

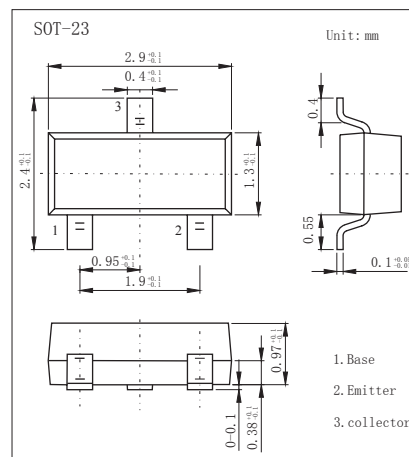
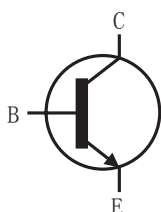


NPN Transistors

FMMT491 (KMMT491)

■ Features

- $V_{CE(sat)}$ maximum specification improvement
- Reverse blocking specification improvement



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CB0}	80	V
Collector - Emitter Voltage	V_{CE0}	60	
Emitter - Base Voltage	V_{EB0}	7	
Collector Current - Continuous	I_C	1	A
Collector Current - Pulse	I_{CP}	2	
Power Dissipation	P_D	500	mW
Linear derating factor		4	mW/ $^\circ\text{C}$
Junction to ambient	$R_{\theta JA}$	250	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to 150	



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■ Electrical Characteristics $T_a = 25^\circ\text{C}$

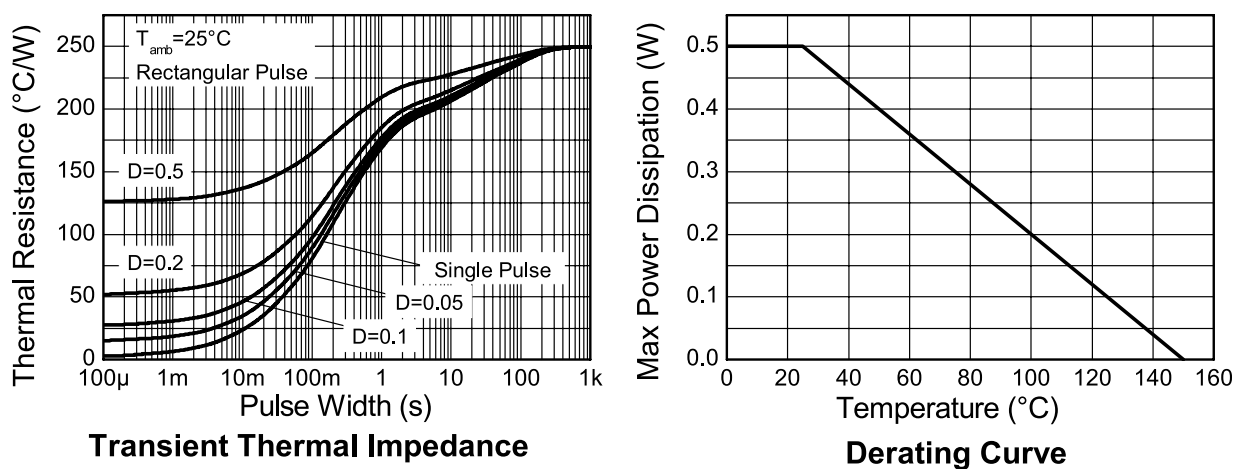
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 100\ \mu\text{A}$, $I_E = 0$	80			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 10\ \text{mA}$, $I_B = 0$	60			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100\ \mu\text{A}$, $I_C = 0$	7			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 60\ \text{V}$, $I_E = 0$			100	nA
Collector- emitter cut-off current	I_{CES}	$V_{CE} = 60\ \text{V}$, $I_E = 0$			100	
Emitter cut-off current	I_{EBO}	$V_{EB} = 5.6\ \text{V}$, $I_C = 0$			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\ \text{mA}$, $I_B = 50\ \text{mA}$ (Note.1)			150	mV
		$I_C = 1\ \text{A}$, $I_B = 100\ \text{mA}$ (Note.1)			250	
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 1\ \text{A}$, $I_B = 100\ \text{mA}$ (Note.1)			1.1	V
Base-emitter turn-on voltage	$V_{BE(on)}$	$V_{CE} = 5\ \text{V}$, $I_C = 1\ \text{A}$ (Note.1)			1	
DC current gain	$h_{FE(1)}$	$V_{CE} = 5\ \text{V}$, $I_C = 1\ \text{mA}$	100			
	$h_{FE(2)}$	$V_{CE} = 5\ \text{V}$, $I_C = 500\ \text{mA}$	100		300	
	$h_{FE(3)}$	$V_{CE} = 5\ \text{V}$, $I_C = 1\ \text{A}$	80			
	$h_{FE(4)}$	$V_{CE} = 5\ \text{V}$, $I_C = 2\ \text{A}$	30			
Collector output capacitance	C_{ob}	$V_{CB} = 10\ \text{V}$, $f = 1\ \text{MHz}$			10	pF
Transition frequency	f_T	$V_{CE} = 10\ \text{V}$, $I_C = 50\ \text{mA}$, $f = 100\ \text{MHz}$	150			MHz

Note.1: Measured under pulsed conditions. Pulse width $\leq 300\ \mu\text{s}$; duty cycle $\leq 2\%$.

■ Marking

Marking	491
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■ Typical Characteristics





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