

LM9013G, LM9013H

Preferred Devices

Amplifier Transistors

NPN Silicon

- Moisture Sensitivity Level: 1

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	25	Vdc
Collector-Base Voltage	V_{CBO}	25	Vdc
Emitter-Base Voltage	V_{EBO}	3.0	Vdc
Collector Current – Continuous	I_C	1000	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	625 5.0	mW mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	1.5 12	Watts mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

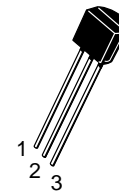
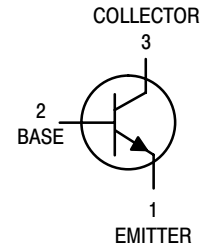
Characteristic	Symbol	Max	Unit
Thermal Resistance, (Note 1.) Junction to Ambient	$R_{\theta JA}$	200	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	83.3	$^\circ\text{C}/\text{W}$

1. $R_{\theta JA}$ is measured with the device soldered into a typical printed circuit board.

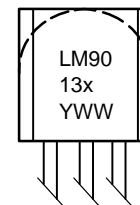


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TO-92
CASE 29
STYLE 1



LM9013x = Specific Device Code
x = G or H
Y = Year
WW = Work Week

ORDERING INFORMATION

Device	Package	Shipping
LM9013G	TO-92	5000 Units/Box
LM9013H	TO-92	5000 Units/Box

Preferred devices are recommended choices for future use and best overall value.

LM9013G, LM9013H

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Collector–Emitter Breakdown Voltage (I _C = 10 mA _{dc} , I _B = 0)	V _{(BR)CEO}	25	–	V _{dc}
Collector–Base Breakdown Voltage (I _C = 10 μA _{dc} , I _E = 0)	V _{(BR)CBO}	25	–	V _{dc}
Emitter–Base Breakdown Voltage (I _E = 10 μA _{dc} , I _C = 0)	V _{(BR)EBO}	3.0	–	V _{dc}
Collector Cutoff Current (V _{CB} = 16 V _{dc} , I _E = 0)	I _{CBO}	–	0.5	μA _{dc}

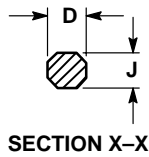
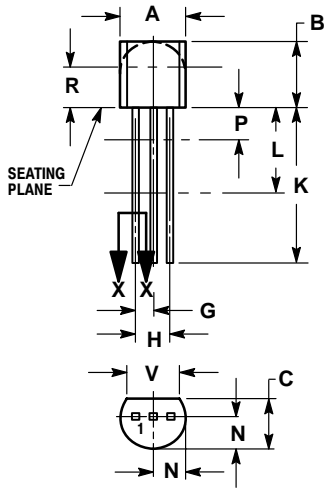
ON CHARACTERISTICS

DC Current Gain (I _C = 50 mA _{dc} , V _{CE} = 1.0 V _{dc})	h _{FE}	118 144	166 202	–
	LM9013G LM9013H			
Collector–Emitter Saturation Voltage (I _C = 250 mA _{dc} , I _B = 25 mA _{dc})	V _{CE(sat)}	–	1.0	V _{dc}

LM9013G, LM9013H

PACKAGE DIMENSIONS

TO-92
(TO-226)
CASE 29-11
ISSUE AL



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.175	0.205	4.45	5.20
B	0.170	0.210	4.32	5.33
C	0.125	0.165	3.18	4.19
D	0.016	0.021	0.407	0.533
G	0.045	0.055	1.15	1.39
H	0.095	0.105	2.42	2.66
J	0.015	0.020	0.39	0.50
K	0.500	---	12.70	---
L	0.250	---	6.35	---
N	0.080	0.105	2.04	2.66
P	---	0.100	---	2.54
R	0.115	---	2.93	---
V	0.135	---	3.43	---

STYLE 1:

- PIN 1. EMITTER
2. BASE
3. COLLECTOR

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