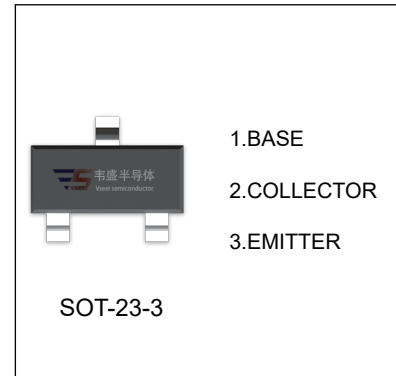


## FMMT495 TRANSISTOR (NPN)

### FEATURE

- Low  $V_{CE(sat)}$
- $h_{FE}$  characterised up to 1A for high current gain hold up
- For general amplification



### MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	170	V
$V_{CEO}$	Collector-Emitter Voltage	150	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	1	A
$P_C$	Collector Power Dissipation	250	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	500	$^\circ\text{C}/\text{W}$
$T_J, T_{stg}$	Operation Junction and Storage Temperature Range	-55~+150	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	170			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}^*$	$I_C=10\text{mA}, I_B=0$	150			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=150\text{V}, I_E=0$			0.1	$\mu\text{A}$
Collector cut-off current	$I_{CES}$	$V_{CE}=150\text{V}, V_{BE}=0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)}^*$	$V_{CE}=10\text{V}, I_C=1\text{mA}$	100			
	$h_{FE(2)}^*$	$V_{CE}=10\text{V}, I_C=250\text{mA}$	100		300	
	$h_{FE(3)}^*$	$V_{CE}=10\text{V}, I_C=500\text{mA}$	50			
	$h_{FE(4)}^*$	$V_{CE}=10\text{V}, I_C=1\text{A}$	10			
Collector-emitter saturation voltage	$V_{CE(sat)(1)}^*$	$I_C=250\text{mA}, I_B=25\text{mA}$			0.2	V
	$V_{CE(sat)(2)}^*$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.3	V
Base-emitter turn-on voltage	$V_{BE(on)}^*$	$V_{CE}=10\text{V}, I_C=500\text{mA}$			1	V
Base-emitter saturation voltage	$V_{BE(sat)}^*$	$I_C=500\text{mA}, I_B=50\text{mA}$			1	V
Transition frequency	$f_T$	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=100\text{MHz}$	100			MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			10	pF

\*Pulse test: pulse width  $\leq 300\mu\text{s}$ , duty cycle  $\leq 2.0\%$ .