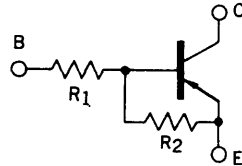


NEC

PNP SILICON TRANSISTOR BN1L4M

DESCRIPTION The BN1L4M is designed for use in medium speed switching circuit.

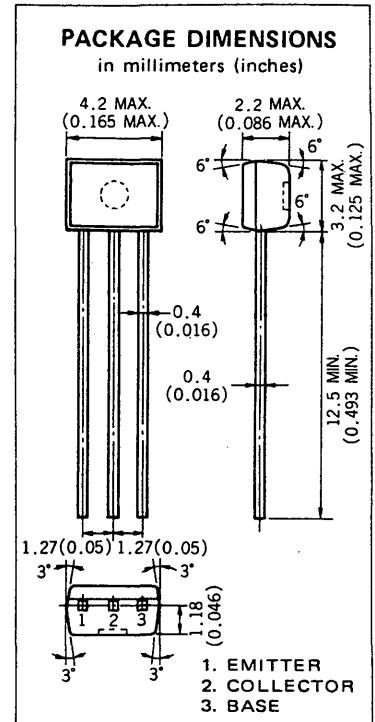
FEATURE ● Bias resistors built-in type PNP transistor equivalent circuit.



$R_1 = 47 \text{ k}\Omega$
 $R_2 = 47 \text{ k}\Omega$

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures	
Storage Temperature -55 to +150 °C
Junction Temperature 150 °C Maximum
Maximum Power Dissipation ($T_a = 25 \text{ }^\circ\text{C}$)	
Total Power Dissipation 250 mW
Maximum Voltages and Currents ($T_a = 25 \text{ }^\circ\text{C}$)	
V_{CBO} Collector to Base Voltage -60 V
V_{CEO} Collector to Emitter Voltage -50 V
V_{EBO} Emitter to Base Voltage -10 V
$I_{C(DC)}$ Collector Current (DC) -100 mA
$I_{C(pulse)}$ Collector Current (Pulse) -200 mA



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

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
R_1	Input Resistance	32.9	47.0	61.1	$\text{k}\Omega$	
R_1/R_2	Resistors Ratio	0.9	1.0	1.1	—	
V_{IL}	Low Level Input Voltage		-1.17	-0.8	V	$V_{CE} = -5.0 \text{ V}, I_C = -100 \text{ }\mu\text{A}$
V_{IH}	Hi Level Input Voltage	-5.0	-2.4		V	$V_{CE} = -0.2 \text{ V}, I_C = -5.0 \text{ mA}$
t_{on}	Turn on Time		0.5	1.0	μs	$V_{CC} = -5.0 \text{ V}, R_L = 1.0 \text{ k}\Omega$ $V_{in} = -5.0 \text{ V},$ $PW = 2 \text{ }\mu\text{s}, \text{Duty Cycle} \leq 2 \%$
t_{stg}	Storage Time		0.8	3.0	μs	
t_{off}	Turn off Time		1.4	4.0	μs	
h_{FE1}	DC Current Gain	85	135	340	—	$V_{CE} = -5.0 \text{ V}, I_C = -5.0 \text{ mA}$
h_{FE2}	DC Current Gain	95	180		—	$V_{CE} = -5.0 \text{ V}, I_C = -5.0 \text{ mA}$
$V_{CE(sat)}$	Collector Saturation Voltage		-0.05	-0.2	V	$I_C = -5.0 \text{ mA}, I_B = -0.25 \text{ mA}$
I_{CBO}	Collector Cutoff Current			-0.1	μA	$V_{CB} = -50 \text{ V}, I_E = 0$

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

