

H

G

F

E

D

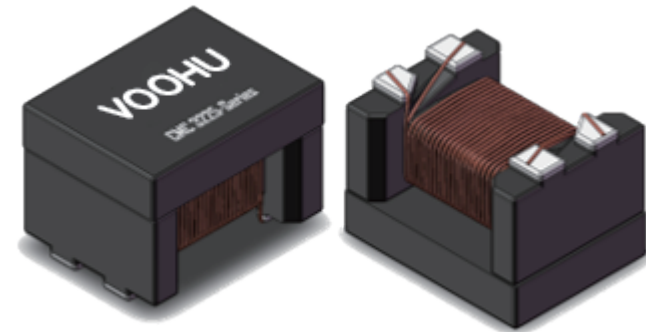
C

B

A

1 Features And Benefits

- Suppression of common mode noise without attenuating the signal
- Supports CAN-FD, CAN-Bus, A2B and other IVN high speed differential signal lines (LVDS) for Automotive and Industrial use including PLC data lines
- Passes IEC6228-3 CLASS 3 performance and CiA 110
- High Common Mode Impedance at 10MHz
- Meets AEC-Q200 Requirement
- R&D and Factory IATF-16949 Certified
- Operating temperature -55℃ to +150℃
- Rated Voltage 80v Max



H

G

F

E

D

C

B

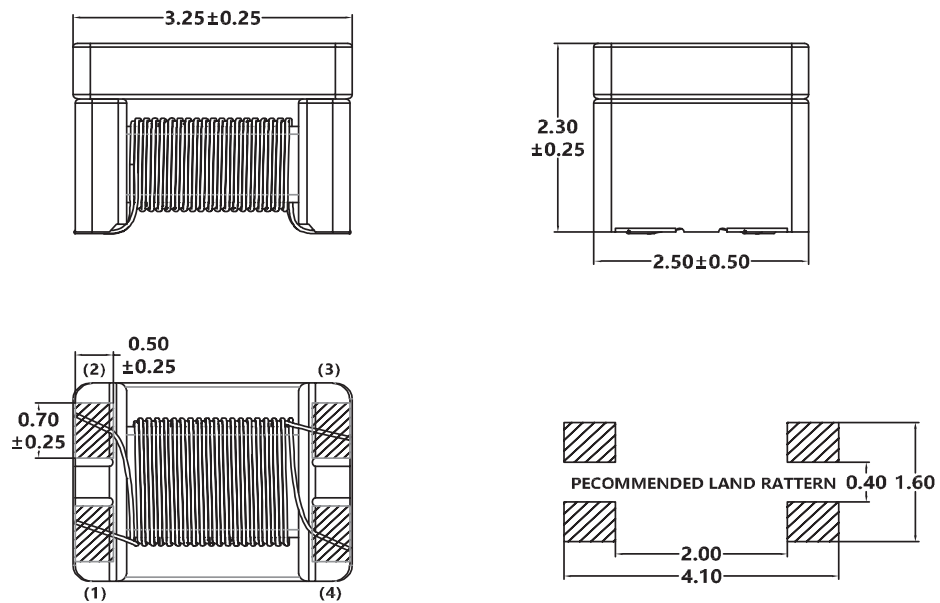
A

2 Electrical Specifications @ 25℃

Part Number	Common Mode Impedance (10MHZ)		Inductance (uH) +50/-30%	RDC (Ω)Max	Leakage Inductance (nH) typ	Isolation Resistance (MΩ) Min	Rated Current (mA) Max	Rated Voltage (V) Max
	ΩMin	Ωtyp						
WHAC-3225B-110U0	300	550	11	0.8	50	10	300	80
WHAC-3225B-220U0	500	1100	22	1.0	70	10	250	80
WHAC-3225B-510U0	1000	2600	51	1.6	130	10	200	80
WHAC-3225B-101U0	2200	5100	100	4.9	180	10	150	80

