

NPN Transistor

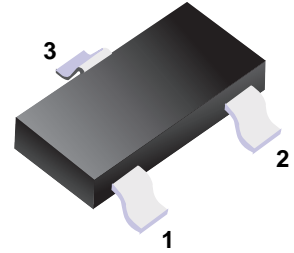
Features

◆ Low equivalent on-resistance



Marking

Marking Code	
FMMT491	491



■ Simplified outline(SOT-23)

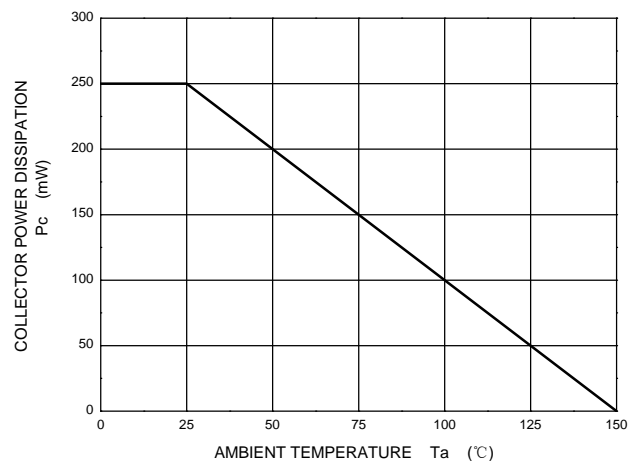
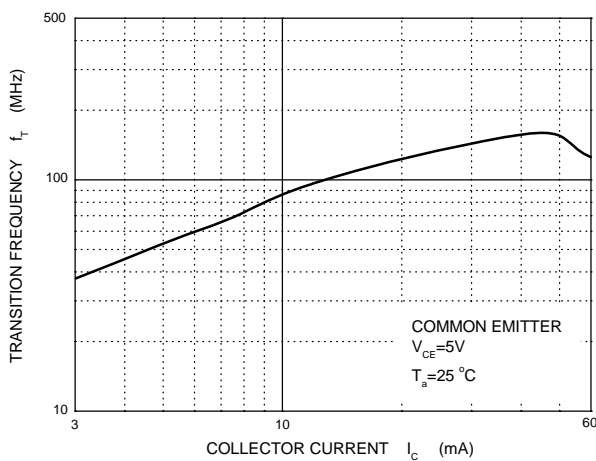
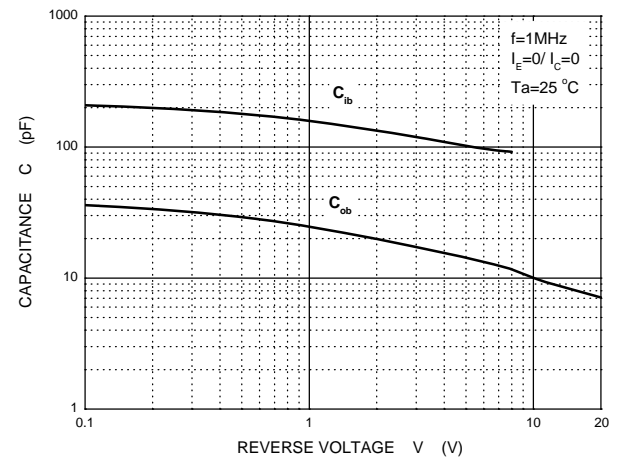
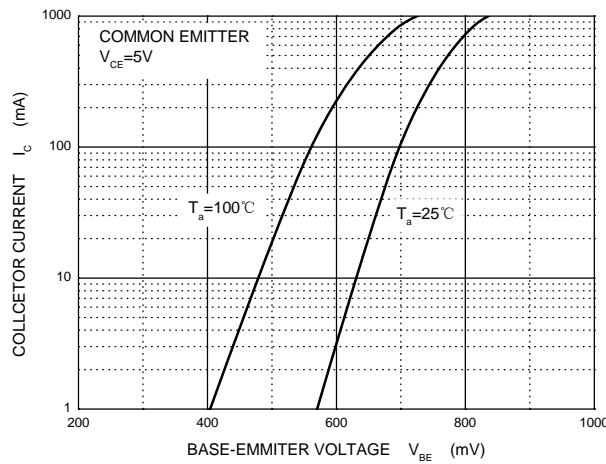
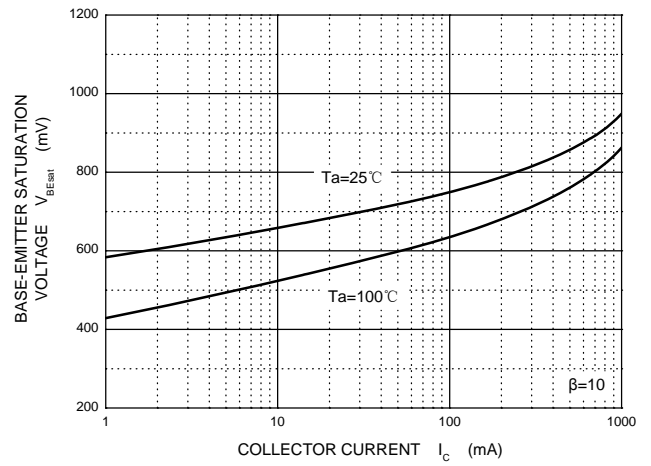
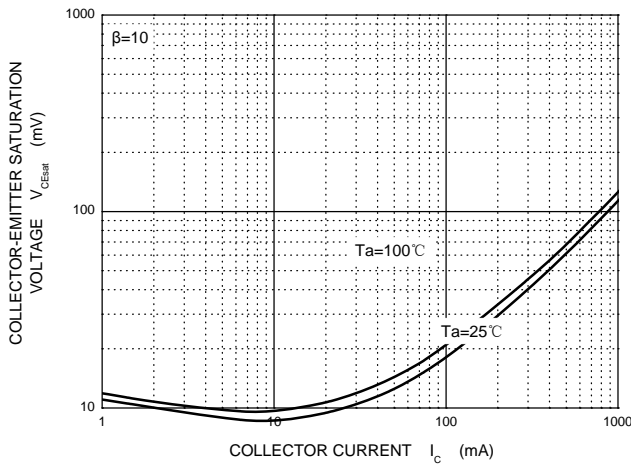
