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°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°C	I_D	100	mAdc
Total Power Dissipation @ T_A = 25°C	P_D	150	mW
Channel Temperature	T_{ch}	150	°C
Operating and Storage Temperature Range	T_{stg}	– 55 to 150	°C

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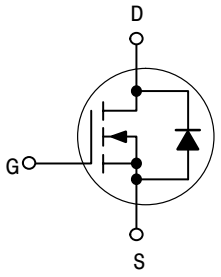
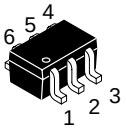
100 mAMPS
20 VOLTS
$R_{DS(on)}$ = 10 Ω

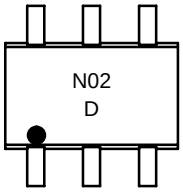
N–Channel



MARKING DIAGRAM

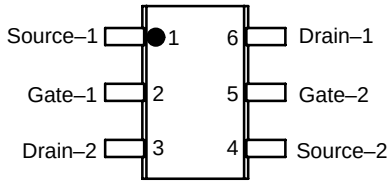


SC–88/SOT–363
CASE 419B
STYLE 1



N02 = Device Code
D = Date Code

PIN ASSIGNMENT



Top View

ORDERING INFORMATION

Device	Package	Shipping
NTUD01N02	SC–88	3000 Tape & Reel

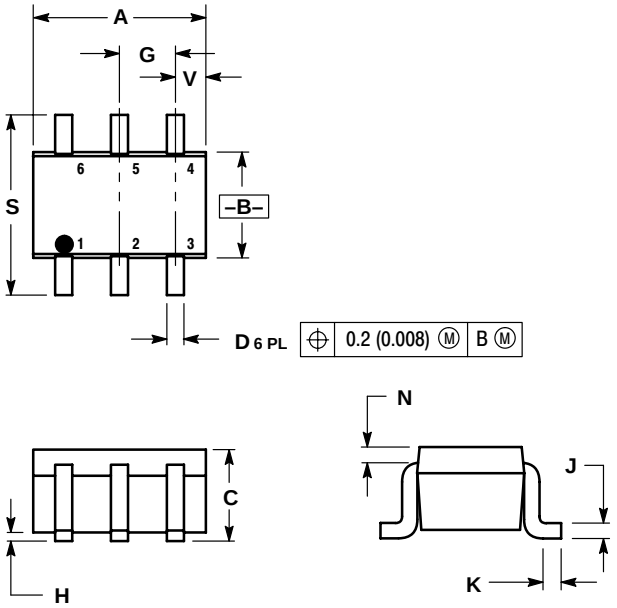
This document contains information on a product under development. ON Semiconductor reserves the right to change or discontinue this product without notice.

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

Characteristic		Symbol	Min	Typ	Max	Unit
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	–	

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.

	INCHES		MILLIMETERS	
DIM	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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