

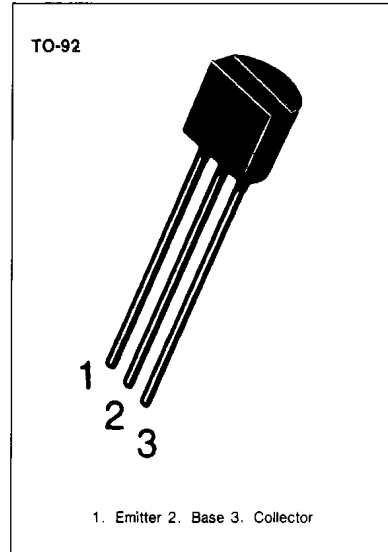
Transistors

MPSA93

HIGH VOLTAGE TRANSISTOR

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-200	V
Collector-Emitter Voltage	V_{CEO}	-200	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-500	mA
Collector Dissipation ($T_a = 25^\circ\text{C}$)	P_C	625	mW
Derate above 25°C		5	mW/ $^\circ\text{C}$
Collector Dissipation ($T_c = 25^\circ\text{C}$)	P_C	1.5	W
Derate above 25°C		12	mW/ $^\circ\text{C}$
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~150	$^\circ\text{C}$



ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Min	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C = -100\mu\text{A}, I_E = 0$			
*Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C = -1\text{mA}, I_B = 0$	-200		V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E = -100\mu\text{A}, I_C = 0$	-5		V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -160\text{V}, I_E = 0$		-0.25	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -3\text{V}, I_C = 0$		-0.10	μA
*DC Current Gain	h_{FE}	$V_{CE} = -10\text{V}, I_C = -1\text{mA}$	25		
		$V_{CE} = -10\text{V}, I_C = -10\text{mA}$	40		
		$V_{CE} = -10\text{V}, I_C = -30\text{mA}$	25		
*Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -20\text{mA}, I_B = -2\text{mA}$		-0.50	V
*Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -20\text{mA}, I_B = -2\text{mA}$		-0.90	V
Current Gain Bandwidth Product	f_T	$V_{CE} = -20\text{V}, I_C = -10\text{mA}$ $f = 100\text{MHz}$	50		MHz
Collector Base Capacitance	C_{CB}	$f = 1\text{MHz}$		8	pF

* Pulse Test: $PW = 300\mu\text{s}$, Duty Cycle = 2%