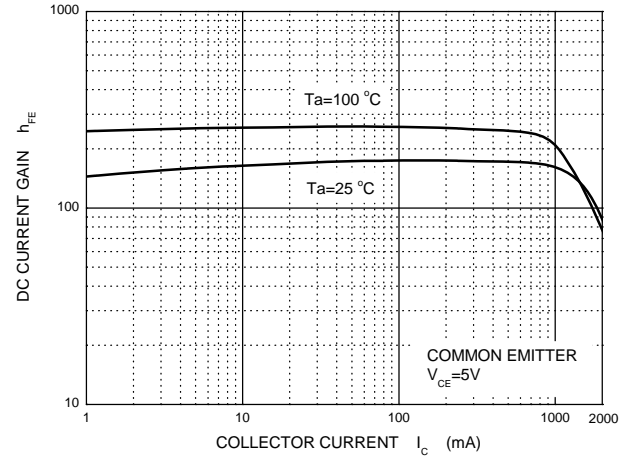
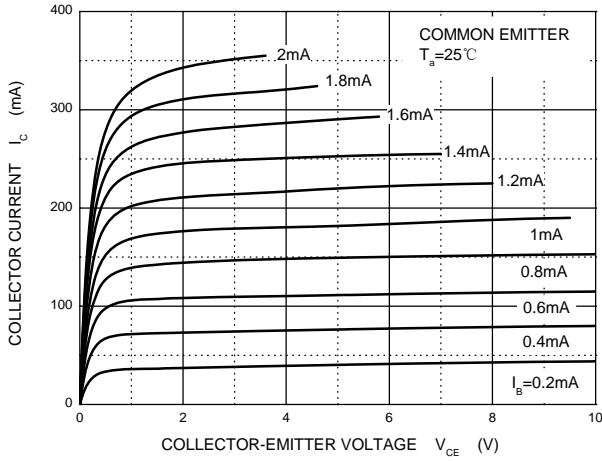
MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	80	V
V _{CEO}	Collector-Emitter Voltage	60	V
V _{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current	1	A
I _{CM}	Peak Pulse Current	2	A
P _C	Collector Power Dissipation	250	mW
R _{θJA}	Thermal Resistance From Junction To Ambient	500	°C/W
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

