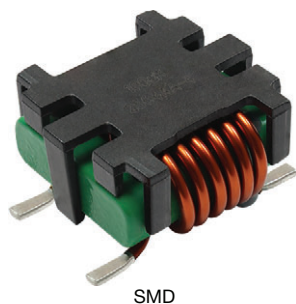
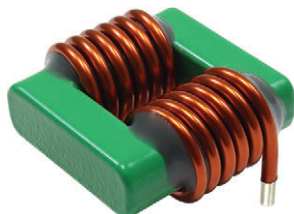


# Common Mode Choke, High Current, High Voltage 1.5 kV, Temperature 150 °C

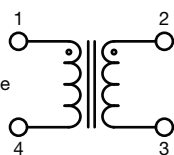


SMD



THT

Common mode choke



## FEATURES

- High current common mode choke with SMD and THT terminal options
- Compatible with automated pick and place assembly (SMD design only. THT termination does not include pick and place clip)
- High temperature operation up to 150 °C
- Inductance range from 70 µH to 480 µH (current rating up to 20 A)
- Designed to filter common mode noise from 500 kHz to 10 MHz (up to 5 kΩ impedance)
- Dielectric withstand voltage rated to 1500 V<sub>DC</sub> between coils
- Customizable for inductance, impedance, DCR and current rating
- AEC-Q200 qualified
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

AUTOMOTIVE  
GRADE

RoHS  
COMPLIANT

HALOGEN  
FREE

GREEN  
(5-2008)

## LINKS TO ADDITIONAL RESOURCES



Product Page

## MATERIAL SPECIFICATIONS

- Core: ferrite
- Wire: enameled copper
- Pick and place clip: glass fiber enhanced plastic polymer
- Terminal plating: solder dipped tin alloy (Sn99Ag0.3Cu0.7)

## APPLICATIONS

- High current and high temperature applications
- DC/DC converters
- EMI Filters
- Motor noise suppression

## STANDARD ELECTRICAL SPECIFICATIONS

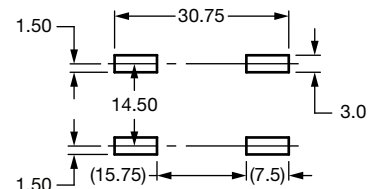
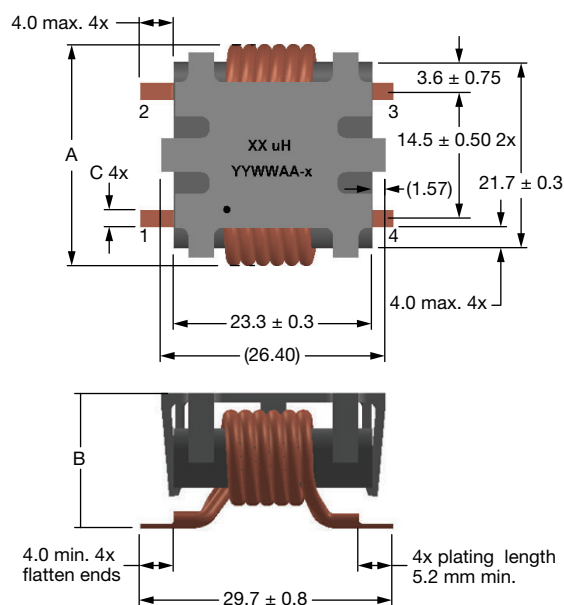
PART NUMBER	L <sub>0</sub> INDUCTANCE AT 0 A, REF. (µH)	DCR TYP. 25 °C (mΩ)	DCR MAX. 25 °C (mΩ)	COMMON MODE IMPEDANCE ± 30 % TYP. AT 1 MHz (Ω)	COMMON MODE IMPEDANCE ± 30 % TYP. AT 10 MHz (Ω)	COMMON MODE IMPEDANCE ± 30 % TYP. AT 100 MHz (Ω)	HEAT RATING CURRENT DC TYP. (A) <sup>(1)</sup>		LEAKAGE MAX. (µH)	MOUNT
							40 °C RISE	100 °C RISE		
ICMS2321AGEG700N1A	70	1.3	1.5	540	345	220	20	30	1.7	SMD
ICMS2321ABEH700N1A	70	1.2	1.3	540	345	220	20	30	1.7	THT
ICMS2321AGEG101N1A	100	1.9	2.1	780	600	240	18	26	2.4	SMD
ICMS2321ABEH101N1A	100	1.6	1.8	780	600	240	18	26	2.4	THT
ICMS2321AGEG281N1A	280	6.6	7.4	2240	1230	380	10	15	6.7	SMD
ICMS2321ABEH281N1A	280	6.2	7.0	2240	1230	380	10	15	6.7	THT
ICMS2321AGEG481N1A	480	13.4	15.0	3790	1920	410	7	10	11.5	SMD
ICMS2321ABEH481N1A	480	12.4	13.9	3790	1920	410	7	10	11.5	THT

