muRata 766 Series Pulse Transformers Owner's Manual

Contents

muRata 766 Series Pulse Transformers

Product Information: 766 Series Pulse Transformers

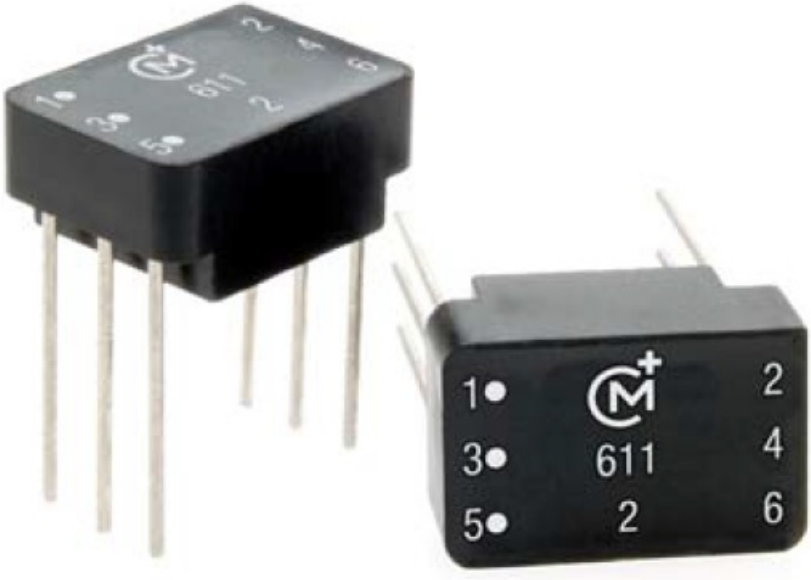
The 766 Series is a range of general purpose pulse transformers. They are commonly used for line coupling, impedance-matching, isolating, small isolated power supplies, and as common-mode chokes in filtering applications. The transformers are RoHS compliant and come in 4 different configurations. They have a minimum primary inductance, minimum primary constant, maximum leakage inductance, maximum interwinding capacitance, maximum DC resistance, and maximum isolation voltage. The transformers have an industry standard pinout and can be mounted on a PCB. They are constructed in a toroidal shape and are fully encapsulated.

Product Usage Instructions

To use the 766 Series Pulse Transformers, follow these steps:

1. Select the appropriate transformer based on the desired specifications. Refer to the order code table for different variants.
2. Ensure that the operating free air temperature range and storage temperature range are within the specified limits.
3. If soldering is required, follow the recommended peak wave solder temperature and pin finish information.
4. Refer to the mechanical dimensions and recommended footprint details to properly install the transformer.
5. For any technical enquiries or additional information, contact **mk@murata-ps.com** or call +44 (0)1908 615232.

Note: For more detailed information and specifications, refer to the full user manual available at **www.murata-ps.com**.



FEATURES

- RoHS compliant
- 4 Configurations
- Inductance to 11.7mH
- Up to 50 Vμs ET
- Industry standard pinout
- 500VDC Isolation
- PCB mounting
- UL 94 V-0 package materials
- Toroidal construction
- Fully encapsulated

DESCRIPTION

The 766 Series is a range of general purpose pulse transformers. Common applications include line coupling, impedance-matching, or isolating. The devices can also be used in small isolated power supplies or as common-mode chokes in filtering applications.

