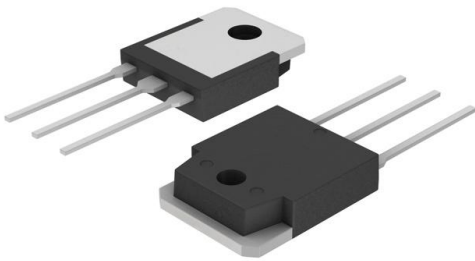


NJW44H11G Datasheet

www.digi-electronics.com



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	NJW44H11G-DG
Manufacturer	onsemi
Manufacturer Product Number	NJW44H11G
Description	TRANS NPN 80V 10A TO3P-3L
Detailed Description	Bipolar (BJT) Transistor NPN 80 V 10 A 85MHz 120 W Through Hole TO-3P-3L



Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

NJW44H11G

Series:

-

Transistor Type:

NPN

Voltage - Collector Emitter Breakdown (Max):

80 V

Current - Collector Cutoff (Max):

10 μ A

Power - Max:

120 W

Operating Temperature:

-65°C ~ 150°C (TJ)

Package / Case:

TO-3P-3, SC-65-3

Base Product Number:

NJW44

Manufacturer:

onsemi

Product Status:

Active

Current - Collector (Ic) (Max):

10 A

Vce Saturation (Max) @ Ib, Ic:

1V @ 400mA, 8A

DC Current Gain (hFE) (Min) @ Ic, Vce:

80 @ 4A, 2V

Frequency - Transition:

85MHz

Mounting Type:

Through Hole

Supplier Device Package:

TO-3P-3L

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.29.0075

Moisture Sensitivity Level (MSL):

Not Applicable

ECCN:

EAR99

NJW44H11G

80 V NPN, 10 A Power Transistor

These series of plastic, silicon NPN power transistors can be used as general purpose power amplification and switching such as output or driver stages in applications such as switching regulators, converters and power amplifiers.

Features

- Fast Switching Speeds
- High Frequency
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

Benefits

- Reliable Performance at Higher Powers
- Symmetrical Characteristics in Complementary Configurations
- Accurate Reproduction of Input Signal
- Greater Dynamic Range
- High Amplifier Bandwidth

Applications

- High-end Consumer Audio Products
 - ◆ Home Amplifiers
 - ◆ Home Receivers

MAXIMUM RATINGS (T_A = 25°C)

Rating	Symbol	Max	Unit
Collector-Emitter Voltage	V _{CEO}	80	Vdc
Emitter-Base Voltage	V _{EBO}	5.0	Vdc
Collector Current - Continuous	I _C	10	A
Collector Current - Peak (Note 1)	I _{CM}	20	A
Total Power Dissipation @ T _C = 25°C	P _D	120	Watts

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	R _{θJC}	1.04	°C/W
Junction and Storage Temperature Range	T _J , T _{stg}	-65 to +150	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. Pulse Test: Pulse Width = 5 ms, Duty Cycle ≤ 10%.

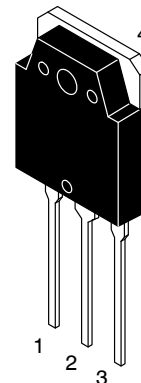
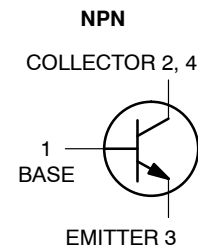
*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.



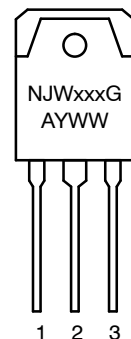
ON Semiconductor®

<http://onsemi.com>

80 VOLT, 10 AMPS NPN POWER TRANSISTORS



MARKING DIAGRAM



TO-3P
PLASTIC
CASE 340AB

- xxx = TBD
- G = Pb-Free Package
- A = Assembly Location
- Y = Year
- WW = Work Week

