

FEATURES

- 51μH to 4.7mH
- Up to 800mA IDC
- Surface mount
- Signal line applications
- UL94 V-0 package materials
- J-STD-020 reflow
- RoHS compliant

PRODUCT OVERVIEW

The 5000A series is a range of surface mount common mode chokes designed to attenuate up to 100MHz common mode noise where signal line filtering is required.

5000A Series

Surface Mount Common Mode Chokes

SELECTION GUIDE

Order Code	Inductance, L (0.1Vrms @ 100kHz) ¹		Leakage Inductance, L _L ² (0.1Vrms @ 100kHz)		DC Resistance, R _{DC}		Current Rating ³ (series connection)	Isolation ⁴ Vrms
	Typ.	Tolerance	Typ.		Max.			
	mH	%	nH		Ω			
50503AC	0.051	+50/-30	1700		0.168		800	500
50513AC	0.051		70		0.168		800	
50474AC	0.47		100		0.36		700	
50105AC	1.0		70		0.36		700	
50225AC	2.2		120		0.48		500	
50475AC	4.7		250		0.84		400	

ABSOLUTE MAXIMUM RATINGS

Operating free air temperature range ⁵	-40°C to 125°C
Storage temperature range	-40°C to 125°C

SOLDERING INFORMATION

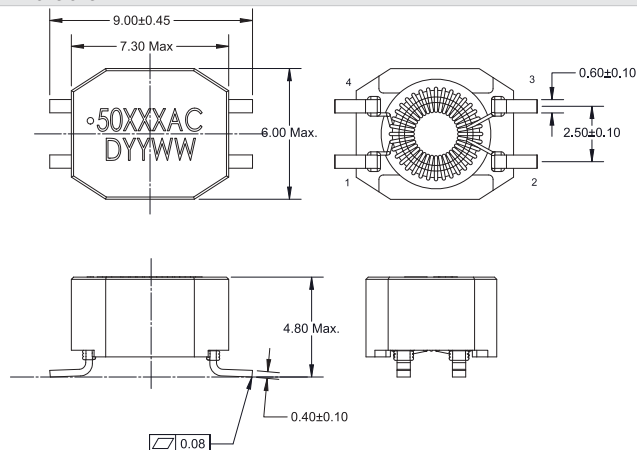
Peak reflow temperature	250°C
Pin finish	Pure tin with nickel interlayer
Moisture sensitivity level ⁶	1

All specifications typical at T_A=25°C

- 1 50503AC and 50513AC tested at 0.01Vrms @100kHz
- 2 Measured between pins 1-4 with 2-3 shorted.
- 3 The maximum DC current occurs when its temperature rise reaches 65°C.
- 4 Flash tested for 1 second.
- 5 Including self heating.
- 6 Representative samples of the product were subjected to the conditioning described in IPC/JEDEC J-STD-020E and passed electrical testing, package coplanarity and visual inspection.

PACKAGE SPECIFICATIONS

Mechanical Dimensions



Schematic



Unless otherwise stated, all dimensions in mm (inches) ±0.25 (0.010).
Package weight: 0.3g Typ.



For full details go to
<https://www.murata.com/en-global/products/power/rohs>

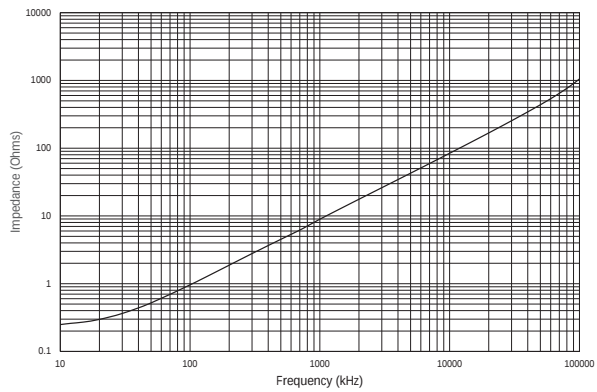
ENVIRONMENTAL VALIDATION TESTING

The following tests have been conducted on this product series, as part of our design verification process. The datasheet characteristics specify user operating conditions for this series, please contact Murata if further information about the tests is required.