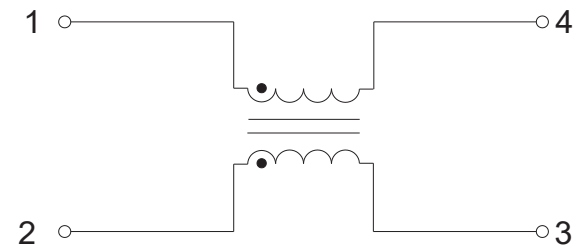
VOOHU 苏州沃虎电子科技有限公司 Su Zhou Voohu Electronic Tech.Co.Ltd TEL: +86 400 1048 018 WEB: WWW.WOHU-TEK.COM		TITLE: Common Mode Choke		SIZE A4	UNITS MM[INCH]	GENERAL TOLERANCES UNLESS SPECIFIED		APPROVED BY: Geoffrey.Song	
		PART NO.: WHAC-3225B-U0 Series		SACLE 1:1	REV A0	.x±0.35	x°±3.0°	CHECKED BY: Elvis.Song	
		REMARK:		SHEET 1/6		.xx±0.25	.xx°±1.5°	DESIGND BY: Sunny.Xu	
						.xxx±0.10	.xxx°±1.0°		

3 Dimensions (mm)&recommend layout



Dimensions In mm

4 Schematics



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Common Mode Choke

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WHAC-3225B-U0 Series

REMARK:

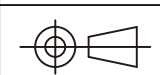
SIZE
A4

SACLE
1:1

SHEET
2/6

UNITS
MM[INCH]

REV
A0



GENERAL TOLERANCES
UNLESS SPECIFIED

$x \pm 0.35$	$x^\circ \pm 3.0^\circ$
$.x \pm 0.30$	$.x^\circ \pm 2.0^\circ$
$.xx \pm 0.25$	$.xx^\circ \pm 1.5^\circ$
$.xxx \pm 0.10$	$.xxx^\circ \pm 1.0^\circ$

APPROVED BY:
Geoffrey.Song

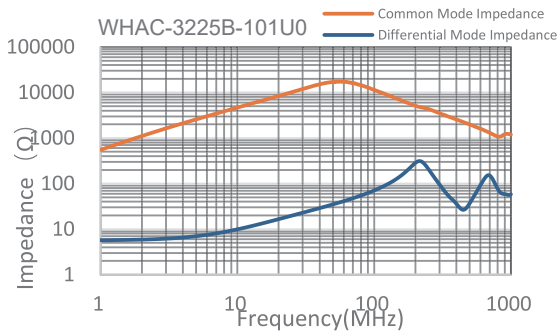
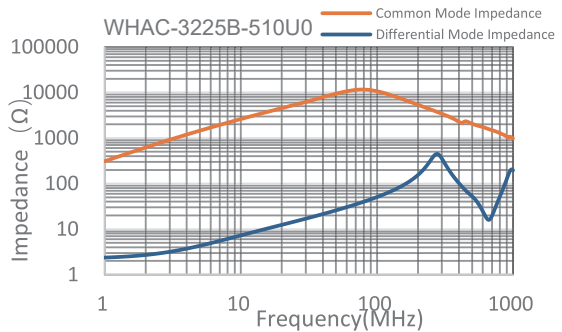
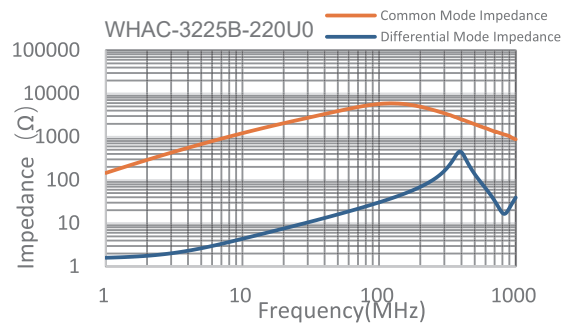
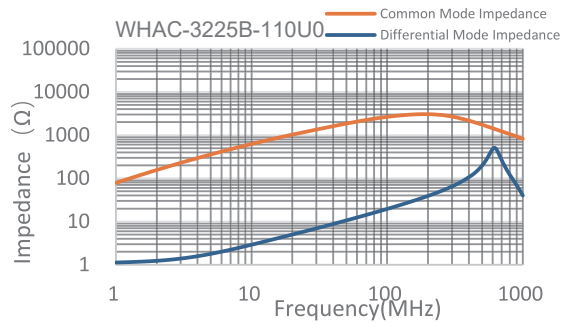
CHECKED BY:
Elvis.Song

