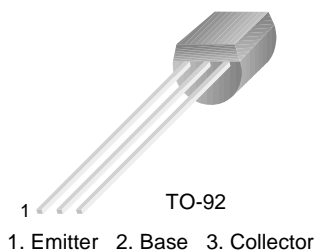


MPS651

Switching and Amplifier Applications



NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_a=25^\circ\text{C}$ unless otherwise noted

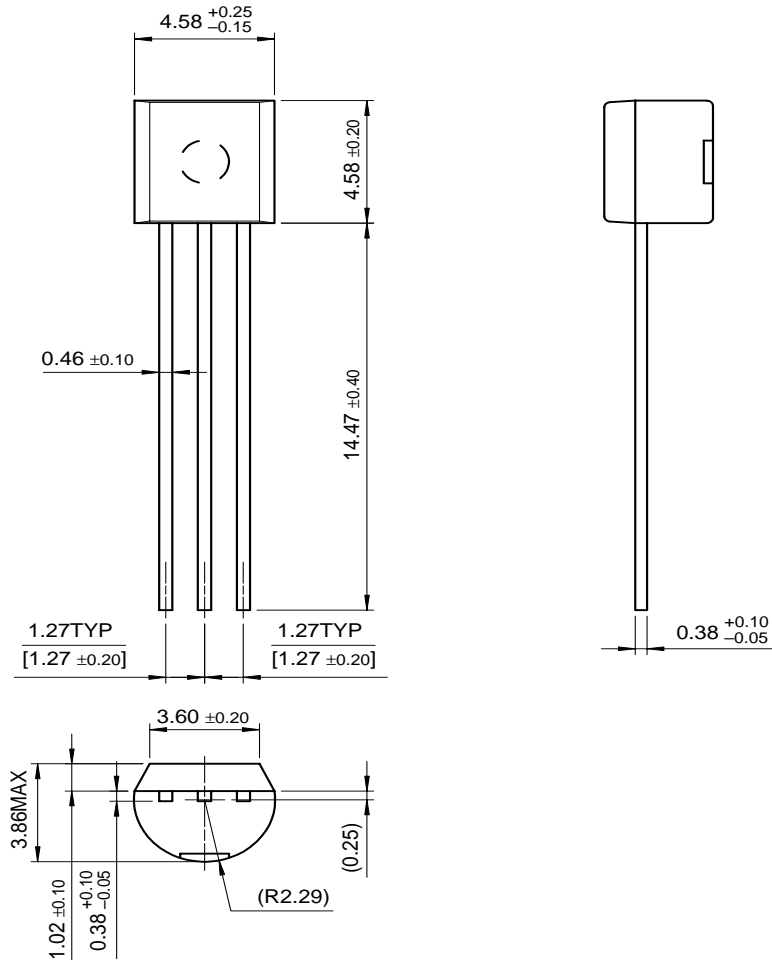
Symbol	Parameter	Ratings	Units
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	0.8	A
P_C	Collector Dissipation	625	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Voltage	$I_C=100\mu\text{A}, I_E=0$	80			V
BV_{CEO}	Collector-Emitter Voltage	$I_C=10\text{mA}, I_B=0$	60			V
BV_{EBO}	Emitter-Base Voltage	$I_C=10\mu\text{A}, I_C=0$	5			V
I_{CBO}	Collector Cut-off Current	$V_{CB}=80\text{V}, I_E=0$			0.1	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=4.0\text{V}, I_C=0$			0.1	μA
h_{FE1}	DC Current Gain	$V_{CE}=2\text{V}, I_C=50\text{mA}$	75			
h_{FE2}		$V_{CE}=2\text{V}, I_C=500\text{mA}$	75			
h_{FE3}		$V_{CE}=2\text{V}, I_C=1.0\text{A}$	75			
h_{FE4}		$V_{CE}=2\text{V}, I_C=2.0\text{A}$	40			
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C=1.0\text{A}, I_B=100\text{mA}$ $I_C=2.0\text{A}, I_B=200\text{mA}$			300 500	mV
$V_{BE}(\text{sat})$	Base-Emitter Saturation Voltage	$I_C=1.0\text{A}, I_B=100\text{mA}$			1.2	V
$V_{BE}(\text{on})$	Base-Emitter On Voltage	$V_{CE}=2.0\text{V}, I_C=1.0\text{A}$			1.0	V
f_T	Current Gain Band Width Product	$V_{CE}=5.0\text{V}, I_C=50\text{mA},$ $f=100\text{MHz}$	75			MHz

Package Dimensions

TO-92



Dimensions in Millimeters

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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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Definition of Terms

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