

New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

2N4115

NPN POWER TRANSISTORS

DIFFUSED SILICON PLANAR EPITAXIAL TRANSISTORS

TELEPHONE: (201) 376-2922
(212) 227-6005
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ABSOLUTE MAXIMUM RATINGS [Note 1]

Maximum Temperatures

Storage Temperature

-65°C to +200°C

Operating Junction Temperature

-65°C to +200°C

Lead Temperature (Soldering, 60 sec time limit)

300°C Maximum

Maximum Power Dissipation

Total Dissipation at 100°C Case Temperature
(See safe operating area and derating curves)

37 Watts

Thermal Resistance

2.7°C/W

Maximum Voltages

V_{CB0} Collector to Base Voltage

120 Volts

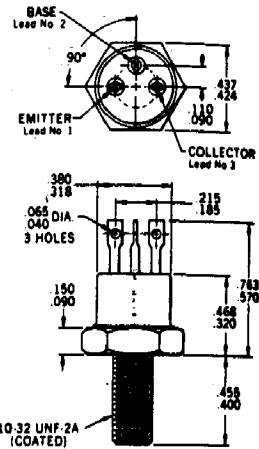
V_{CE0} Collector to Emitter Voltage [Note 2]

80 Volts

V_{EB0} Emitter to Base Voltage

8.0 Volts

PHYSICAL DIMENSIONS (in accordance with JEDEC TO-59 outline)

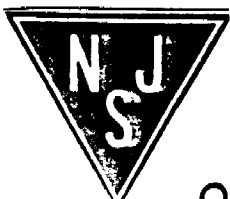


NOTES: All dimensions in inches
All leads electrically isolated from case
Package weight is 5.65 grams

ELECTRICAL CHARACTERISTICS (25°C Case Temperature unless otherwise noted)

SYMBOL	CHARACTERISTIC	2N4115			2N4116			UNITS	TEST CONDITIONS
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
*h _{FE}	DC Pulse Current Gain [Note 3]	40	63	120	100	139	300		I _C = 2.0 A V _{CE} = 5.0 V
h _{FE}	DC Pulse Current Gain [Note 3]	20	45		40	100			I _C = 5.0 A V _{CE} = 5.0 V
V _{CE} (sat)	Pulsed Collector Saturation Voltage [Note 3]		0.5	1.5		0.5	1.5	Volts	I _C = 5.0 A I _B = 0.5 A
V _{BE} (sat)	Pulsed Base Saturation Voltage [Note 3]		1.3	2.2		1.3	2.2	Volts	I _C = 5.0 A I _B = 0.5 A
*V _{CE} (sat)	Pulsed Collector Saturation Voltage [Note 3]		0.22	0.6		0.22	0.6	Volts	I _C = 2.0 A I _B = 0.2 A
*V _{BE} (sat)	Pulsed Base Saturation Voltage [Note 3]		0.95	1.3		0.95	1.3	Volts	I _C = 2.0 A I _B = 0.2 A
V _{CEO} (sust)	Collector to Emitter Sustaining Voltage [Notes 2 and 3]	80			80			Volts	I _C = 50 mA I _B = 0 (pulsed)
BV _{CEs}	Collector to Emitter Breakdown Voltage	120			120			Volts	I _C = 2.0 mA V _{BE} = 0
BV _{EB0}	Emitter to Base Breakdown Voltage	8.0			8.0			Volts	I _C = 0 I _E = 1.0 mA

SYMBOL	CHARACTERISTIC	2N4115			2N4116			UNITS	TEST CONDITIONS
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.		
*I _{CEs}	Collector Reverse Current		10			10		μA	V _{CE} = 60 V V _{BE} = 0
I _{CBO}	Collector Cutoff Current		50			50		μA	I _B = 0 V _{CE} = 40 V
I _{CEX} (150°C)	Collector Cutoff Current		100			100		μA	V _{CE} = 60 V V _{BE} = 2.0 V
I _{EB0}	Emitter Cutoff Current		25			25		μA	I _C = 0 V _{EB} = 6.0 V
h _{FE}	DC Pulse Current Gain [Note 3]	20	40		40	72			I _C = 50 mA V _{CE} = 5.0 V
h _{FE} (-55°C)	DC Pulse Current Gain [Note 3]	15	34		35	82			I _C = 2.0 A V _{CE} = 5.0 V
h _{FE}	High Frequency Current Gain (f = 20 MHz)	3.5	6.75		4.0	9.75			I _C = 0.5 A V _{CE} = 5.0 V
C _{obo}	Output Capacitance		80	120		80	120	pF	I _E = 0 V _{CE} = 10 V
C _{ibo}	Input Capacitance		450	700		450	700	pF	I _C = 0 V _{BE} = 2.0 V
h _{FE}	Small Signal Current Gain (f = 1 kHz)	20			40				I _C = 50 mA V _{CE} = 5.0 V
V _{BE} (ON)	Pulsed Base Emitter ON Voltage [Note 3]		1.3			1.3		Volts	I _C = 2.0 A V _{CE} = 5.0 V



Quality Semi-Conductors