DESIGND BY:
Sunny.Xu

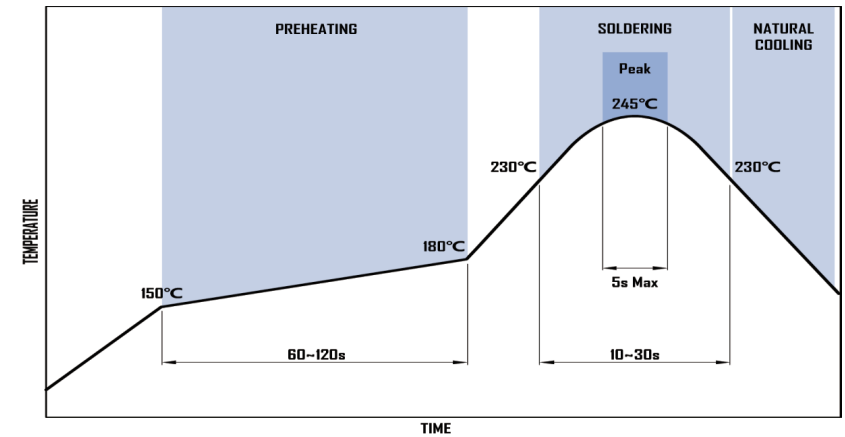
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5 Impedance VS. Frequency



6 Recommended Reflow Profile



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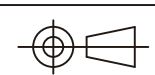
SIZE
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SACLE
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SHEET
3/6

UNITS
MM[INCH]

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UNLESS SPECIFIED

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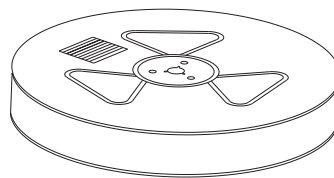
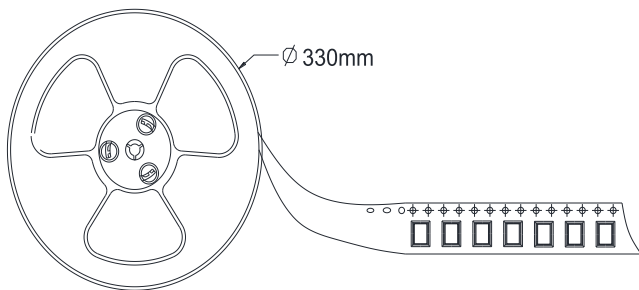
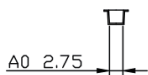
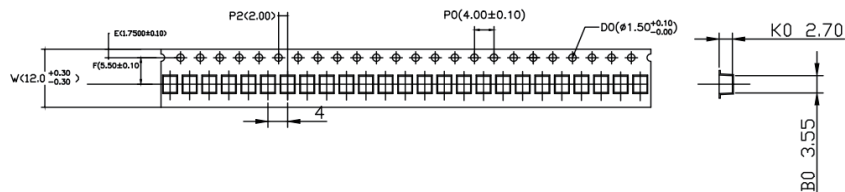
CHECKED BY:
Elvis.Song

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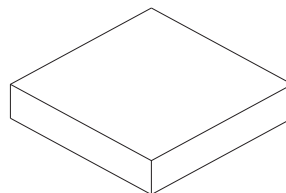
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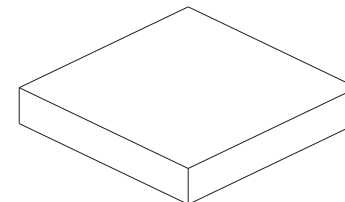
7 Packaging specification



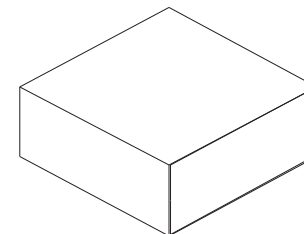
Four Reel



Five Inner Carton



Inner Carton



Export Carton

Package Quantity:
One Reel=6000 Pcs
One Inner Carton=6000*4=24000 Pcs
One Export Carton=24000*5=120000 Pcs

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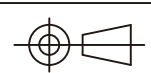
SIZE
A4

SACLE
1:1

SHEET
4/6

UNITS
MM[INCH]

