100 V, 2.0 A, Low $V_{CE(sat)}$ PNP Transistor

NSS1C200L, NSV1C200L

onsemi's e^{2}PowerEdge family of low $V_{CE(sat)}$ transistors are miniature surface mount devices featuring ultra low saturation voltage ($V_{CE(sat)}$) and high current gain capability. These are designed for use in low voltage, high speed switching applications where affordable efficient energy control is important.

Typical applications are DC−DC converters and power management in portable and battery powered products such as cellular and cordless phones, PDAs, computers, printers, digital cameras and MP3 players. Other applications are low voltage motor controls in mass storage products such as disc drives and tape drives. In the automotive industry they can be used in air bag deployment and in the instrument cluster. The high current gain allows e^{2}PowerEdge devices to be driven directly from PMU's control outputs, and the Linear Gain (Beta) makes them ideal components in analog amplifiers.

Features

- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC−Q101 Qualified and PPAP Capable
- These Devices are Pb−Free, Halogen Free/BFR Free and are RoHS Compliant

MAXIMUM RATINGS (T_A = 25 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

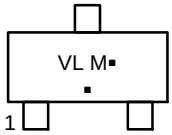
	$R_{\theta JA}$ (Note 2)	176	C/W
Junction and Storage Temperature Range	T_J, T_{stg}	−55 to +150	C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. FR−4 @ 100 mm^2, 1 oz. copper traces.
2. FR−4 @ 500 mm^2, 1 oz. copper traces.

−100 VOLTS, 2.0 AMPS PNP LOW $V_{CE(sat)}$ TRANSISTOR

MARKING DIAGRAM



VL = Specific Device Code
M = Date Code*
▪ = Pb−Free Package

(Note: Microdot may be in either location)

*Date Code orientation and/or overbar may vary depending upon manufacturing location.

ORDERING INFORMATION

Device	Package	Shipping†
NSS1C200LT1G, NSV1C200LT1G	SOT−23 (Pb−Free)	3000/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

