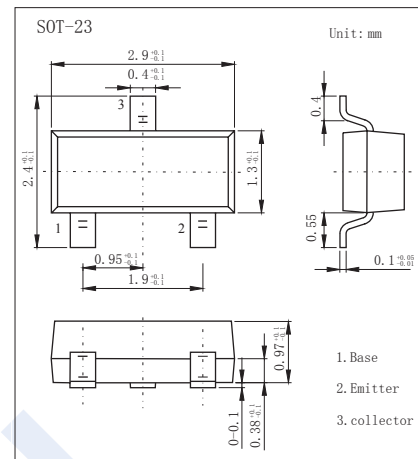
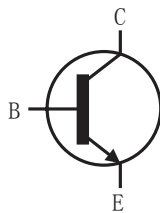


## NPN Transistors

### 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	$V_{CBO}$	80	V
Collector - Emitter Voltage	$V_{CEO}$	60	
Emitter - Base Voltage	$V_{EBO}$	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	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to 150	

## NPN Transistors

## FMMT491 (KMMT491)

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

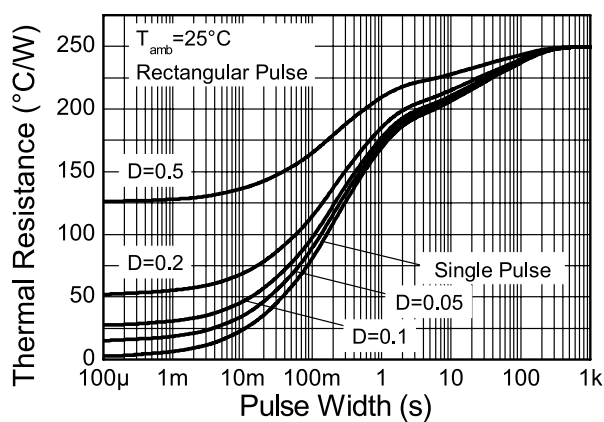
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CB0}$	$I_C = 100 \mu\text{A}$ , $I_E = 0$	80			V
Collector- emitter breakdown voltage	$V_{CE0}$	$I_C = 10 \text{ mA}$ , $I_B = 0$	60			
Emitter - base breakdown voltage	$V_{EB0}$	$I_E = 100 \mu\text{A}$ , $I_C = 0$	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  $\leq 2\%$ .

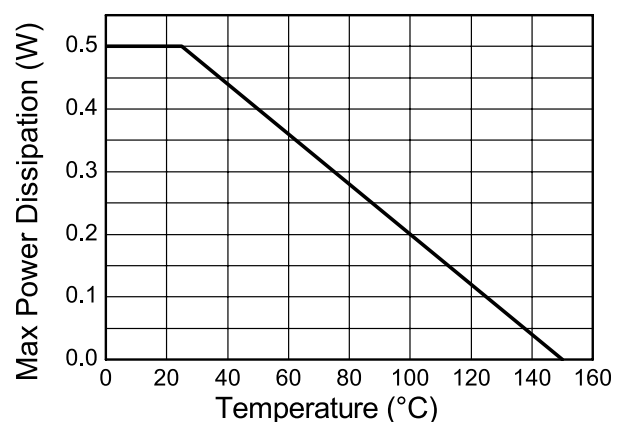
## ■ Marking

Marking	491
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## ■ Typical Characteristics



Transient Thermal Impedance



Derating Curve

## NPN Transistors

### FMMT491 (KMMT491)

■ Typical Characteristics

