

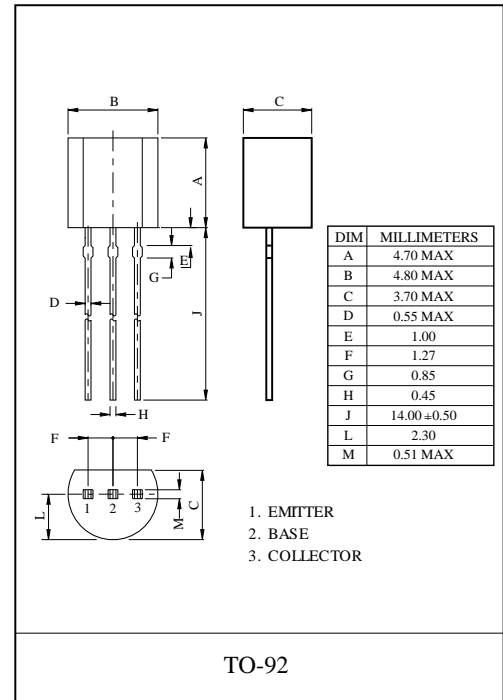
MPSA13 TRANSISTOR (NPN)

FEATURES

- Darlington Transistors

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	10	V
I_C	Collector Current	0.5	A
P_C	Collector Power Dissipation	625	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	200	$^\circ\text{C}/\text{W}$
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	$V_{(BR)CBO}$	$I_C=0.1\text{mA}, I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=0.1\text{mA}, I_C=0$	10			V
Collector cut-off current	I_{CBO}	$V_{CB}=30\text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=10\text{V}, I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$ *	$V_{CE}=5\text{V}, I_C=10\text{mA}$	5000			
	$h_{FE(2)}$ *	$V_{CE}=5\text{V}, I_C=100\text{mA}$	10000			
Collector-emitter saturation voltage	$V_{CE(sat)}$ *	$I_C=100\text{mA}, I_B=0.1\text{mA}$			1.5	V
Base-emitter voltage	V_{BE} *	$V_{CE}=5\text{V}, I_C=100\text{mA}$			2.0	V
Current gain-bandwidth product	f_T	$V_{CE}=5\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	125			MHz

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

Typical Characteristics

