

TO-92 Plastic-Encapsulate Transistors

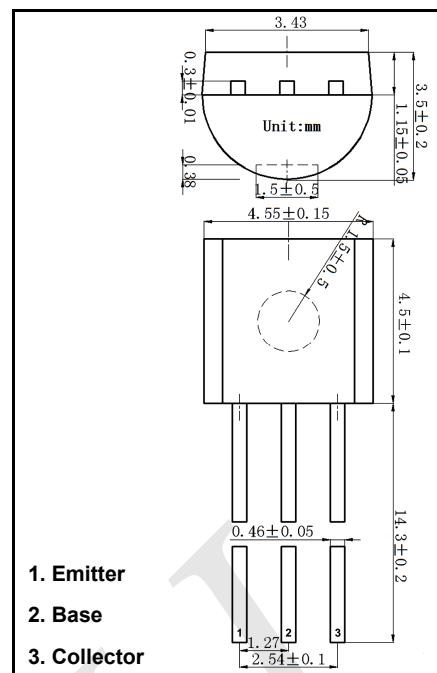
S9018H331 NPN Transistors

Features

- High Current Gain Bandwidth Product

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

Symbol	Parameter	Value	Unit
V_{CB0}	Collector Base Voltage	25	V
V_{CE0}	Collector Emitter Voltage	18	V
V_{EB0}	Emitter Base Voltage	4	V
I_C	Collector Current	50	mA
P_C	Collector Power Dissipation	0.4	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	312.5	$^{\circ}\text{C}/\text{W}$
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)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = 100\mu\text{A}$, $I_E = 0$	25			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C = 0.1\text{mA}$, $I_B = 0$	18			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = 100\mu\text{A}$, $I_C = 0$	4			V
I_{CBO}	Collector cut-off current	$V_{CB} = 20\text{V}$, $I_E = 0$			0.1	μA
I_{CEO}	Collector cut-off current	$V_{CE} = 15\text{V}$, $I_B = 0$			0.1	μA
I_{EBO}	Emitter cut-off current	$V_{EB} = 3\text{V}$, $I_C = 0$			0.1	μA
h_{FE}	DC current gain	$V_{CE} = 5\text{V}$, $I_C = 1\text{mA}$	100		300	
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$			0.5	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C = 10\text{mA}$, $I_B = 1\text{mA}$			1.42	V
f_T	Transition frequency	$V_{CE} = 5\text{V}$, $I_C = 50\text{mA}$, $f = 400\text{MHz}$		800		MHz

Typical Characteristics