ORDERING INFORMATION

Device	Package	Shipping
NJW44H11G	TO-3P (Pb-Free)	30 Units/Rail

NJW44H11G

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

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector–Emitter Sustaining Voltage (I _C = 30 mAdc, I _B = 0)	V _{CEO}	80	–	–	Vdc
Collector–Cutoff Current (V _{CE} = Rated V _{CEO} , V _{BE} = 0)	I _{CES}	–	–	10	μAdc
Emitter Cutoff Current (V _{BE} = 5.0 Vdc)	I _{EBO}	–	–	10	μAdc

ON CHARACTERISTICS

DC Current Gain (I _C = 2 A, V _{CE} = 2 V) (I _C = 4 A, V _{CE} = 2 V)	h _{FE}	100 80	– –	400 320	–
Collector–Emitter Saturation Voltage (I _C = 8 A, I _B = 400 mA)	V _{CE(sat)}	–	–	1.0	V
Base–Emitter Turn-on Voltage (I _C = 8 A, V _{CE} = 2.0 V)	V _{BE(on)}	–	–	1.5	V

DYNAMIC CHARACTERISTICS

Output Capacitance (V _{CB} = 10 V, f = 1.0 MHz)	C _{obo}	–	65	–	pF
Cutoff Frequency (I _C = 500 mA, V _{CE} = 5 V, f = 1.0 MHz)	f _T	–	85	–	MHz

SWITCHING TIMES

Delay and Rise Times (I _C = 5.0 Adc, I _{B1} = 0.5 A)	t _d + t _r	–	300	–	ns
Storage Time (I _C = 5.0 Adc, I _{B1} = I _{B2} = 0.5 A)	t _s	–	500	–	ns
Fall Time (I _C = 5.0 Adc, I _{B1} = I _{B2} = 0.5 A)	t _f	–	140	–	ns

