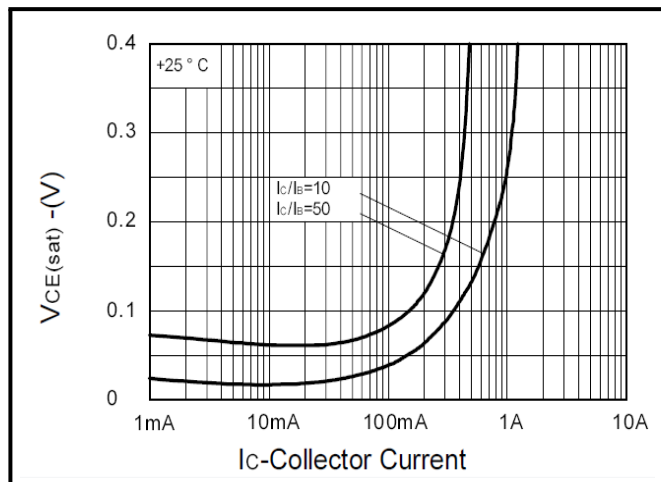


Figure 2 : $V_{CE(sat)}-I_C$

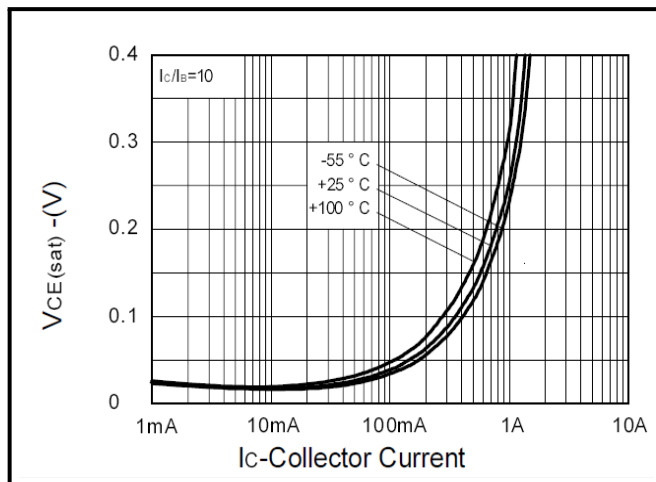


Figure 3 : $h_{FE}-I_C$

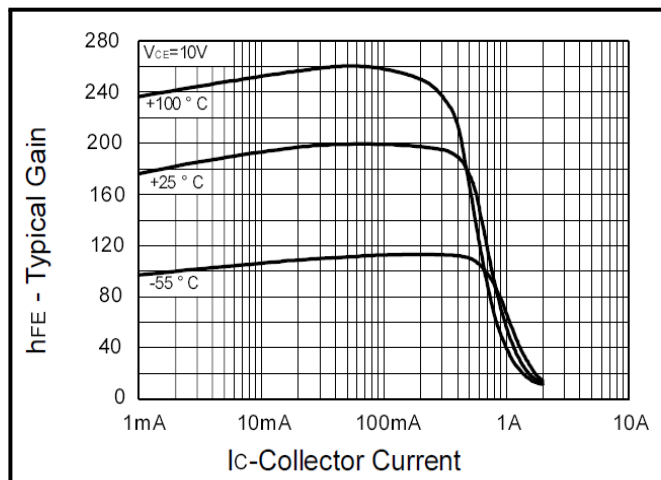


Figure 4 : $V_{BE(sat)}-I_C$

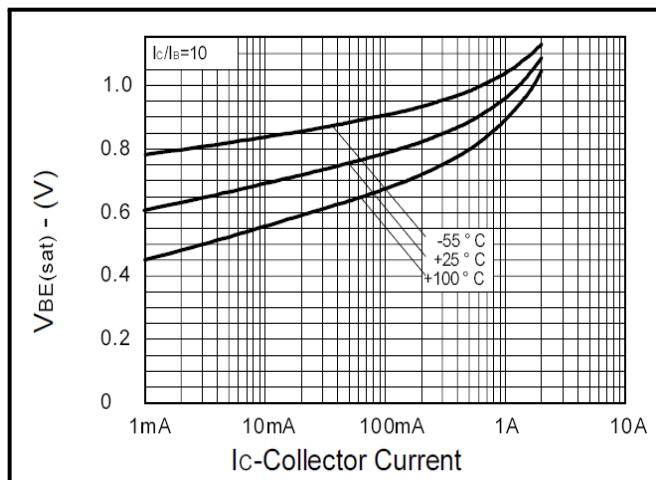


Figure 5 : $V_{BE(on)}-I_C$

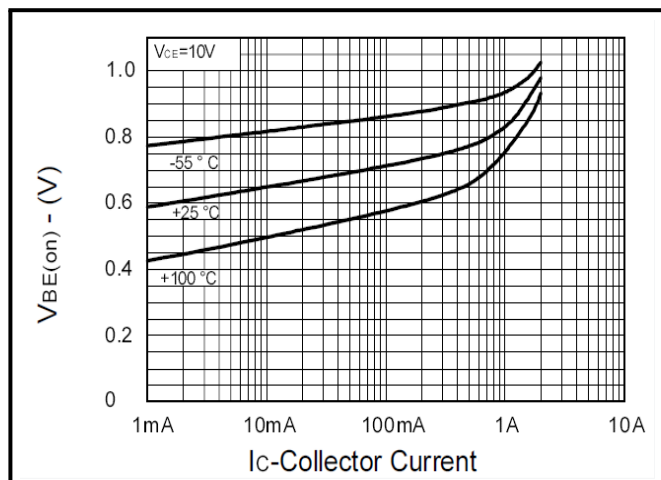
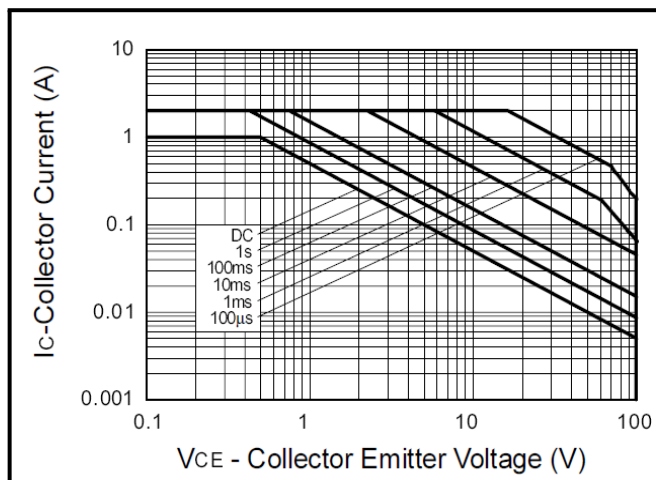