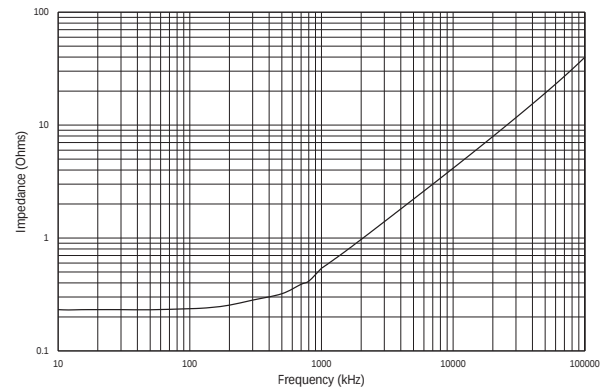
Test	Standard	Condition
Temperature cycling	JEDEC JESD22-A104	1000 cycles. -40°C to +125°C. 30 mins at each extreme, inclusive of any ramps.
Humidity bias	JEDEC JESD22-A101	85°C ± 2°C, 85% ± 5% R.H. for >1000 hours
High temperature Storage life	JEDEC JESD22-A103, Condition A	125°C +10/-0°C for ≥1000 hours
Vibration	MIL-STD-202 Method 204	5G for 20 minutes frequency swept from 10 to 2000 Hz and return to 10Hz. Performed in each orientation, tested 12 times.
Shock	MIL-STD-202 Method 213, Condition C	3 pulses 100G peak, 6ms, half-sine, 12.3ft/sec, x, y, z axes bi-directional. 18 shocks in total (3 shocks x 6 axis)
Solvent cleaning	Resistance to cleaning agents	Solvent – Novec 71IPA & Topklean EL-20A. Pulsed ultrasonic immersion 45°C- 65°C
Moisture sensitivity level (MSL 1)	Based on IPC/JEDEC J-STD-020	Bake samples at 125 +5/-0°C for 24 hours minimum before conditioning in the temperature/humidity chamber for 168 hours at 85°C/85%RH and Pb Free JEDEC Max profile conditioning. Subjected to 3 cycles with electrical testing, co-planarity inspection and visual inspection before and after.