NJW44H11G

TYPICAL CHARACTERISTICS

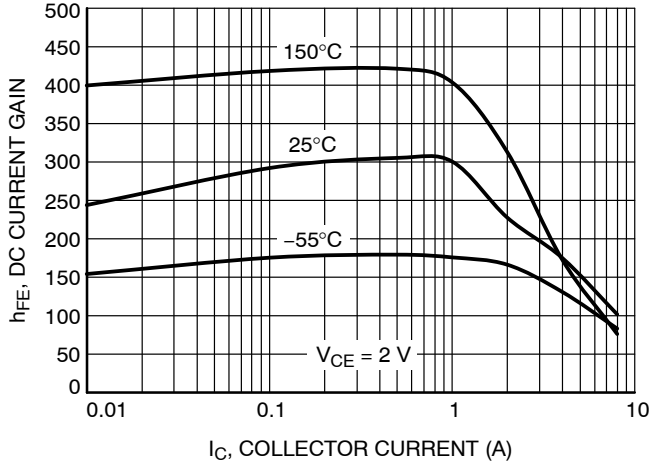


Figure 1. DC Current Gain

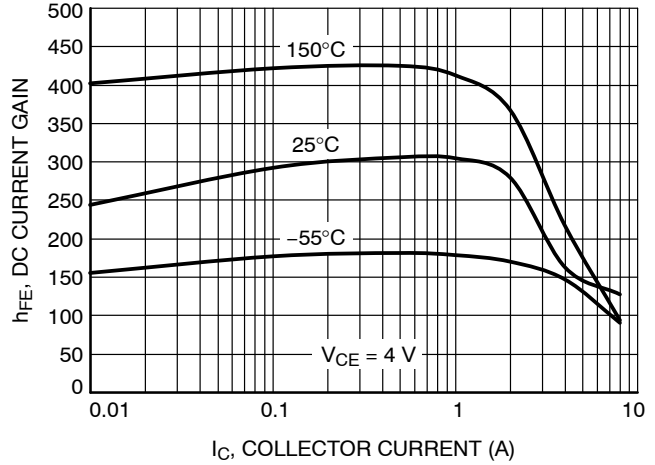


Figure 2. DC Current Gain

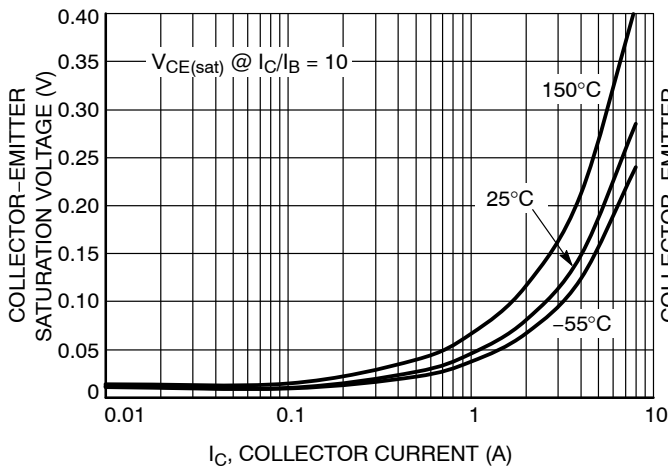


Figure 3. Collector Emitter Saturation Voltage

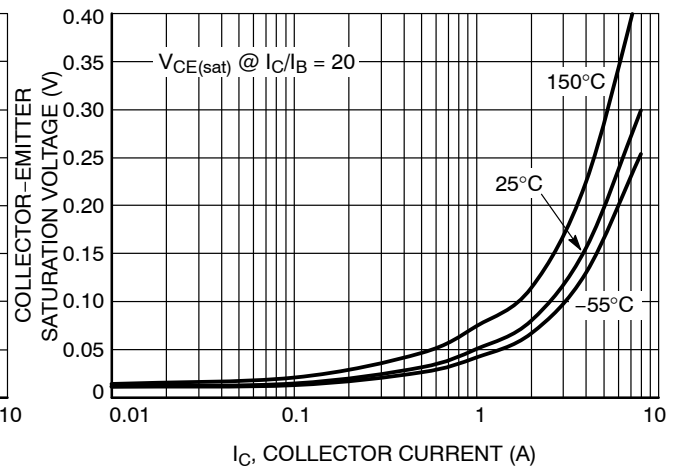


Figure 4. Collector Emitter Saturation Voltage

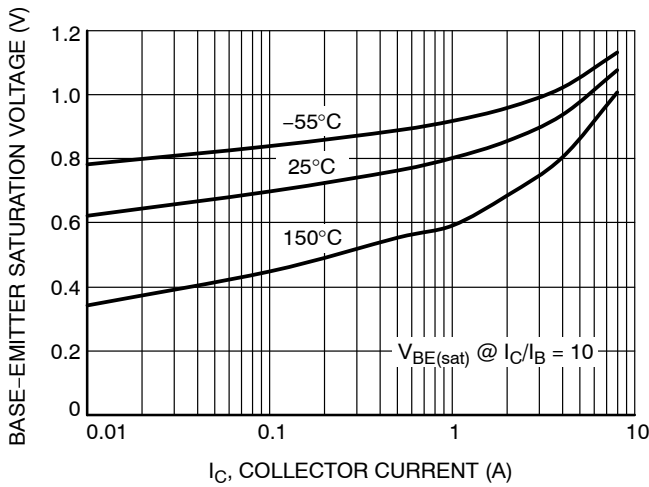


Figure 5. Base Emitter Saturation Voltage

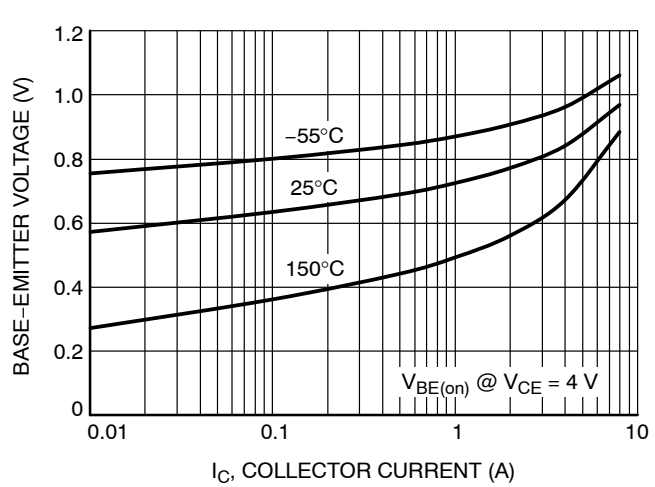


Figure 6. Base Emitter "ON" Voltage

NJW44H11G

TYPICAL CHARACTERISTICS

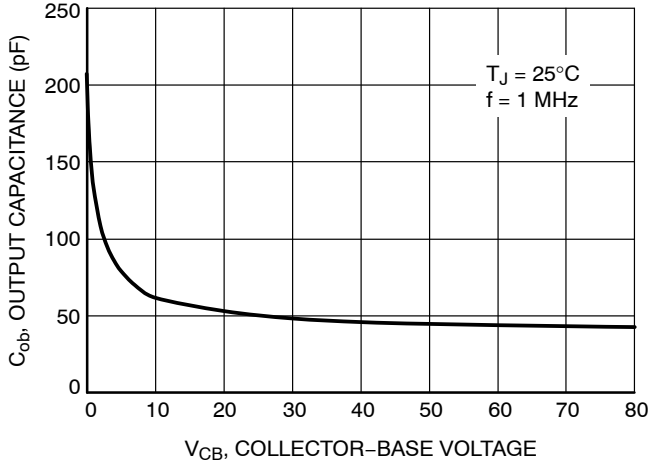


Figure 7. Output Capacitance

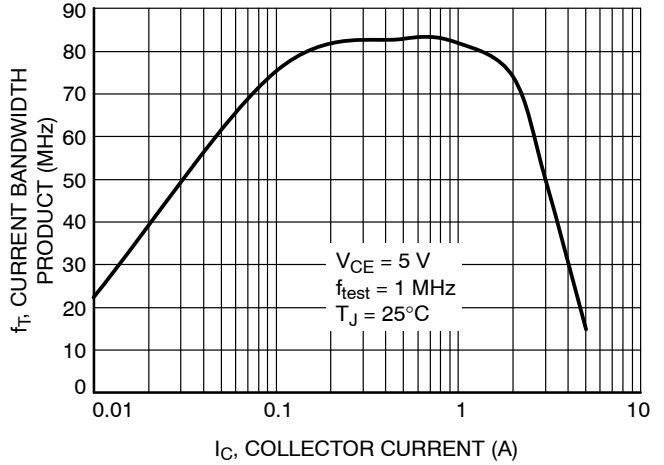


