

# NTR4501N, NVR4501N

## Power MOSFET

20 V, 3.2 A, Single N-Channel, SOT-23

### Features

- Leading Planar Technology for Low Gate Charge / Fast Switching
- 2.5 V Rated for Low Voltage Gate Drive
- SOT-23 Surface Mount for Small Footprint
- NVR Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- These Devices are Pb-Free and are RoHS Compliant

### Applications

- Load/Power Switch for Portables
- Load/Power Switch for Computing
- DC-DC Conversion

### MAXIMUM RATINGS (T<sub>J</sub> = 25°C unless otherwise stated)

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>	20	V
Gate-to-Source Voltage	V <sub>GS</sub>	±12	V
Continuous Drain Current (Note 1)	Steady State	T <sub>A</sub> = 25°C	I <sub>D</sub> 3.2 A
		T <sub>A</sub> = 85°C	2.4 A
Steady State Power Dissipation (Note 1)	Steady State	P <sub>D</sub> 1.25	W
Pulsed Drain Current	t <sub>p</sub> = 10 μs	I <sub>DM</sub> 10.0	A
Operating Junction and Storage Temperature	T <sub>J</sub> , T <sub>stg</sub>	-55 to 150	°C
Continuous Source Current (Body Diode)	I <sub>S</sub>	1.6	A
Lead Temperature for Soldering Purposes (1/8" from case for 10 s)	T <sub>L</sub>	260	°C

### THERMAL RESISTANCE RATINGS

Parameter	Symbol	Max	Unit
Junction-to-Ambient (Note 1)	R <sub>θJA</sub>	100	°C/W
Junction-to-Ambient (Note 2)	R <sub>θJA</sub>	300	

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. Surface-mounted on FR4 board using 1 in sq pad size (Cu area = 1.127 in sq [1 oz] including traces).
2. Surface-mounted on FR4 board using the minimum recommended pad size.

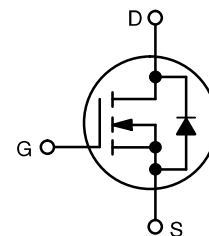


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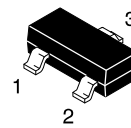
<http://onsemi.com>

V <sub>(BR)DSS</sub>	R <sub>DS(on)</sub> Typ	I <sub>D</sub> Max (Note 1)
20 V	70 mΩ @ 4.5 V	3.6 A
	88 mΩ @ 2.5 V	3.1 A

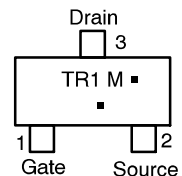
### N-Channel



### MARKING DIAGRAM & PIN ASSIGNMENT



SOT-23  
CASE 318  
STYLE 21



TR1 = 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†
NTR4501NT1G	SOT-23 (Pb-Free)	3000 / Tape & Reel
NVR4501NT1G	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 Specifications Brochure, BRD8011/D.