

## Plastic-Encapsulate Transistors

TRANSISTOR (PNP)

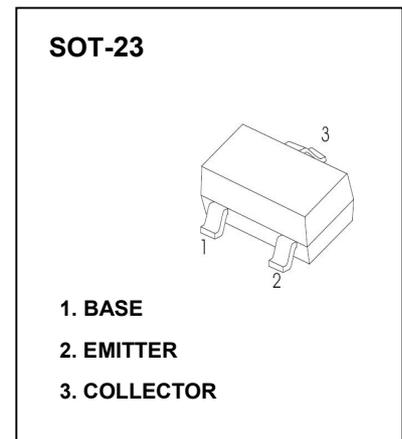
### FEATURES

- Complementary Type FMMT493

**MARKING:593**

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

Symbol	Parameter	Value	Unit
$V_{CB0}$	Collector-Base Voltage	-120	V
$V_{CEO}$	Collector-Emitter Voltage	-100	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	$^{\circ}\text{C}/\text{W}$
$T_J$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-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	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}, I_E=0$	-120			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-10\text{mA}, I_B=0$	-100			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu\text{A}, I_C=0$	-5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-100\text{V}, I_E=0$			-0.1	$\mu\text{A}$
Collector cut-off current	$I_{CES}$	$V_{CES}=-100\text{V}, I_E=0$			-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	$h_{FE(1)}^*$	$V_{CE}=-5\text{V}, I_C=-1\text{mA}$	100			
	$h_{FE(2)}^*$	$V_{CE}=-5\text{V}, I_C=-250\text{mA}$	100			
	$h_{FE(3)}^*$	$V_{CE}=-5\text{V}, I_C=-0.5\text{A}$	100		300	
	$h_{FE(4)}^*$	$V_{CE}=-5\text{V}, I_C=-1\text{A}$	50			
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 saturation voltage	$V_{BE(sat)}^*$	$I_C=-500\text{mA}, I_B=-50\text{mA}$			-1.1	V
Base-emitter voltage	$V_{BE}^*$	$V_{CE}=-5\text{V}, I_C=-1\text{mA}$			-1	V
Transition frequency	$f_T$	$V_{CE}=-10\text{V}, I_C=-50\text{mA}, f=100\text{MHz}$	50			MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$		5		pF

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

**Typical Characteristics**