Figure 8. Current Gain Bandwidth Product

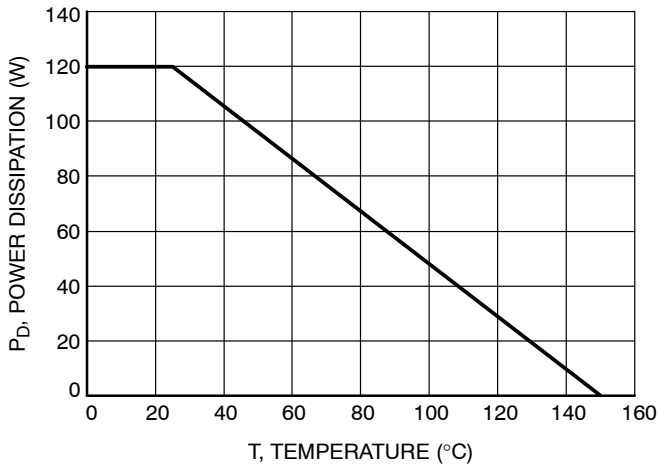


Figure 9. Power Temperature Derating

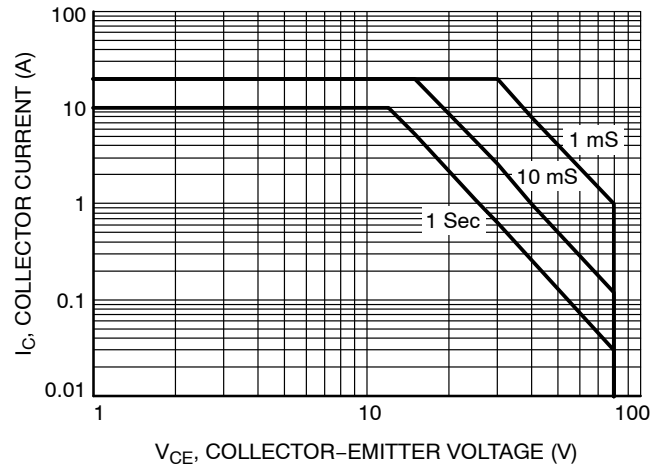
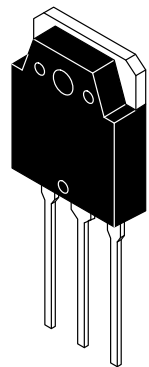


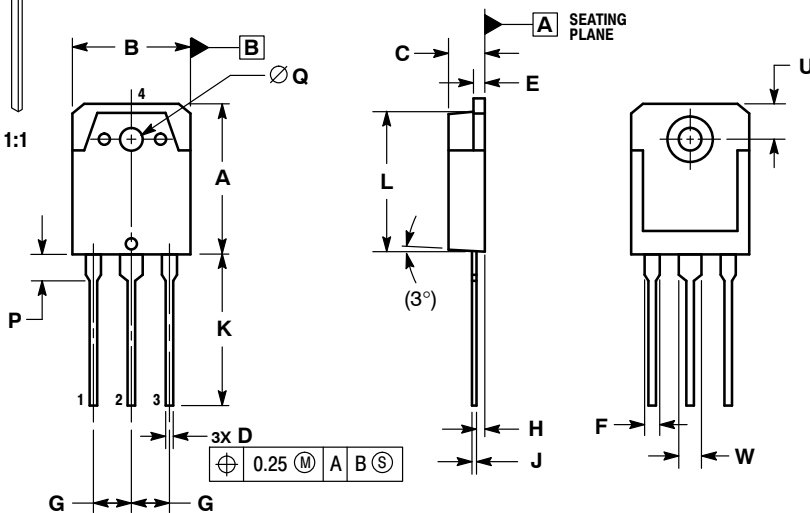
Figure 10. Safe Operating Area (SOA)

**TO-3P-3LD
CASE 340AB
ISSUE A**

DATE 30 OCT 2007



SCALE 1:1



NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS
3. DIMENSION b APPLIES TO PLATED TERMINAL AND IS MEASURED BETWEEN 0.15 AND 0.30mm FROM THE TERMINAL TIP.
4. DIMENSION A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

DIM	MILLIMETERS		
	MIN	NOM	MAX
A	19.70	19.90	20.10
B	15.40	15.60	15.80
C	4.60	4.80	5.00
D	0.80	1.00	1.20
E	1.45	1.50	1.65
F	1.80	2.00	2.20
G	5.45 BSC		
H	1.20	1.40	1.60
J	0.55	0.60	0.75
K	19.80	20.00	20.20
L	18.50	18.70	18.90
P	3.30	3.50	3.70
Q	3.10	3.20	3.50
U	5.00 REF		
W	2.80	3.00	3.20

STYLE 1:

- PIN 1. BASE
- 2. COLLECTOR
- 3. EMITTER
- 4. COLLECTOR

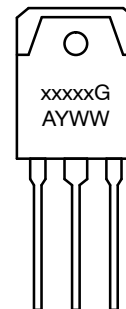
STYLE 2:

- PIN 1. ANODE
- 2. CATHODE
- 3. ANODE
- 4. CATHODE

STYLE 3:

- PIN 1. GATE
- 2. DRAIN
- 3. SOURCE
- 4. DRAIN

**GENERIC MARKING
DIAGRAM***



- xxxxx = Specific Device Code
- G = Pb-Free Package
- A = Assembly Location
- Y = Year
- WW = Work Week

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G", may or not be present.

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