

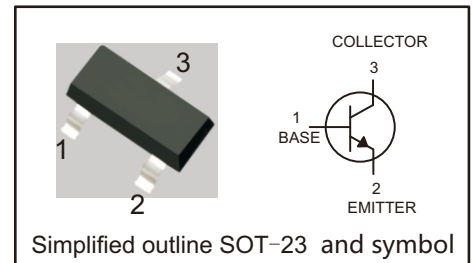
NPN TRANSISTOR

FEATURES

- High Collector-Emitter Voltage
- We declare that the material of product compliance with RoHS requirements and Halogen Free

PINNING

PIN	DESCRIPTION
1	BASE
2	EMITTER
3	COLLECTOR



Simplified outline SOT-23 and symbol

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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	120	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current - Continuous	I_C	1000	mA
Collector Power - Dissipation	P_C	417	mW
Thermal Resistance From Junction To Ambient	R_{thJA}	300	°C/W
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55~+150	°C

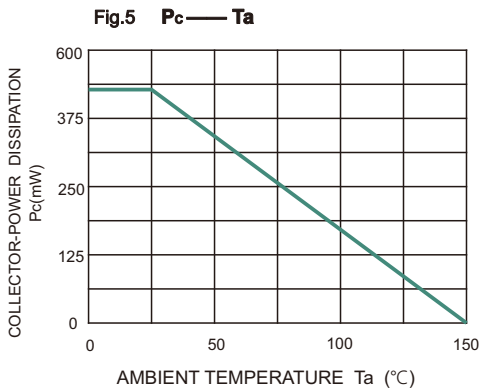
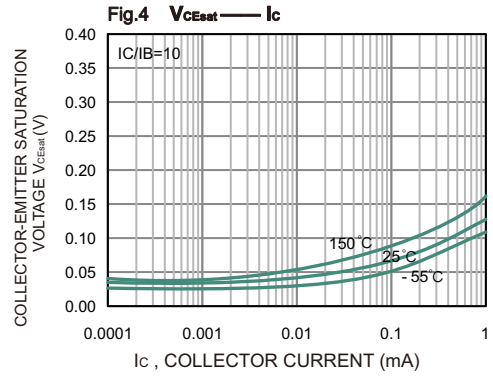
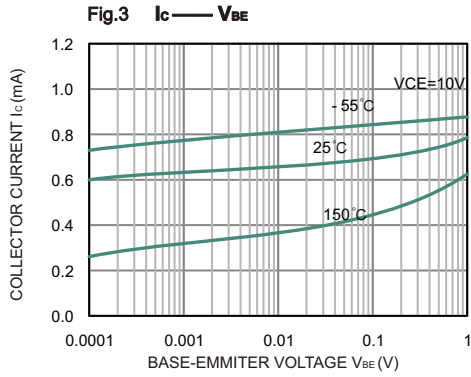
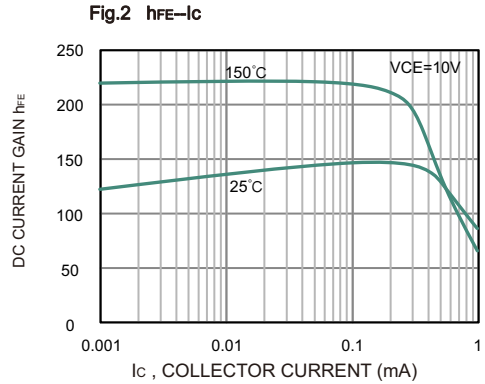
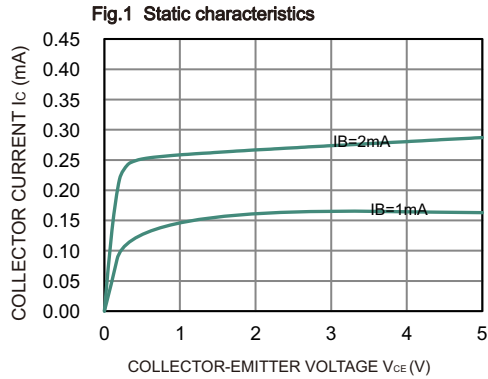
ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted.)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu A, I_E = 0$	120			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	100			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu A, I_C = 0$	5			V
Collector cut-offcurrent	I_{CBO}	$V_{CB} = 100V, I_E = 0$			0.1	μA
Emitter cut-offcurrent	I_{EBO}	$V_{EB} = 4V, I_C = 0$			0.1	μA
Collector cut-offcurrent	I_{CES}	$V_{CE} = 100V, I_E = 0$			0.1	μA
DC current gain	h_{FE1}	$V_{CE} = 10V, I_C = 1mA$	80			
	h_{FE2}	$V_{CE} = 10V, I_C = 250mA$	100		300	
	h_{FE3}	$V_{CE} = 10V, I_C = 500mA$	60			
	h_{FE4}	$V_{CE} = 10V, I_C = 1000mA$	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500mA, I_B = 50mA$			0.3	V
		$I_C = 1A, I_B = 100mA$			0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 1A, I_B = 100mA$			1.2	V
Base-emitter voltage	V_{BE}	$I_{CE} = 10V, I_C = 1A$			1	V
Collector output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$			10	pF

Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2.0\%$

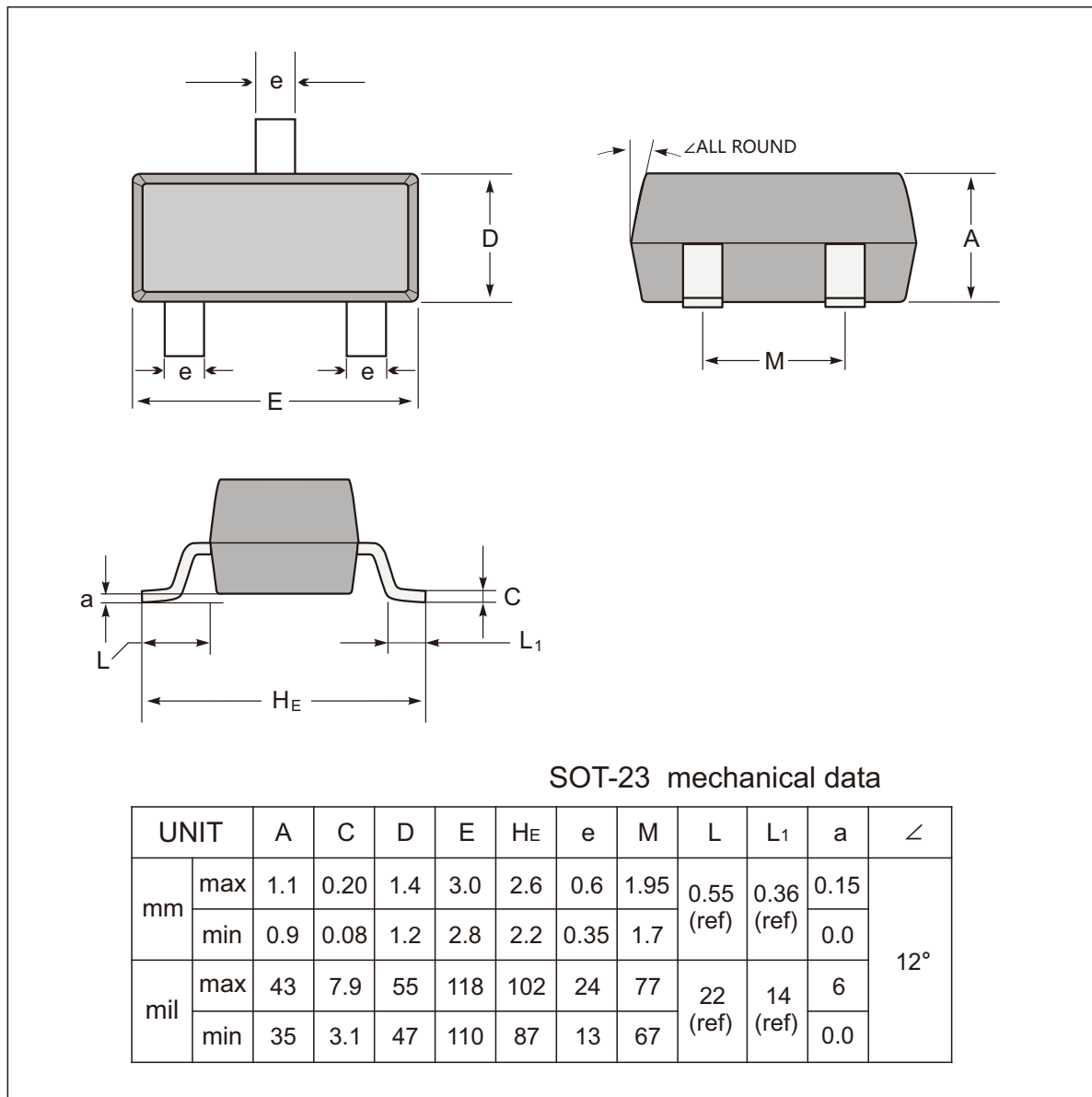


TYPICAL CHARACTERISTICS

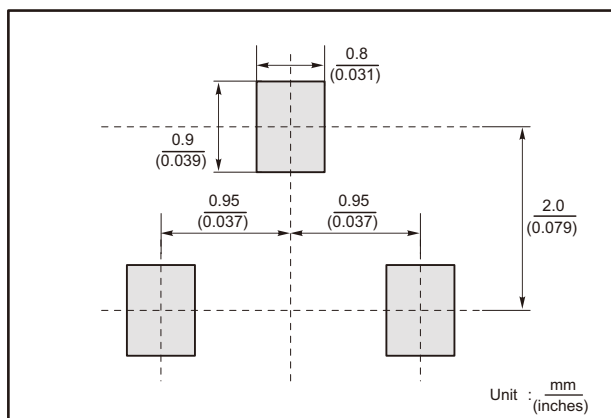




SOT-23 Package Outline Dimensions



The recommended mounting pad size



Marking

Type number	Marking code
FMMT493WD	493



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