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

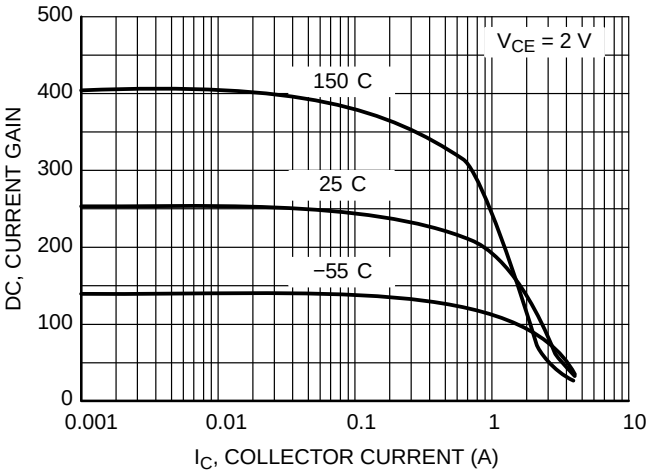


Figure 2. DC Current Gain

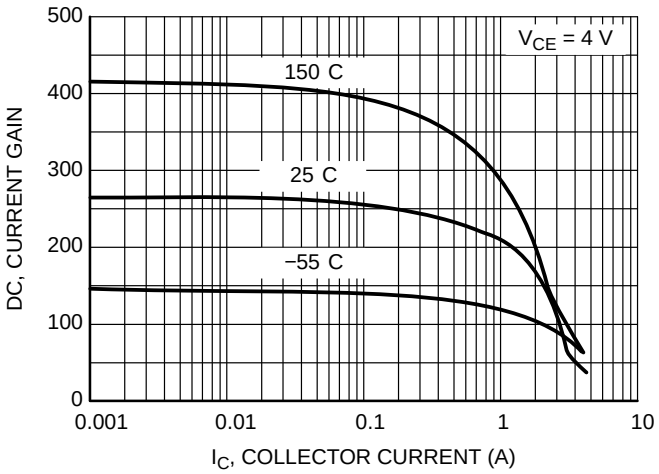


Figure 3. DC Current Gain

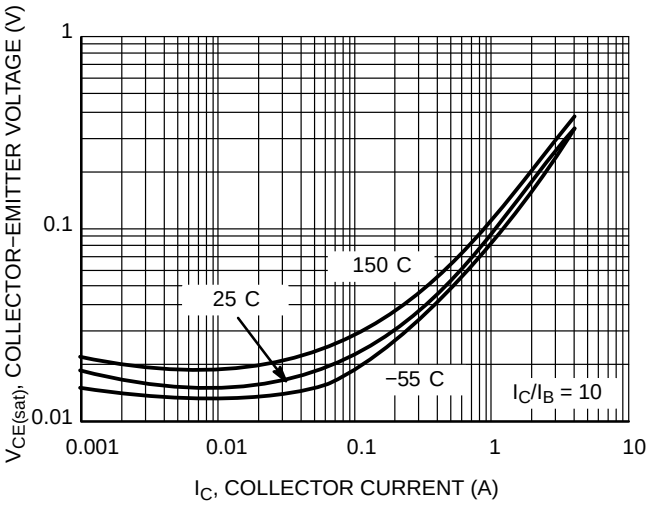


Figure 4. Collector−Emitter Saturation Voltage

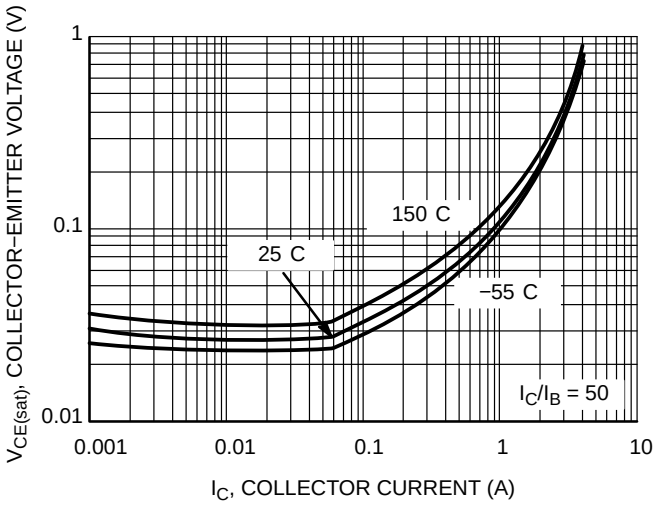


Figure 5. Collector−Emitter Saturation Voltage

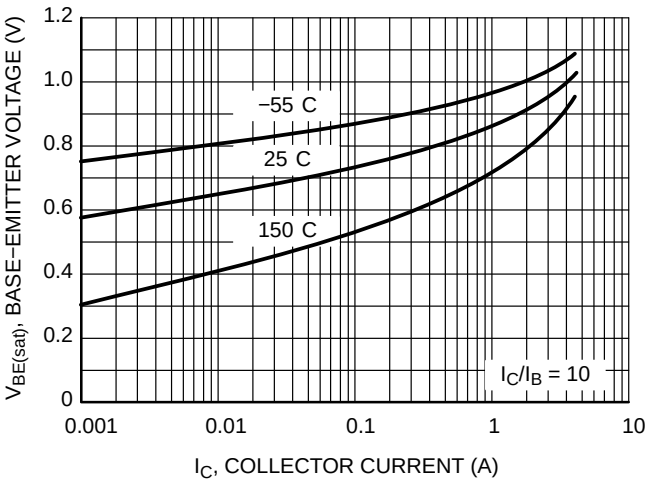


Figure 6. Base−Emitter Saturation Voltage

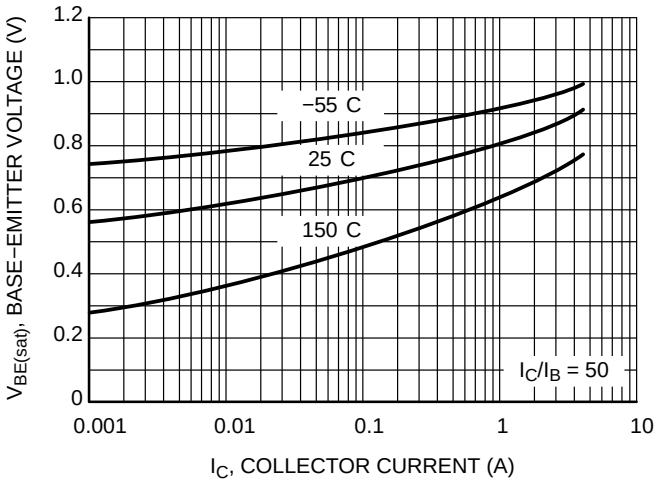


Figure 7. Base−Emitter Saturation Voltage

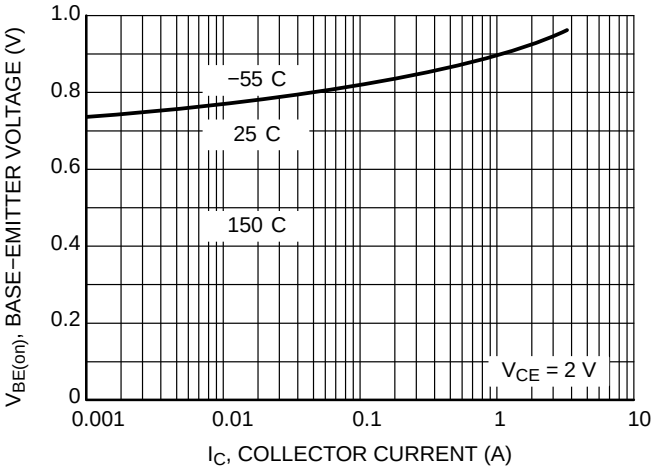
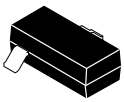


Figure 8. Base−Emitter Saturation Voltage



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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