NTES1P02

Product Preview

Power MOSFET 50 mAmps, 20 Volts

P–Channel SC–75

- Low Threshold Voltage: V_{th} = 0.5 to 1.5 V
- High Speed
- Small Package
- Complementary to NTES1N02

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}	7	Vdc
Drain Current – Continuous @ T_A = 25°C	I_D	50	mAdc
Total Power Dissipation @ T_A = 25°C	P_D	100	mW
Channel Temperature	T_{ch}	150	°C
Operating and Storage Temperature Range	T_{stg}	– 55 to 150	°C

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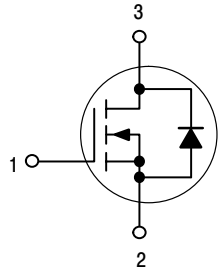
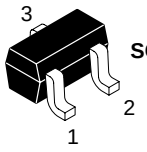
50 mAMPS
20 VOLTS
$R_{DS(on)}$ = 15 Ω

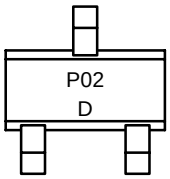
N–Channel



MARKING DIAGRAM

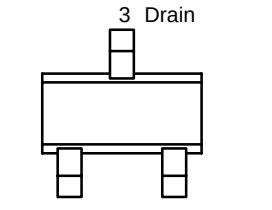


SC–75/SOT–416
CASE 463
STYLE 1



P02 = Device Code
D = Date Code

PIN ASSIGNMENT



Top View

ORDERING INFORMATION

Device	Package	Shipping
NTES1P02	SC–75	3000 Tape & Reel

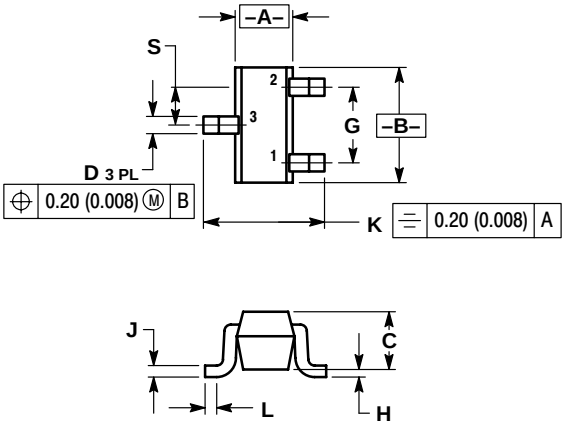
This document contains information on a product under development. ON Semiconductor reserves the right to change or discontinue this product without notice.

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} = 7.0 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)		$R_{DS(on)}$	–	7.0	15	Ω
Forward Transfer Admittance (V_{DS} = 3.0 Vdc, I_D = 10 mAdc)		Y_{FS}	15	–	–	mS
DYNAMIC CHARACTERISTICS						
Input Capacitance	(V_{DS} = 3.0 Vdc, V_{GS} = 0 Vdc, f = 1.0 MHz)	C_{iss}	–	10.4	–	pF
Output Capacitance	(V_{DS} = 3.0 Vdc, V_{GS} = 0 Vdc, f = 1.0 MHz)	C_{oss}	–	8.4	–	
Reverse Transfer Capacitance	(V_{DS} = 3.0 Vdc, V_{GS} = 0 Vdc, f = 1.0 MHz)	C_{rss}	–	2.8	–	
SWITCHING CHARACTERISTICS						
Turn–On Delay Time	(V_{DD} = 3.0 Vdc, I_D = 10 mAdc, V_{GS} = 0 to 2.5 Vdc)	t_{on}	–	0.15	–	μs
Turn–Off Delay Time		t_{off}	–	0.13	–	

PACKAGE DIMENSIONS

SC−75 (SC−90, SOT−416)
CASE 463−01
ISSUE B



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

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
A	0.70	0.80	0.028	0.031
B	1.40	1.80	0.055	0.071
C	0.60	0.90	0.024	0.035
D	0.15	0.30	0.006	0.012
G	1.00 BSC		0.039 BSC	
H	−−−	0.10	−−−	0.004
J	0.10	0.25	0.004	0.010
K	1.45	1.75	0.057	0.069
L	0.10	0.20	0.004	0.008
S	0.50 BSC		0.020 BSC	

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

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