DIFFERENTIAL MODE IMPEDANCE VS FREQUENCY

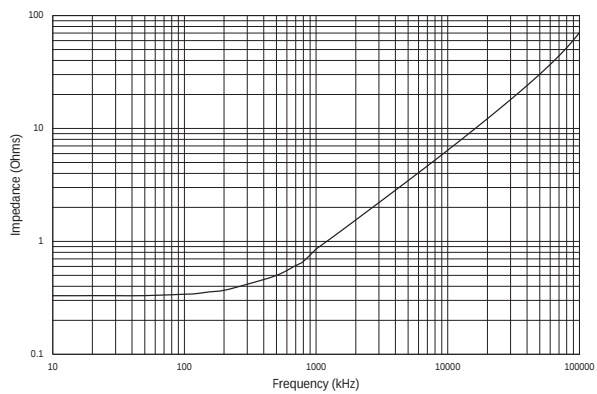
50503AC



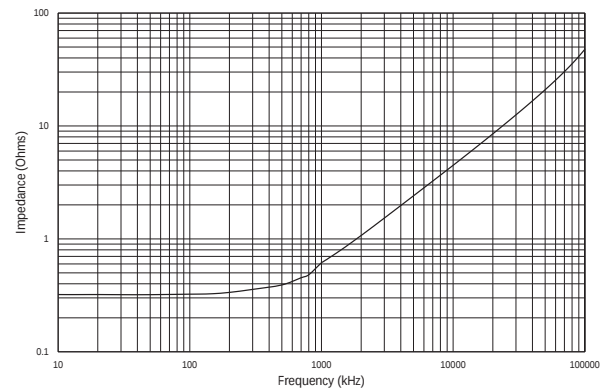
50513AC



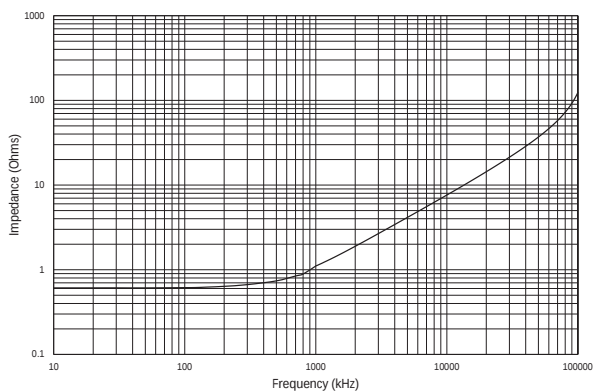
50474AC



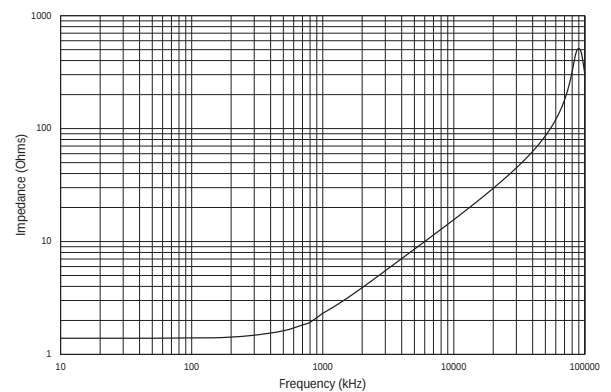
50105AC



50225AC

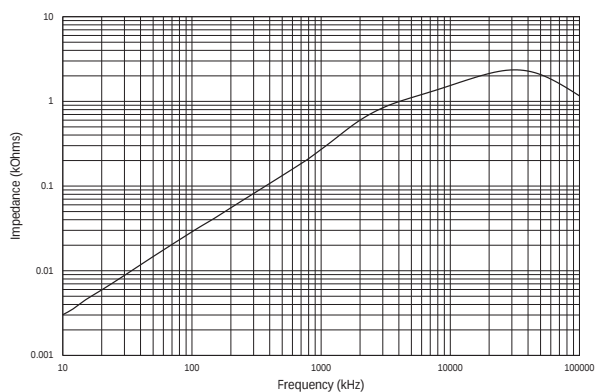


50475AC

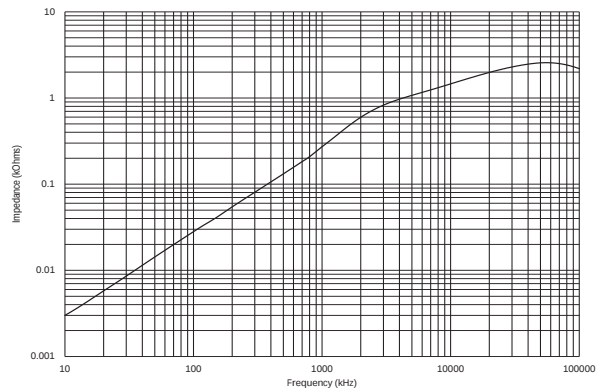


COMMON MODE IMPEDANCE VS FREQUENCY

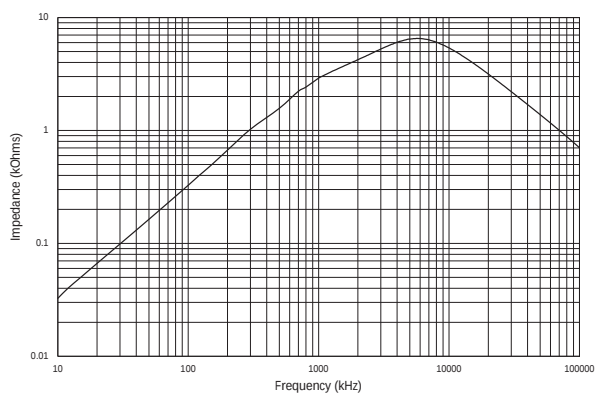
