

## NPN Transistors

### FMMT493 (KMMT493)

#### ■ Features

- Collector Current Capability  $I_c=1A$
- Collector Emitter Voltage  $V_{CE0}=100V$
- Complementary to FMMT593

#### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CBO}$	120	V
Collector - Emitter Voltage	$V_{CEO}$	100	
Emitter - Base Voltage	$V_{EBO}$	5	
Collector Current - Continuous	$I_c$	1	A
Collector Current - Pulse	$I_{CP}$	2	
Base Current	$I_B$	0.2	
Collector Power Dissipation	$P_C$	500	mW
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55 to 150	

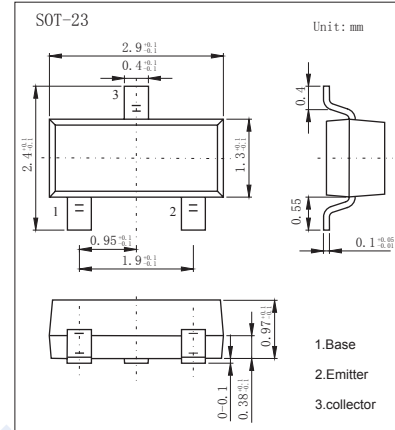
#### ■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CBO}$	$I_c = 100 \mu A, I_E = 0$	120			V
Collector- emitter breakdown voltage	$V_{CEO}$	$I_c = 10 mA, I_B = 0$	100			
Emitter - base breakdown voltage	$V_{EBO}$	$I_E = 100 \mu A, I_c = 0$	5			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = 100 V, I_E = 0$			100	nA
Collector- emitter cut-off current	$I_{CES}$	$V_{CE} = 100 V, I_E = 0$			100	
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 4V, I_c = 0$			100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = 500 mA, I_B = 50 mA$			0.3	V
		$I_c = 1 A, I_B = 100 mA$			0.6	
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_c = 1 A, I_B = 100 mA$			1.15	
Base - emitter turn-on voltage	$V_{BE(on)}$	$V_{CE} = 10V, I_c = 1 A$			1	
DC current gain (Note.1)	$h_{FE}$	$V_{CE} = 10V, I_c = 1 mA$	100			
		$V_{CE} = 10V, I_c = 250 mA$	100		300	
		$V_{CE} = 10V, I_c = 500 mA$	60			
		$V_{CE} = 10V, I_c = 1 A$	20			
Collector output capacitance	$C_{ob}$	$V_{CB} = 10V, f = 10 MHz$			10	pF
Transition frequency	$f_T$	$V_{CE} = 10V, I_c = 50 mA, f = 100 MHz$	150			MHz

Note.1: Pulse width=300us. Duty cycle  $\leq 2\%$

#### ■ Marking

Marking	493
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■ Typical Characteristics

