

ISOLATION CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Isolation test voltage	Flash tested for 1 second	1000			VDC
Resistance	Viso= 500VDC	1			GΩ

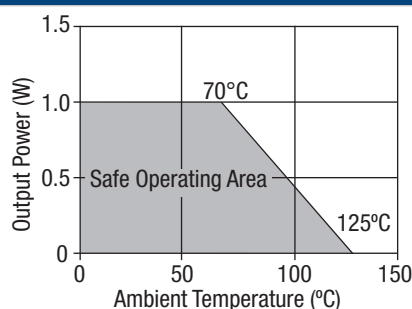
GENERAL CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Switching frequency	All input types		100		kHz

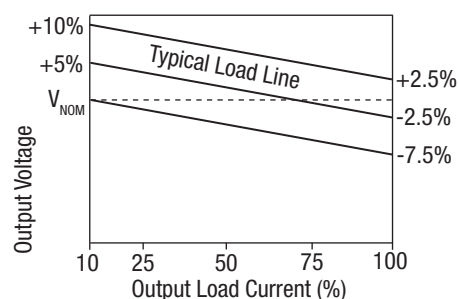
TEMPERATURE CHARACTERISTICS

Parameter	Conditions	Min.	Typ.	Max.	Units
Specification	All output types	0		70	°C
Storage		-55		150	
Cooling	Free air convection				

TEMPERATURE DERATING GRAPH



TOLERANCE ENVELOPE



TECHNICAL NOTES

ISOLATION VOLTAGE

'Hi Pot Test', 'Flash Tested', 'Withstand Voltage', 'Proof Voltage', 'Dielectric Withstand Voltage' & 'Isolation Test Voltage' are all terms that relate to the same thing, a test voltage, applied for a specified time, across a component designed to provide electrical isolation, to verify the integrity of that isolation.

Murata Power Solutions NMD series of DC-DC converters are all 100% production tested at their stated isolation voltage. This is 1kVDC for 1 second.

A question commonly asked is, "What is the continuous voltage that can be applied across the part in normal operation?"

For a part holding no specific agency approvals, such as the NMD series, both input and output should normally be maintained within SELV limits i.e. less than 42.4V peak, or 60VDC. The isolation test voltage represents a measure of immunity to transient voltages and the part should never be used as an element of a safety isolation system. The part could be expected to function correctly with several hundred volts offset applied continuously across the isolation barrier; but then the circuitry on both sides of the barrier must be regarded as operating at an unsafe voltage and further isolation/insulation systems must form a barrier between these circuits and any user-accessible circuitry according to safety standard requirements.

REPEATED HIGH-VOLTAGE ISOLATION TESTING

It is well known that repeated high-voltage isolation testing of a barrier component can actually degrade isolation capability, to a lesser or greater degree depending on materials, construction and environment. The NMD series has toroidal isolation transformers, with no additional insulation between primary and secondary windings of enameled wire. While parts can be expected to withstand several times the stated test voltage, the isolation capability does depend on the wire insulation. Any material, including this enamel (typically polyurethane) is susceptible to eventual chemical degradation when subject to very high applied voltages thus implying that the number of tests should be strictly limited. We therefore strongly advise against repeated high voltage isolation testing, but if it is absolutely required, that the voltage be reduced by 20% from specified test voltage.

This consideration equally applies to agency recognised parts rated for better than functional isolation where the wire enamel insulation is always supplemented by a further insulation system of physical spacing or barriers.

RoHS COMPLIANCE INFORMATION



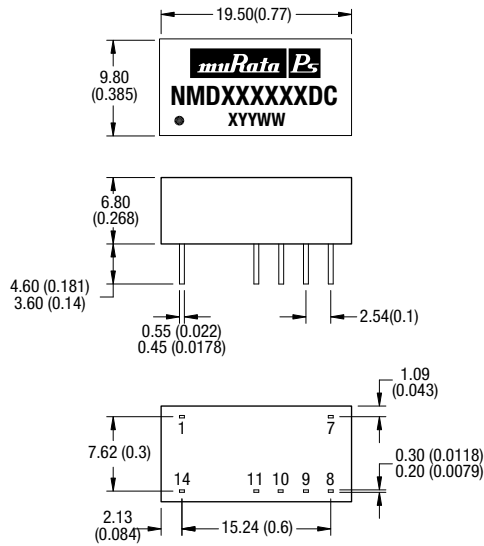
This series is compatible with RoHS soldering systems with a peak wave solder temperature of 260°C for 10 seconds. The pin termination finish on the SIP package type is Tin Plate, Hot Dipped over Matte Tin with Nickel Preplate. The DIP types are Matte Tin over Nickel Preplate. Both types in this series are backward compatible with Sn/Pb soldering systems.