50503AC



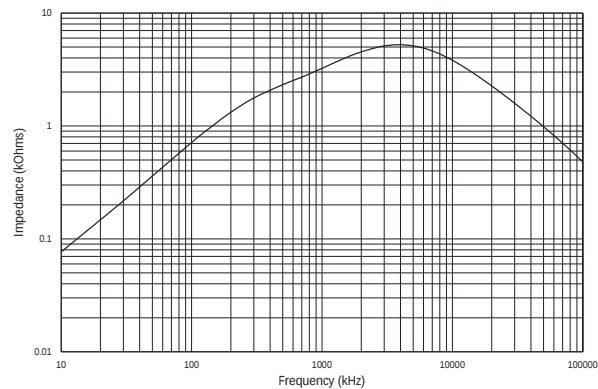
50513AC



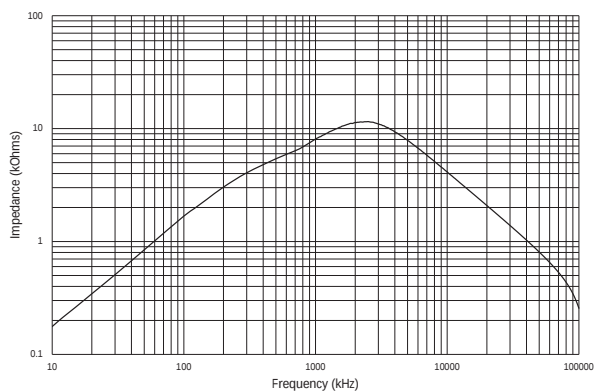
50474AC



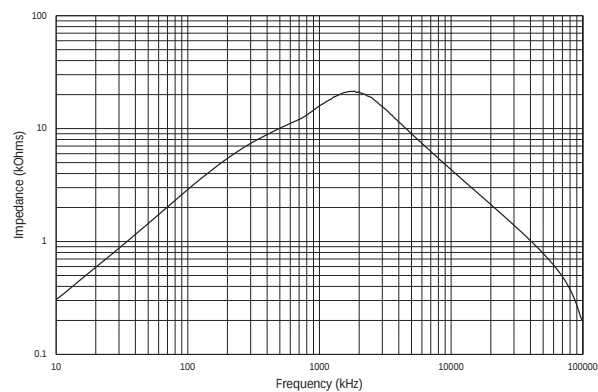
50105AC



50225AC

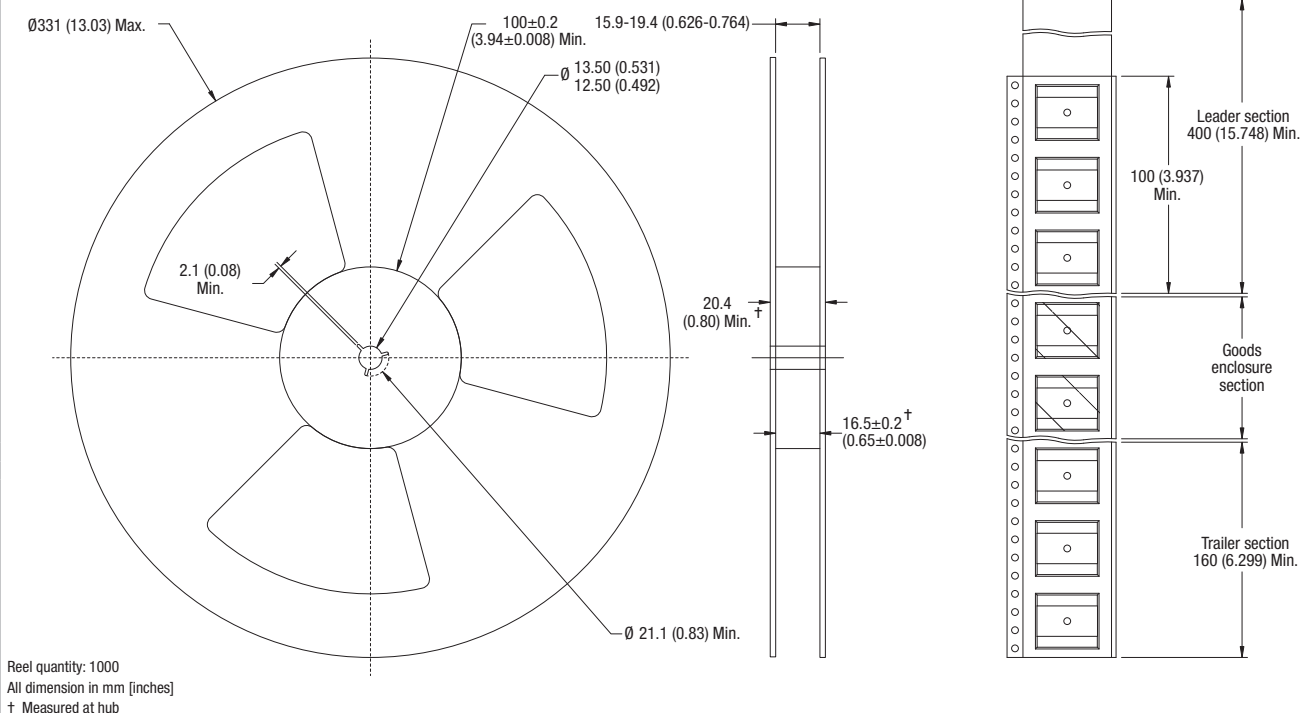


50475AC

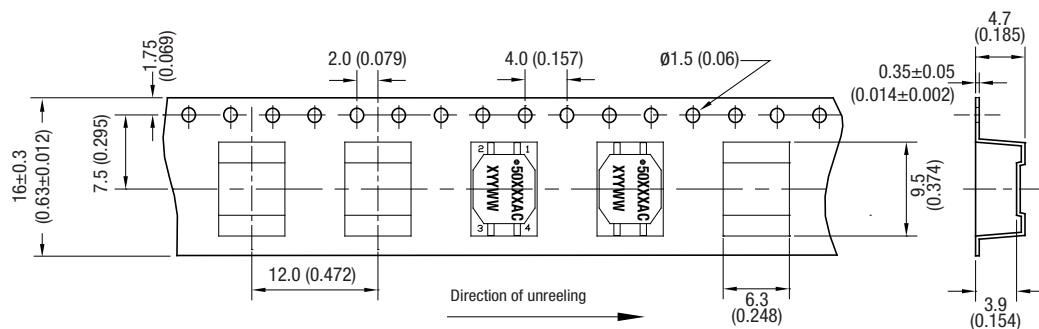


PACKAGE SPECIFICATIONS

Mechanical Dimensions



Tape Outline Dimensions



Unless otherwise stated, all dimensions in mm (inches) ± 0.1 (0.004).