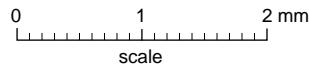
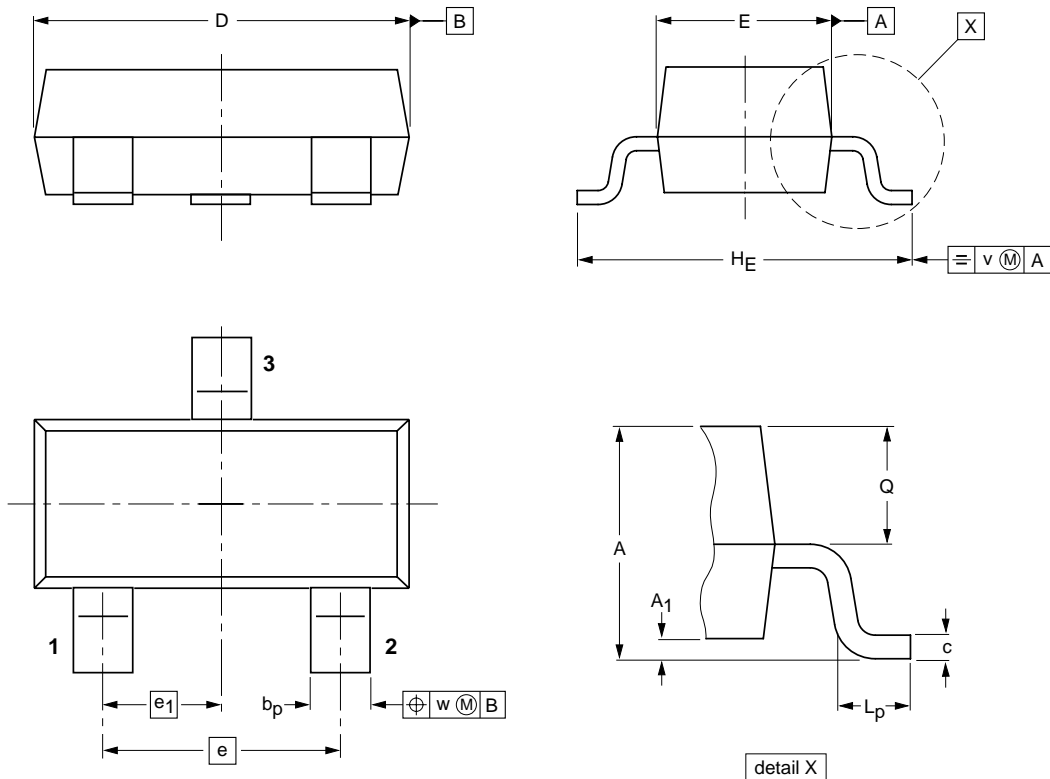
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =100μA, I _E =0	80			V
Collector-emitter breakdown voltage	V _{(BR)CEO} ¹	I _C =10mA, I _B =0	60			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =100μA, I _C =0	5			V
Collector cut-off current	I _{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(1)}	V _{CE} =5V, I _C =1mA	100			
	h _{FE(2)} ¹	V _{CE} =5V, I _C =500mA	100		300	
	h _{FE(3)} ¹	V _{CE} =5V, I _C =1A	80			
	h _{FE(4)} ¹	V _{CE} =5V, I _C =2A	30			
Collector-emitter saturation voltage	V _{CE(sat)1} ¹	I _C =500mA, I _B =50mA			0.25	V
	V _{CE(sat)2} ¹	I _C =1A, I _B =100mA			0.5	V
Base-emitter saturation voltage	V _{BE(sat)} ¹	I _C =1A, I _B =100mA			1.1	V
Base-emitter voltage	V _{BE} ¹	V _{CE} =5V, I _C =1A			1	V
Transition frequency	f _T	V _{CE} =10V, I _C =50mA, f=100MHz	150			MHz
Collector output capacitance	C _{ob}	V _{CB} =10V, f=1MHz			10	pF

¹Measured under pulsed conditions, Pulse width=300μs, Duty cycle≤2%.



Package Outline

SOT-23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel, 7" reel	3000	EIA-481-1