REV
A0



GENERAL TOLERANCES
UNLESS SPECIFIED

x±0.35	x°±3.0°
.x±0.30	.x°±2.0°
.xx±0.25	.xx°±1.5°
.xxx±0.10	.xxx°±1.0°

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8 Reliability test

NO.	Test Item	Standard Reference	Test Condition
1	High temperature storage test	MIL-STD-202 Method 108	1、 1000 hrs. at rated temperature (e.g. 85°C part can be stored for 1000 hrs. at 85°C. Same applies for 125°C part. Unpowered. 2、 Remeasure the parameters at 250hrs & 500hrs in addition to measuring them 3、 Measurement at 24±4 hours after test conclusion.
2	Temperature Cycling	JESD22 Method JA-104	1、 1000 cycles (-40°C to +125°C). Note: If 85°C part or 105°C part the 1000 cycles will be at that temperature. 2、 Sock Time : 30min 3、 Measurement at 24±4 hours after test conclusion. 30min maximum dwell time at each temperature extreme. 1 min. maximum transition time
3	Biased Humidity	MIL-STD-202 Method 103	1、 Time: 1000 hours, Temperature: 85±2°C / humidity:85±2%RH 2、 Measurement at 24±4 hours after test conclusion.
4	Operational Life	MIL-STD-202 Method 108	1、 1000 hrs. @ 105°C. If 85°C or 125°C part will be tested at that temperature. (Refer to DS) 2、 Remeasure the parameters at 250hrs & 500hrs in addition to measuring them at the end of the test. 3、 Measurement at 24±4 hours after test conclusion.
5	Resistance to Solvents	MIL-STD-202 Method 215	1、 It is applicable to marked and/or coated components. 2、 Add Aqueous wash chemical OKEMCLEAN (A 6% concentrated Oakite cleaner) or equivalent. Notes: Do not use banned solvents.
6	Mechanical Shock	MIL-STD-202 Method 213	1、 Figure 1 of Method 213. Condition C : Peak value:100g's; Normal duration(D):6ms; Waveform:Half-sine; Velocity change(Vi)ft/sec:12.3 2、 18 cycles each of 6 orientations at 1500g's
7	Vibration	MIL-STD-202 Method 204	5g's for 20 min., 12 cycles each of 3 orientations Note: Use 8"X5" PCB .031" thick 7 secure points on one long side and 2 secure points at corners of opposite sides. Parts mounted within 2" from any secure point. Test from 10-2000 Hz.(12 cycles each of 3 orientations at 5g's/ 0.5" / 10-2000 Hz.)
8	Resistance to Soldering Heat	MIL-STD-202 Method 210	Condition B No pre-heat of samples. Note: Single Wave Solder -Procedure 2 for SMD and Procedure 1 for Leaded with solder within 1.5mm of device body. Condition B include the follow conditions: 1.Temperature(°C): 260±5 (solder temp) ; 2.Time(s):10±1; 3.Temperature ramp/immersion and emersion rate:25mm/s±6mm/s; 4.Number of heat cycles:1.

9	Solderability	J-STD-002	1、 For both Leaded & SMD. Electrical Test not required. Magnification 50 X. Conditions: Leaded: Method A @ 235°C. SMD: a) Method B, 4 hrs @155°C dry heat @235°C b) Method B @ 215°C category 3(8 hrs steam). c) Method D category 3(8 hrs steam). @ 260°C.
10	Electrical Characterization	User Spec	1、 Parametrically test per lot and sample size requirements, summary to show Min,Max, Mean and Standard deviation at room as well as Min and Max operating temperatures. a) High Temp. TR at 125°C (Refer to DS) b) Room Temp. TR at 25°C c) Low Temp. TR at -40°C
11	Flammability	UL-94	V-0 or V-1 Acceptable. Test is applicable tocomponents having a resin case.
12	Board Flex	AEC-Q200-005	Required for MLCCs only. 60 sec minimum holding time.
13	Terminal Strength(SMD)	AEC-Q200-006	1、 Unless otherwise specified, the SMD shall be tested while mounted onto a .062 inch thick FR-4 PCB using 1 ounce of Copper. 2、 Apply a 17.7 N (1.8 Kg) force to the side of a device being tested. This force shall be applied for 60 +1 seconds.
14	External Visual	MIL-STD-883 Method 2009	Inspect device construction,marking and workmanship.Electrical Test not required.
15	Physical Dimension	JESD22 Method JB-100	Verify physical dimensions to the applicable device specification. Note: User(s) and Suppliers spec, electrical Test not required.

VOOHU

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WHAC-3225B-U0 Series

REMARK:

SIZE

A4

SACLE

1:1

SHEET

5/6

UNITS

MM[INCH]

REV

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GENERAL TOLERANCES

UNLESS SPECIFIED

x±0.35

.x±0.30

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