DISCLAIMER

Unless otherwise stated in the datasheet, all products are designed for standard commercial and industrial applications and NOT for safety-critical and/or life-critical applications.

Particularly for safety-critical and/or life-critical applications, i.e. applications that may directly endanger or cause the loss of life, inflict bodily harm and/or loss or severe damage to equipment/property, and severely harm the environment, a prior explicit written approval from Murata is strictly required. Any use of Murata standard products for any safety-critical, life-critical or any related applications without any prior explicit written approval from Murata shall be deemed unauthorised use.

These applications include but are not limited to:

- Aircraft equipment
- Aerospace equipment
- Undersea equipment
- Power plant control equipment
- Medical equipment
- Transportation equipment (automobiles, trains, ships, etc.)
- Traffic signal equipment
- Disaster prevention / crime prevention equipment
- Data Processing equipment

Murata makes no express or implied warranty, representation, or guarantee of suitability, fitness for any particular use/purpose and/or compatibility with any application or device of the buyer, nor does Murata assume any liability whatsoever arising out of unauthorised use of any Murata product for the application of the buyer. The suitability, fitness for any particular use/purpose and/or compatibility of Murata product with any application or device of the buyer remain to be the responsibility and liability of the buyer.

Buyer represents and agrees that it has all the necessary expertise to create and implement safeguards that anticipate dangerous consequences of failures, monitor failures and their consequences, lessen the likelihood of failures that might cause harm, and take appropriate remedial actions. Buyer will fully indemnify and hold Murata, its affiliated companies, and its representatives harmless against any damages arising out of unauthorised use of any Murata products in any safety-critical and/or life-critical applications.

Remark: Murata in this section refers to Murata Manufacturing Company and its affiliated companies worldwide including, but not limited to, Murata Power Solutions.



This product is subject to the following [operating requirements](#) and the [Life and Safety Critical Application Sales Policy](#):

Refer to: <https://www.murata.com/en-eu/products/power/requirements>

Murata Power Solutions (Milton Keynes) Ltd. makes no representation that the use of its products in the circuits described herein, or the use of other technical information contained herein, will not infringe upon existing or future patent rights. The descriptions contained herein do not imply the granting of licenses to make, use, or sell equipment constructed in accordance therewith. Specifications are subject to change without notice.

© 2022 Murata Power Solutions (Milton Keynes) Ltd

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Common Mode Chokes / Filters](#) **category:**

Click to view products by [Murata](#) **manufacturer:**

Other Similar products are found below :

[PE-64683](#) [RD6137-6-7M5](#) [RD8147-16-3M0](#) [ST6118T-R](#) [FE3X025-10-7NL](#) [RD7147-25-0M7](#) [TCM0806G-350-2P-T](#) [TCM0806G-650-2P-T](#)
[IND-0110](#) [UAL21VR0802000](#) [UALSC023000000](#) [UALSC1020JH000](#) [UALSU10VD20010](#) [UALSU9VD070100](#) [36-00037](#)
[UALW21HS072450](#) [UALSU9H0208000](#) [UAL24VK06450CH](#) [PLT10HH501100PNB](#) [PLT10HH401100PNB](#) [PLT10HH1026R0PNB](#) [PE-](#)
[67531](#) [TLH10UB](#) [113 0R5](#) [2752045447](#) [7351V](#) [CMF16-153131](#) [RD7147-6-6M0](#) [T8116NLT](#) [CMS2-10-R](#) [FE2X10-4-2NL](#) [36-00029-07](#)
[T8003NLT](#) [CTX01-13663](#) [CTX66-19521-R](#) [RC212-0.5-10M](#) [RC112-0.4-15M](#) [RC212-0.6-6M8](#) [RC212-0.4-15M](#) [RC112-0.3-30M](#)
[PH9408.814NLT](#) [PAC6006.364NLT](#) [PAC6006.444NLT](#) [PAC6006.204NLT](#) [PH9407.204NLT](#) [PH9408.494NLT](#) [PAC6006.104NLT](#)
[CM6350R-683-REEL](#) [CUW43T-513T-AU](#) [CUW43T-104T-AU](#) [SCM9250-400N](#)