SELECTION GUIDE1									
Order Code	Turns Ratio ±2%	Min. Primary Inductance	Min. Primary Constant, ET	Max. Leakage Inductance	Max. Interwinding Capacitance	Max. DC Resistance	Max. Isolation Voltage	Pin Connection Style	Mechcanical Dimensions
		µH	Vµs	µH	pF	Ω	Vrms		
76600/1C	1:1	1916	17.5	0.60	49	1.50	500	A	1
76600/2C	1:1	492	8.5	0.30	22	0.80			
76600/3C	1:1	219	5.5	0.25	14	0.50			
76600/4C	1:1	50	4.0	0.20	10	0.40			
76601/1C	1:1	1916	17.5	0.60	49	1.50		B	
76601/2C	1:1	492	8.5	0.30	22	0.80			
76601/3C	1:1	219	5.5	0.25	12	0.50			
76601/6C	1:1	9.5	6	0.20	13	0.40			
76601/20C	1:1	20.1	2.5	0.20	5	0.20			
76601/23C	1:1	938	10.5	0.20	35	0.15			
76601/24C	1:1	11.7mH	50.5	0.40	250	1.35			
76602/1C	1:1:1	2060	17.5	0.60	72	1.50		C	2
76615/1C	1CT:1CT	3200	45	2.00	52	1.00		D	
76616/3C	2CT:1CT	4350	23	3.00	35	1.00			
Please note: For additional variants please see 786 series datasheet.									

Please note: For additional variants please see 786 series datasheet.

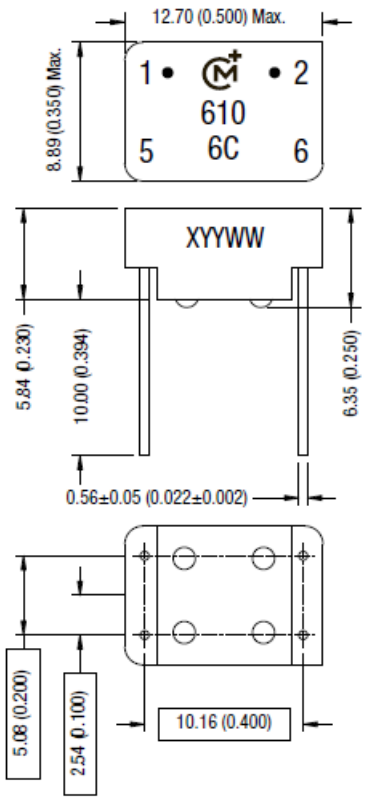
ABSOLUTE MAXIMUM RATINGS	
Operating free air temperature range	0°C to 70°C
Storage temperature range	-60°C to 125°C

SOLDERING INFORMATION1	
Peak wave solder temperature	300˚C for 10 seconds
Pin finish	Matte tin with nickel pre-plate

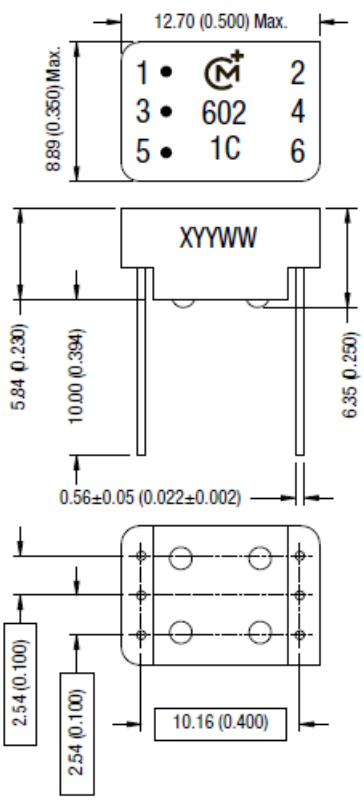
For further information, please visit **www.murata-ps.com/rohs**
All specifications typical at TA=25°C.