For further information, please visit www.murata-ps.com/rohs

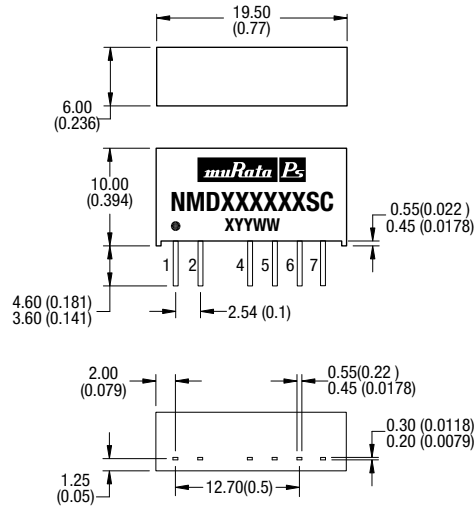
PACKAGE SPECIFICATIONS

MECHANICAL DIMENSIONS

DIP Package



SIP Package



All dimensions in mm ± 0.25 mm (inches ± 0.01). All pins on a 2.54 (0.1) pitch and within 0.25 (± 0.01) of true position.

Weight: 2.3g (DIP & SIP)

PIN CONNECTIONS - 14 PIN DIP

Pin	Function
1	-V _{IN}
7	NC
8	-V _{OUT2}
9	+V _{OUT2}
10	-V _{OUT1}
11	+V _{OUT1}
14	+V _{IN}

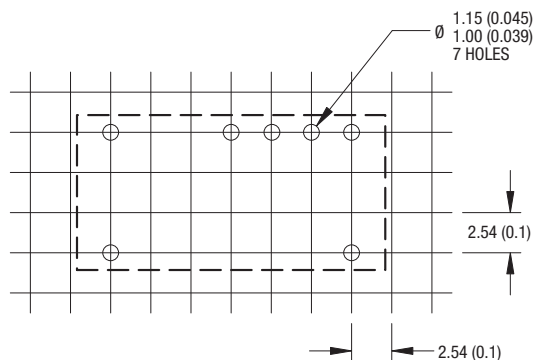
PIN CONNECTIONS - 7 PIN SIP

Pin	Function
1	+V _{IN}
2	-V _{IN}
4	+V _{OUT1}
5	-V _{OUT1}
6	+V _{OUT2}
7	-V _{OUT2}

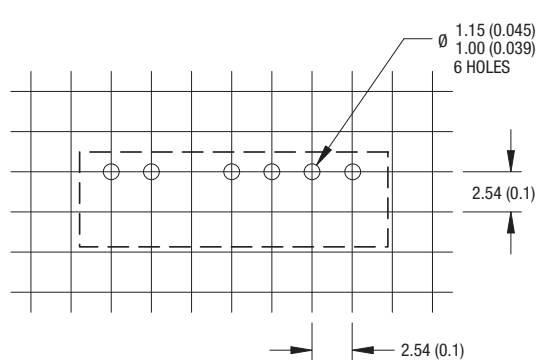
PACKAGE SPECIFICATIONS (continued)

RECOMMENDED FOOTPRINT DETAILS

14 Pin DIP Package

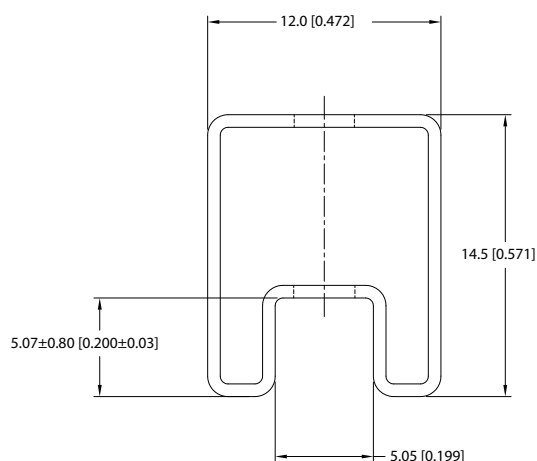


7 Pin SIP Package

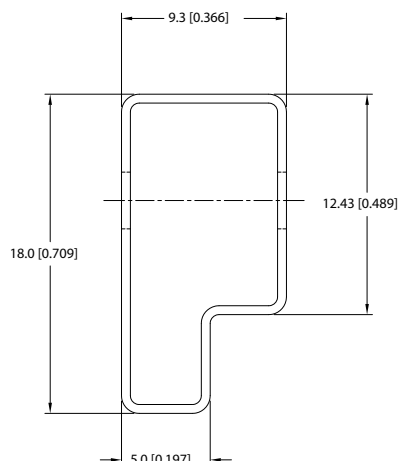


TUBE OUTLINE DIMENSIONS

14 Pin DIP Tube



7 Pin SIP Tube



Unless otherwise specified all dimensions in mm [inches] ± 0.55 mm [0.022].
 Tube length (14 Pin DIP) : 520mm [20.472] ± 2.0 [0.079].
 Tube length (7 Pin SIP) : 520mm [20.472] ± 2.0 [0.079].

Tube Quantity : 25



This product is subject to the following **operating requirements** and the **Life and Safety Critical Application Sales Policy**:
 Refer to: <http://www.murata-ps.com/requirements/>

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