### Notes

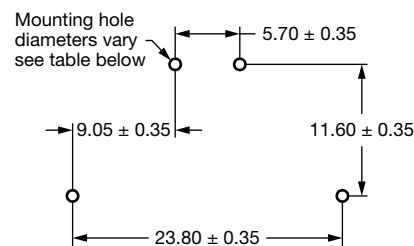
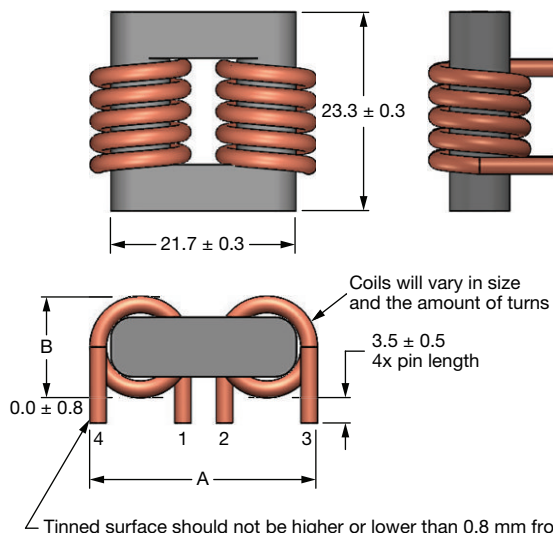
- All test data is referenced to 25 °C ambient
  - Inductance and impedance test condition: 100 kHz, 0.25 V
  - Operating temperature range -40 °C to +150 °C
  - Dielectric withstand voltage (DWV) rating:
    - Core to coil: 500 V<sub>DC</sub>, 1 mA max., 2 s
    - Coil to coil: 1500 V<sub>DC</sub>, 1 mA max., 2 s
- (1) DC current (A) that will cause an approximate ΔT of 40 °C and 100 °C, respectively



**DIMENSIONS** in millimeters

**SURFACE-MOUNT STYLE <sup>(1)</sup>**

**Typical Pad Layout**

PART NUMBER	A MAX.	B MAX.	C ± 0.2 mm	WEIGHT (g)
ICMS2321AGEG700N1A	27.7	17.5	2.2	17.3
ICMS2321AGEG101N1A	27.3	17.2	2.2	26.1
ICMS2321AGEG281N1A	26.1	15.65	1.5	19.6
ICMS2321AGEG481N1A	25.8	15.5	1.5	17.1

**THROUGH-HOLE MOUNT STYLE**

**Typical Board Pin Layout**

PART NUMBER	A MAX.	B MAX.	MOUNTING HOLE DIAMETER	WEIGHT (g)
ICMS2321ABEH700N1A	27.7	12.6	2.12	16.0
ICMS2321ABEH101N1A	27.3	12.3	1.93	24.8
ICMS2321ABEH281N1A	26.1	11.25	1.32	18.3
ICMS2321ABEH481N1A	25.8	10.75	1.113	15.8

**Note**
<sup>(1)</sup> Coplanarity of four terminals = 0.15 mm max.





## GLOBAL PART NUMBER

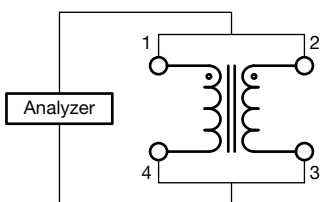
<b>I C M S</b>	<b>2 3 2 1</b>	<b>A G</b>	<b>E G</b>	<b>1 0 1</b>	<b>N</b>	<b>1 A</b>
PRODUCT FAMILY	CORE SIZE	HEIGHT	PACKAGE CODE / MOUNTING	INDUCTANCE	IMPEDANCE TOLERANCE	SERIES
	23 mm x 21 mm	<b>AG</b> = 17 mm <b>AB</b> = 12 mm	<b>EG</b> = surface-mount <b>EH</b> = through-hole	<b>101</b> = 100 $\mu$ H	<b>N</b> = 30 %	

### Notes

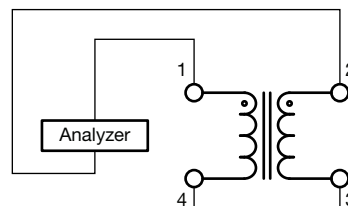
- Packaging type: tray
- For additional packaging details see "[Packaging Methods](#)"

