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Order code	Input Voltage (V)	Output Voltage (V)	Output Current (MA)	Input Current (Rated Load) (MA)	Efficiency (%)	Isolation Capacitance (PF)	MTTF ¹ (KHRS)
B0505XM-2W	5	5	400	513	78	19	2327
B0509XM-2W	5	9	222	492	81	27	1393
B0512XM-2W	5	12	167	479	84	32	832
B0515XM-2W	5	15	133	481	83	27	481
B1205XM-2W	12	5	400	207	81	28	
B1209XM-2W	12	9	222	198	84	42	
B1212XM-2W	12	12	167	197	85	46	
B1215XM-2W	12	15	133	197	85	50	
B2405XM-2W	24	5	400	104	80		
B2409XM-2W	24	9	222	100	83		
B2412XM-2W	24	12	167	99	84		
B2415XM-2W	24	15	133	99	84		

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"Hi Pot Test", "Flash Tested", "Withstand 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. Professional Power Module B-XM 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?"

The B-XM-2W series has been recognized by Underwriters Laboratories for functional insulation. 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 an user-accessible circuitry according to safety standard requirements.

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 B-XM 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. An enamel (typical 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 for better than functional isolation where the wire enamel insulation is also supplemented by a further insulation system of physical spacing or barriers.

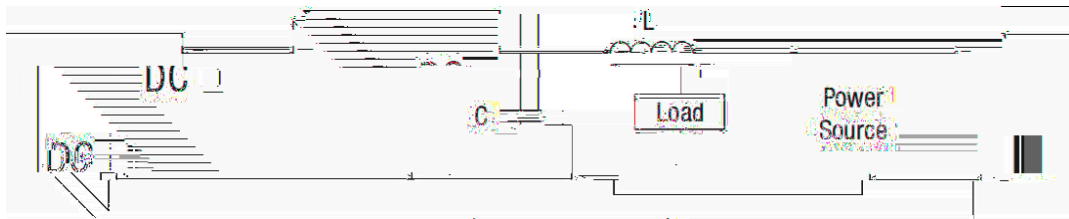
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Output ripple reduction

By using the values of inductance and capacitance stated, the output ripple at the rated load is lowered to 5mV p-p max.

Capacitor: Ceramic chip capacitors are recommended. It is required that the ESR (Equivalent Series Resistance) should be as low as possible. X7R types are recommended. The voltage rating should be at least twice (except for 15V output), the rated output voltage of the DC/DC converter.

Inductor: The rated current of the inductor should not be less than of the output of the DC/DC converter. At the rated current, the DC resistance of the inductor should be such that the voltage drop across the inductor is <2% of the rated voltage of the DC/DC converter. The SRF (Self Resonant Frequency) should be >20MHz.

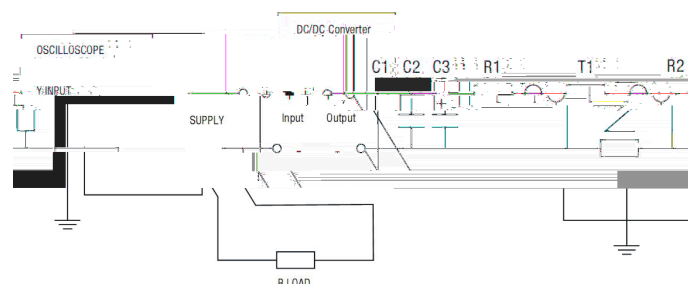


Ripple & Noise Characterization Method

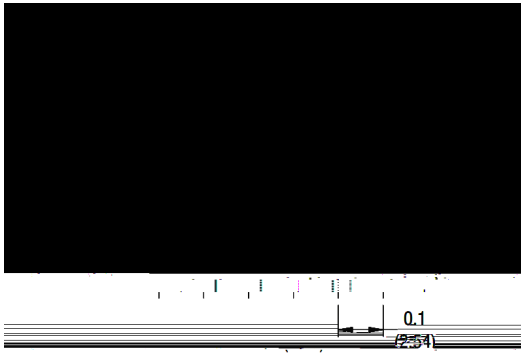
Ripple and noise measurements are performed with the following test configuration.

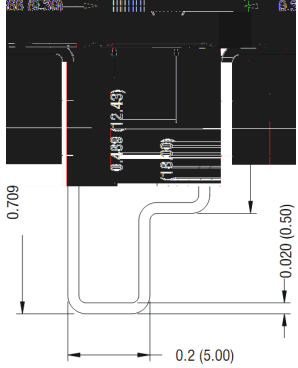
C1	1µ F X7R multilayer ceramic capacitor, voltage rating to be a minimum of 3 times the output voltage of the DC/DC converter
C2	10µ F tantalum capacitor, voltage rating to be a minimum of 1.5 times the output voltage of the DC/DC converter with an ESR of less than 100mΩ at 100 KHz
C3	100nF multilayer ceramic capacitor, general purpose
R1	450Ω resistor, carbon film, ± 1% tolerance
R2	50Ω BNC termination
T1	3T of the coaxial cable through a ferrite toroid
RLOAD	Resistive load to the maximum power rating of the DC/DC converter. Connections should be made via twisted wires

Measured values are multiplied by 10 to obtain the specified values.



AC AGE	ECIFICA I
ECHA ICA DI E I	
SIP Package	

EC	E DED F	I	DE AI
4 Pin SIP Package			
			

BE	I EDI E I
4 PIN SIP Tube	
	
<p>Unless otherwise stated all dimensions in inches (mm) 0.5mm. Tube length (4 Pin SIP) : 20.47 (520mm 2mm). Tube Quantit :35</p>	



RoHS COMPLIANT INFORMATION

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REACH COMPLIANT INFORMATION