

NTUD01N02

Product Preview

Power MOSFET 100 mAmps, 20 Volts Dual N-Channel SC-88

- 2.5 V Gate Drive with Low On-Resistance
- Low Threshold Voltage: $V_{th} = 0.5$ to 1.5 V, Ideal for Portable
- High Speed
- Enhancement Mode
- Small Package
- Easily Designed Drive Circuits

MAXIMUM RATINGS ($T_J = 25^\circ\text{C}$ unless otherwise noted)

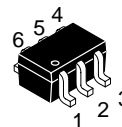
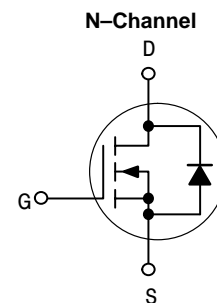
Rating	Symbol	Value	Unit
Drain-to-Source Voltage	V_{DS}	20	Vdc
Gate-to-Source Voltage – Continuous	V_{GSS}	10	Vdc
Drain Current – Continuous @ $T_A = 25^\circ\text{C}$	I_D	100	mA _{dc}
Total Power Dissipation @ $T_A = 25^\circ\text{C}$	P_D	150	mW
Channel Temperature	T_{ch}	150	$^\circ\text{C}$
Operating and Storage Temperature Range	T_{stg}	- 55 to 150	$^\circ\text{C}$



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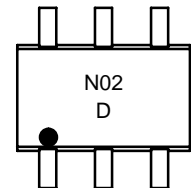
<http://onsemi.com>

100 mAmps
20 VOLTS
 $R_{DS(on)} = 10 \Omega$



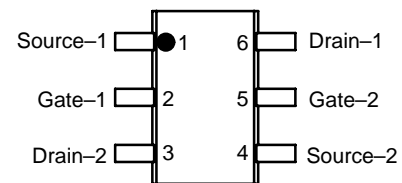
SC-88/SOT-363
CASE 419B
STYLE 1

MARKING DIAGRAM



N02 = Device Code
D = Date Code

PIN ASSIGNMENT



Top View

ORDERING INFORMATION

Device	Package	Shipping
NTUD01N02	SC-88	3000 Tape & Reel

This document contains information on a product under development. ON Semiconductor reserves the right to change or discontinue this product without notice.

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

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Drain-to-Source Breakdown Voltage (V _{GS} = 0 Vdc, I _D = 100 μA)	V _{(BR)DSS}	20	–	–	Vdc
Drain Cut-off Current (V _{DS} = 20 Vdc, V _{GS} = 0 Vdc)	I _{DSS}	–	–	1.0	μAdc
Gate-Body Leakage Current (V _{GS} = 10 Vdc, V _{DS} = 0)	I _{GSS}	–	–	1.0	μAdc

ON CHARACTERISTICS

Gate Threshold Voltage (V _{DS} = 3.0 Vdc, I _D = 0.1 mAdc)	V _{th}	0.5	–	1.5	Vdc
Drain-to-Source On-Resistance (V _{GS} = 2.5 Vdc, I _D = 10 mAdc)	R _{DS(on)}	–	5.0	10	Ω
Forward Transfer Admittance (V _{DS} = 3.0 Vdc, I _D = 10 mAdc)	Y _{FS}	20	–	–	mS

DYNAMIC CHARACTERISTICS

Input Capacitance	(V _{DS} = 3.0 Vdc, V _{GS} = 0 Vdc, f = 1.0 MHz)	C _{iss}	–	5.5	–	pF
Output Capacitance	(V _{DS} = 3.0 Vdc, V _{GS} = 0 Vdc, f = 1.0 MHz)	C _{oss}	–	25	–	
Reverse Transfer Capacitance	(V _{DS} = 3.0 Vdc, V _{GS} = 0 Vdc, f = 1.0 MHz)	C _{rss}	–	1.6	–	

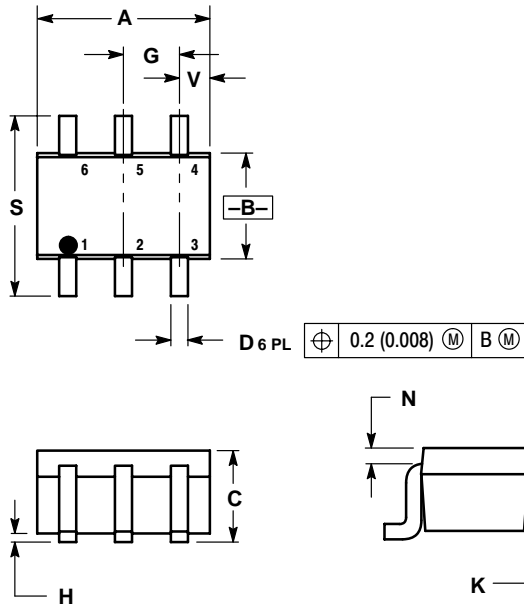
SWITCHING CHARACTERISTICS

Turn-On Delay Time	(V _{DD} = 3.0 Vdc, I _D = 10 mAdc, V _{GS} = 0 to 2.5 Vdc)	t _{on}	–	0.14	–	μs
Turn-Off Delay Time		t _{off}	–	0.14	–	

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PACKAGE DIMENSIONS

SC-88 (SOT-363)
CASE 419B-01
ISSUE G



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.031	0.043	0.80	1.10
D	0.004	0.012	0.10	0.30
G	0.026 BSC		0.65 BSC	
H	---	0.004	---	0.10
J	0.004	0.010	0.10	0.25
K	0.004	0.012	0.10	0.30
N	0.008 REF		0.20 REF	
S	0.079	0.087	2.00	2.20
V	0.012	0.016	0.30	0.40

- STYLE 1:
PIN 1. EMITTER 2
2. BASE 2
3. COLLECTOR 1
4. EMITTER 1
5. BASE 1
6. COLLECTOR 2

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