## SCHEMATICS

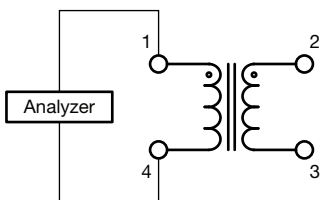
Common Mode Impedance



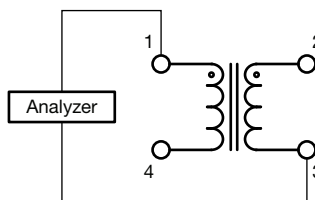
Differential Mode Impedance



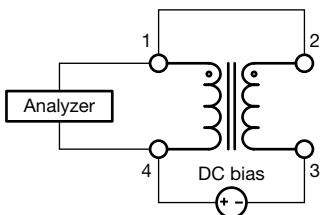
DC Resistance



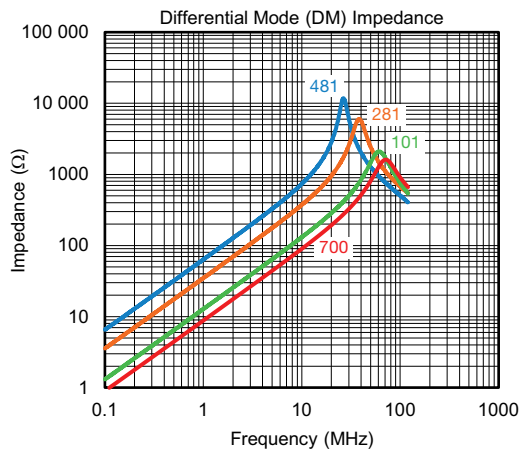
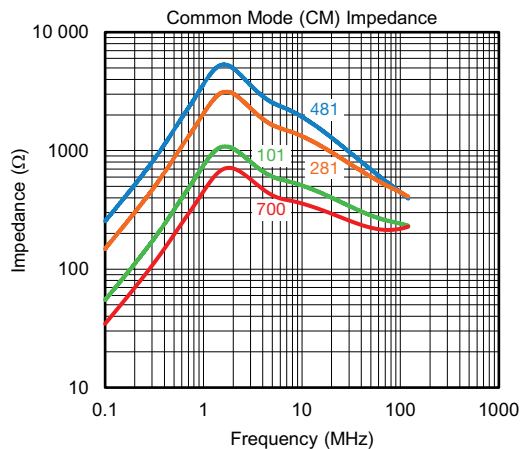
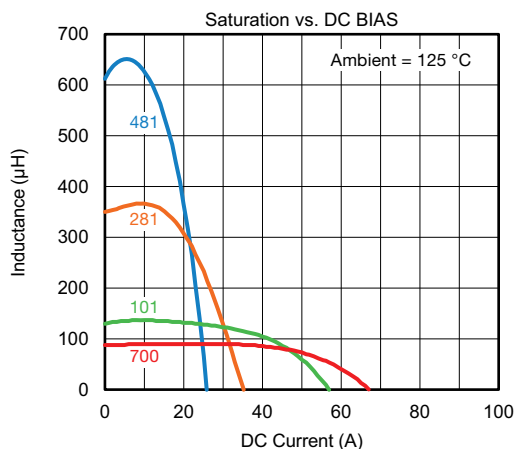
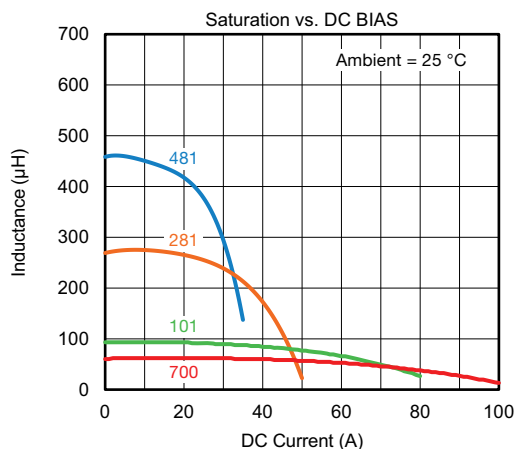
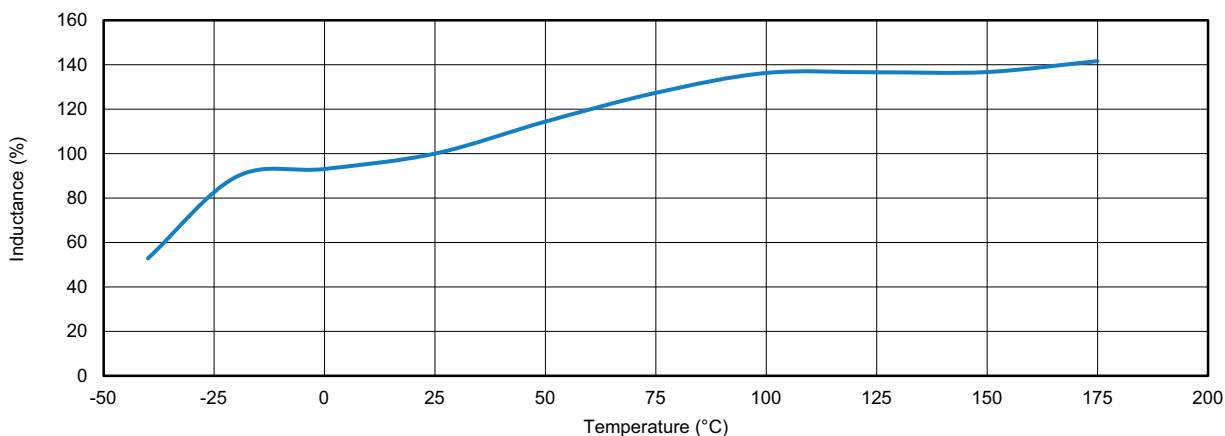
DWV Test (coil to coil)



