NIC9N05TS1, NIC9N05ATS1

Protected Power MOSFET

2.6 A, 52 V, N−Channel, Logic Level, Clamped MOSFET w/ ESD Protection

ON Semiconductor®

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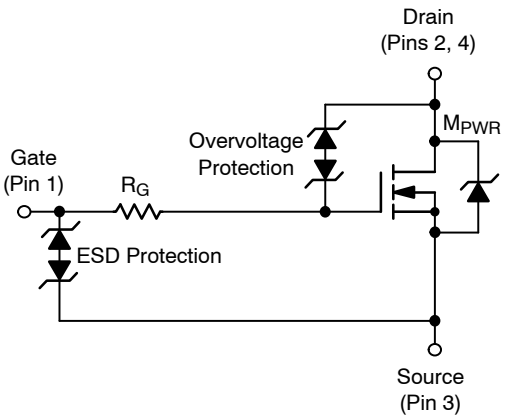
MAXIMUM RATINGS (T_J = 25°C unless otherwise specified)

Rating	Symbol	Value	Unit
Drain−to−Source Voltage Internally Clamped	V_{DSS}	52−59	V
Gate−to−Source Voltage − Continuous	V_{GS}	±15	V
Operating and Storage Temperature Range	T_J, T_{stg}	−55 to 150	°C
Electro−Static Discharge Capability (HBM) (MM)	ESD	5000 500	V

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.



ORDERING INFORMATION

See detailed ordering and shipping information in the package dimensions section on page 2 of this data sheet.

MOSFET ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise specified) (Note 1)

Characteristic		Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS						
Drain−to−Source Breakdown Voltage (V_{GS} = 0 V, I_D = 1.0 mA, T_J = 25°C)		$V_{(BR)DSS}$	52	55	59	V
Zero Gate Voltage Drain Current (V_{DS} = 40 V, V_{GS} = 0 V)		I_{DSS}			10	μA
Gate−Body Leakage Current (V_{GS} = ±8 V, V_{DS} = 0 V) (V_{GS} = ±14 V, V_{DS} = 0 V)		I_{GSS}		 ±22	±10	μA
ON CHARACTERISTICS						
Gate Threshold Voltage (V_{DS} = V_{GS}, I_D = 100 μA)		$V_{GS(th)}$	1.3	1.75	2.5	V
Static Drain−to−Source On−Resistance (V_{GS} = 3.5 V, I_D = 0.6 A) (V_{GS} = 4.0 V, I_D = 1.5 A) (V_{GS} = 10 V, I_D = 2.6 A)		$R_{DS(on)}$		190 165 107	380 200 125	mΩ
SOURCE−DRAIN DIODE CHARACTERISTICS						
Forward On−Voltage	I_S = 2.6 A, V_{GS} = 0 V I_S = 2.6 A, V_{GS} = 0 V, T_J = 125°C	V_{SD}		0.81 0.66	1.5	V

1. Wafers tested prior to sawing.

ORDERING INFORMATION

Device	Shipping
NIC9N05TS1	5000 / Reel
NIC9N05ATS1	5000 / Reel

ADDITIONAL INFORMATION

TECHNICAL PUBLICATIONS:
Technical Library: www.onsemi.com/design/resources/technical−documentation
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