PACKAGE SPECIFICATIONS

1

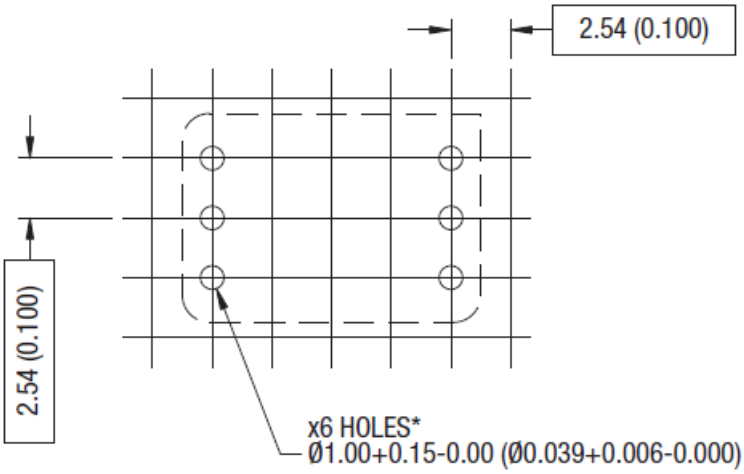


2



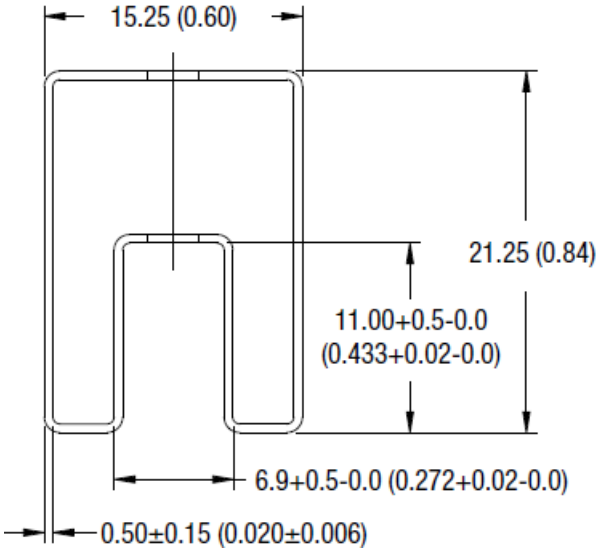
Unless otherwise stated all dimensions in mm (inches) ±0.25 (0.01). All pins on a 2.54 (0.1) pitch and within ±0.25 (0.01) of true position.
Package Weight: 1.1g Typ.

RECOMMENDED FOOTPRINT DETAILS



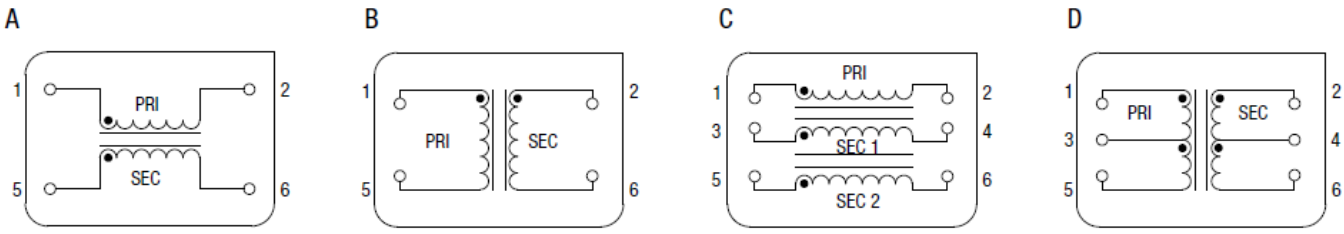
Holes may be omitted for variants with fewer than 6 pins.
Unless otherwise stated all dimensions in mm (inches) ±0.25 (0.01). All pins on a 2.54 (0.1) pitch and within ±0.25 (0.01) of true position.

TUBE DIMENSIONS



Tube length: 520±2.0 (20.47±0.08)
Unless otherwise stated all dimensions in mm (inches) ±0.55 (0.022).

PIN CONNECTION STYLE – 6 PIN DIP (TOP VIEW)



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.
All products in this series are 100% production tested at their stated isolation voltage.
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 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. This 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 recognized 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.

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Documents / Resources

	muRata 766 Series Pulse Transformers [pdf] Owner's Manual 766 Series Pulse Transformers, 766 Series, Pulse Transformers, Transformers

References

- PS.COM | DigiKeep.com
- murata-ps.com/rohs