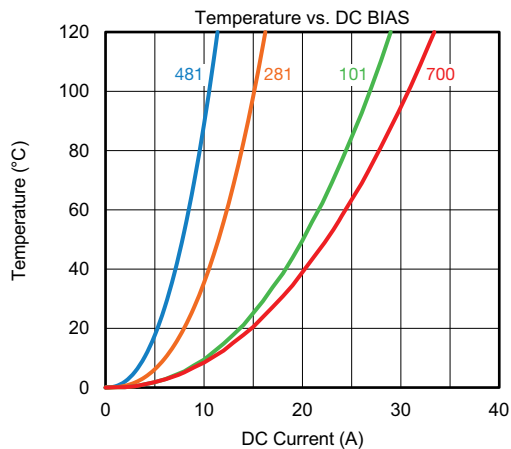
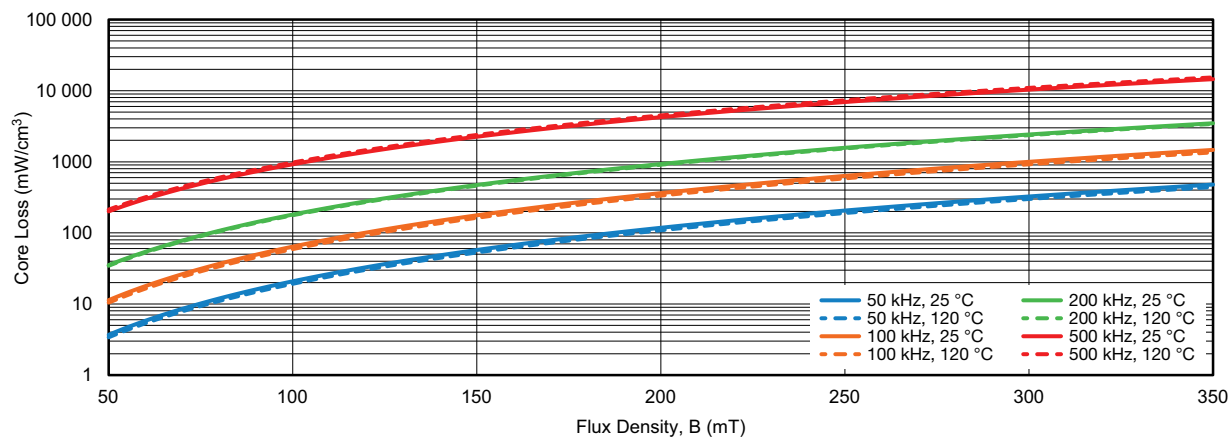
Saturation Test





**PERFORMANCE GRAPHS - FREQUENCY RESPONSE**

**PERFORMANCE GRAPHS - SATURATION**

**PERFORMANCE GRAPHS - INDUCTANCE VS. COMPONENT TEMPERATURE**




**PERFORMANCE GRAPHS - TEMPERATURE RISE**

**PERFORMANCE GRAPHS - CORE LOSS VS. FLUX DENSITY VS. FREQUENCY VS. TEMPERATURE**






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