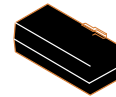


**100 V, 3.0 A, Low $V_{CE(sat)}$
 NPN Transistor
 NSS1C201L, NSV1C201L**

onsemi



Features

MAXIMUM RATINGS ($T_A = 25\text{ C}$)

Rating	Symbol	Max	Unit
Collector-Emitter Voltage	V_{CEO}	100	Vdc
Collector-Base Voltage	V_{CBO}	140	Vdc
Emitter-Base Voltage	V_{EBO}	7.0	Vdc
Collector Current – Continuous	I_C	2.0	A
Collector Current – Peak	I_{CM}	3.0	A

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
----------------	--------	-----	------

NSS1C201L, NSV1C201L

ELECTRICAL CHARACTERISTICS (T_A = 25 C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector–Emitter Breakdown Voltage (I _C = 10 mAdc, I _B = 0)	V _{(BR)CEO}	100			Vdc
Collector–Base Breakdown Voltage (I _C = 0.1 mAdc, I _E = 0)	V _{(BR)CBO}	140			Vdc
Emitter–Base Breakdown Voltage (I _E = 0.1 mAdc, I _C = 0)	V _{(BR)EBO}	7.0			Vdc
Collector Cutoff Current (V _{CB} = 140 Vdc, I _E = 0)	I _{CBO}			100	nAdc
Emitter Cutoff Current (V _{EB} = 6.0 Vdc)	I _{EBO}			50	nAdc

ON CHARACTERISTICS

DC Current Gain (Note 3) (I _C = 10 mA, V _{CE} = 2.0 V) (I _C = 500 mA, V _{CE} = 2.0 V) (I _C = 1.0 A, V _{CE} = 2.0 V) (I _C = 2.0 A, V _{CE} = 2.0 V)	h _{FE}	150 120 80 40	240	360	
Collector–Emitter Saturation Voltage (Note 3) (I _C = 0.1 A, I _B = 0.01 A) (I _C = 0.5 A, I _B = 0.05 A) (I _C = 1.0 A, I _B = 0.100 A) (I _C = 2.0 A, I _B = 0.200 A)	V _{CE(sat)}			0.030 0.060 0.090 0.150	V
Base–Emitter Saturation Voltage (Note 3) (I _C = 1.0 A, I _B = 0.100 A)	V _{BE(sat)}			0.950	V
Base–Emitter Turn–on Voltage (Note 3) (I _C = 1.0 A, V _{CE} = 2.0 V)	V _{BE(on)}			0.850	V
Cutoff Frequency (I _C = 100 mA, V _{CE} = 5.0 V, f = 100 MHz)	f _T		110		MHz
Input Capacitance (V _{EB} = 2.0 V, f = 1.0 MHz)	C _{ibo}		230		pF
Output Capacitance (V _{CB} = 10 V, f = 1.0 MHz)	C _{obo}		14		pF

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

3. Pulsed Condition: Pulse Width = 300 msec, Duty Cycle 2%.

TYPICAL CHARACTERISTICS

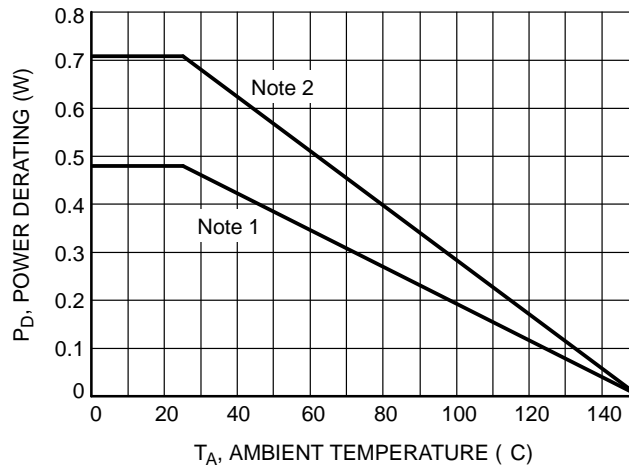


Figure 1. Power Derating

NSS1C201L, NSV1C201L



NSS1C201L, NSV1C201L

TYPICAL CHARACTERISTICS

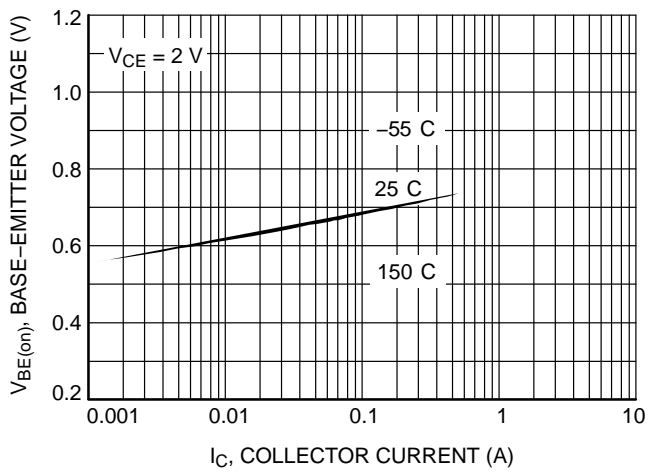
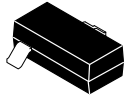


Figure 8. Base Emitter Voltage



SCALE 4:1

SOT 23 (TO 236) 2.90x1.30x1.00 1.90P
CASE 318
ISSUE AU

DATE 14 AUG 2024

SOT 23 (TO 236) 2.90x1.30x1.00 1.90P
CASE 318
ISSUE AU

DATE 14 AUG 2024

STYLE 6:
PIN 1. BASE
2. EMITTER
3. COLLECTOR

STYLE 7:
PIN 1. EMITTER
2. BASE
3. COLLECTOR

STYLE 8:
PIN 1. ANODE
2. NO CONNECTION
3. CATHODE

STYLE 9:
PIN 1. ANODE
2. ANODE
3. CATHODE

STYLE 10:
PIN 1. DRAIN
2. SOURCE
3. GATE

STYLE 11:
PIN 1. ANODE
2. CATHODE
3. CATHODE-ANODE

STYLE 12:
PIN 1. CATHODE
2. CATHODE
3. ANODE

STYLE 13:
PIN 1. SOURCE
2. DRAIN
3. GATE

STYLE 14:
PIN 1. CATHODE
2. GATE
3. ANODE

STYLE 15:
PIN 1. GATE
2. CATHODE
3. ANODE

STYLE 16:
PIN 1. ANODE
2. CATHODE
3. CATHODE

STYLE 17:
PIN 1. NO CONNECTION
2. ANODE
3. CATHODE

STYLE 18:
PIN 1. NO CONNECTION
2. CATHODE
3. ANODE

STYLE 19:
PIN 1. CATHODE
2. ANODE
3. CATHODE-ANODE

STYLE 22:
PIN 1. RETURN
2. OUTPUT
3. INPUT

STYLE 23:
PIN 1. ANODE
2. ANODE
3. CATHODE
3.

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