Figure 6 : Safe Operating Area



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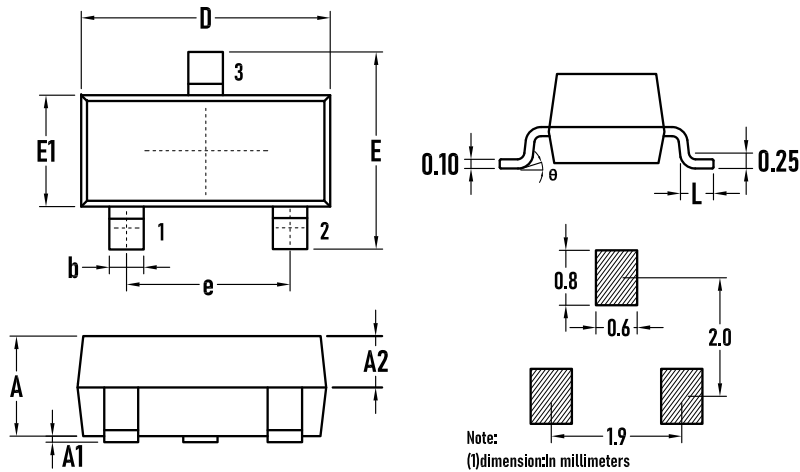
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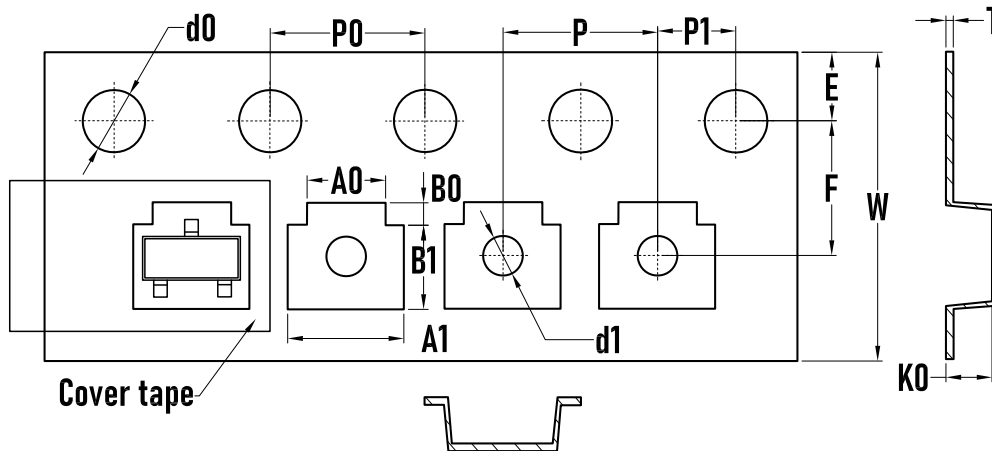
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Outline Drawing - SOT-23



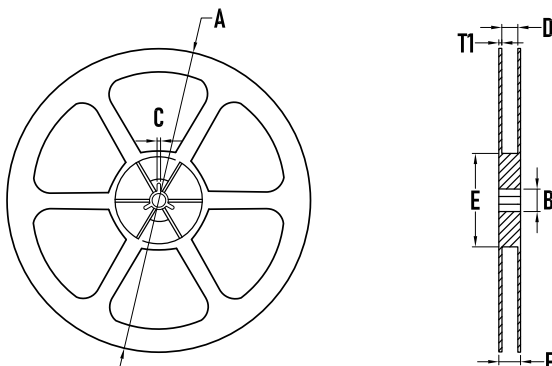
SYMBOL	MILLIMETER		
	MIN.	Typ	MAX
A	0.90	1.00	1.10
A1	0.01	—	0.10
A2	0.50	0.60	0.70
D	2.80	2.90	3.00
b	0.25	0.35	0.45
E	2.10	2.30	2.50
E1	1.20	1.30	1.40
e	1.80	1.90	2.00
L	0.25	0.35	0.45
θ	0	—	8°

Packaging Tape - SOT-23



SYMBOL	MILLIMETER
A0	2.10±0.10
A1	3.10±0.10
B0	0.65±0.10
B1	2.75±0.10
d0	1.55±0.10
d1	1.00±0.05
E	1.75±0.10
F	3.50±0.10
K0	1.10±0.10
P	4.00±0.10
P0	4.00±0.10
P1	2.00±0.10
W	8.00±0.30
T	0.20 ±0.05

Packaging Reel



SYMBOL	MILLIMETER
A	177.8±0.2
B	3.1
C	13.50
D	9.6±0.3
E	75±0.2
F	12.3±0.3
T1	1.0±0.2
Quantity	3000PCS

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