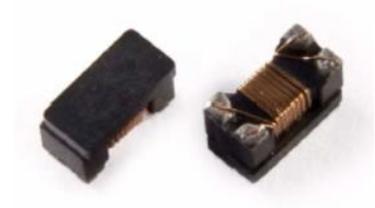




●FEATURE

1. High Common Mode Impedance at high Frequency effects excel noise suppression performance
2. Common Mode Filter for high speed signal line
3. Suitable for signal line circuit like USB2.0, IEEE1394 and LVDS
4. Pass the CE/FCC purpose
5. Operating Temperature -40 ~ +125 °C
6. Compliant with AEC-Q200



●APPLICATITON

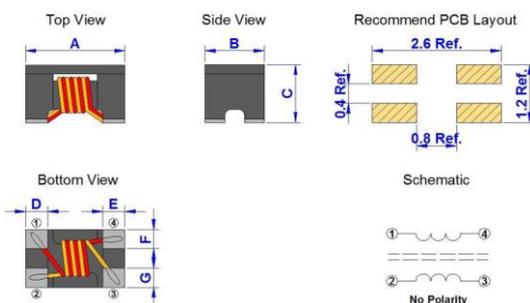
USB 2.0, IEEE 1394 (Firewire), LVDS, High Speed Data Lines, LAN

●ORDERING INFORMATION

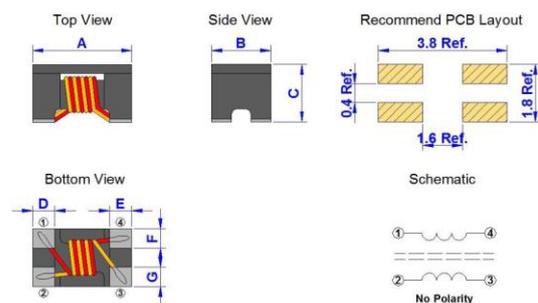
<u>CMW</u>	<u>2012</u>	<u>U</u>	<u>-900</u>	<u>N</u>	<u>Q</u>
Series	Dimension (L*W)	Material Code (E, B, D)	Impedance (Ω)	Tolerance N=±25%	AEC-Q

●SHAPE AND DIMENSION

2012 Type



3216 Type



●SPECIFICATION

Unit: mm

TYPE	A	B	C	D	E	F	G
2012	2.00±0.20	1.20±0.20	1.20±0.20	0.40±0.20	0.40±0.20	0.40±0.20	0.40±0.20
3216	3.20±0.20	1.60±0.20	2.00±0.20	0.60±0.20	0.60±0.20	0.60±0.20	0.60±0.20

**•ELECTRICAL CHARACTERISTICS**

Part Number	Common Mode (Min.) impedance (Ohm)@100MHz	Common Mode (Typ.) impedance (Ohm)@100MHz	Rated Voltage / Withstanding Voltage V(DC)	DCR (Ohm) (Max.)	Rated Current (mA) (Max.)	Insulation Res. Min. (M Ohm)
CMW2012U-670N	30	67	50 / 125	0.25	400	10
CMW2012U-900N	60	90	50 / 125	0.30	400	10
CMW2012U-121N	95	120	50 / 125	0.30	370	10
CMW2012U-161N	115	160	50 / 125	0.35	330	10
CMW2012U-181N	135	180	50 / 125	0.35	330	10
CMW2012U-221N	145	220	50 / 125	0.35	330	10
CMW2012U-361N	200	360	50 / 125	0.40	280	10
CMW2012U-401N	320	400	50 / 125	0.40	280	10
CMW2012U-601N	450	600	50 / 125	0.375	250	10
CMW2012U-102N	750	1000	50 / 125	0.80	100	10

* N=Tolerance=±25%

* Rated Current based on increasing product temperature: Current when temperature of the product reaches +40°C

Part Number	Common Mode (Min.) impedance (Ohm)@100MHz	Common Mode (Typ.) impedance (Ohm)@100MHz	Rated Voltage / Withstanding Voltage V(DC)	DCR (Ohm) (Max.)	Rated Current (mA) (Max.)	Insulation Res. Min. (M Ohm)
CMW3216U-900N	60	90	50 / 125	0.30	370	10
CMW3216U-121N	90	120	50 / 125	0.30	370	10
CMW3216U-161N	115	160	50 / 125	0.40	340	10
CMW3216U-221N	145	220	50 / 125	0.50	310	10
CMW3216U-601N	425	600	50 / 125	0.80	260	10
CMW3216U-102N	700	1000	50 / 125	1.00	230	10
CMW3216U-222N	1560	2200	50 / 125	1.20	200	10

* N=Tolerance=±25%

* Rated Current based on increasing product temperature: Current when temperature of the product reaches +40°C



●RELIABILITY

Test Item	Test Condition	Specification												
Dimension	Actual Size ...	Meet Spec												
Thermal Shock (Temperature Cycle)	Temperature: -40 ~ +125°C kept stabilized for 30 min. each Cycle: 100 Cycles (power off)	Elec. no variation Appearance no deformation												
Humidity Resistance	Humidity: 90% ~ 95% RH Temperature: 60 ± 2°C Test Time: 96 ± 2 Hours	Elec. no variation Appearance no deformation												
High Temperature	Temperature: 125 ± 2°C Testing Time: 96 ± 2 Hours	Elec. no variation Appearance no deformation												
Low Temperature	Temperature: -40 ± 2°C Time: 96 ± 2 Hours	Elec. no variation Appearance no deformation												
Temperature and Humidity Cycle	<table border="1"> <thead> <tr> <th>Temperature</th> <th>Humidity</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>25°C</td> <td>90% ~ 95% RH</td> <td>3.0 Hr</td> </tr> <tr> <td>55°C</td> <td>95% ~ 96% RH</td> <td>5.0 Hr</td> </tr> <tr> <td>25°C</td> <td>90% ~ 95% RH</td> <td>3.0 Hr</td> </tr> </tbody> </table>	Temperature	Humidity	Time	25°C	90% ~ 95% RH	3.0 Hr	55°C	95% ~ 96% RH	5.0 Hr	25°C	90% ~ 95% RH	3.0 Hr	Elec. no variation Appearance no deformation
	Temperature	Humidity	Time											
	25°C	90% ~ 95% RH	3.0 Hr											
	55°C	95% ~ 96% RH	5.0 Hr											
25°C	90% ~ 95% RH	3.0 Hr												
Cycle: 20 Cycles														
Vibration	Frequency: 10Hz ~ 55Hz , Amplitude: 1.5 mm Direction: X, Y, Z, Time: 2 Hours each	Elec. no variation Appearance no deformation												
Solderability	Go through real SMT IR-Reflow The profile like our suggest profile. Preheat: 160 ± 10°C (90 sec) Peak: 245 ± 5°C Peak Time: 50 Sec. / up 217°C	Elec. no variation Appearance no deformation												
Soldering Heat Resistance	Preheat: 160 ± 10°C (90 sec) Solder: Sn / Ag / Cu (Pb Free) Solder Temp.: 260 ± 5°C, Time: 3 ± 1 seconds	Elec. no variation Appearance no deformation												
Iron Solder Heat Resistance	Solder Temp.: 350 ± 5°C Flux: Rosin, Time: 3 ± 1 seconds	Elec. no variation Appearance no deformation												
Bending Strength	<p>Unit : mm</p> <p>Force : 1Kg / min.</p>	Elec. no variation Appearance no deformation												
Flexure Strength	<p>Unit : mm</p> <p>Solder cream 0.15 mm</p>	Elec. no variation Appearance no deformation												
Terminal Strength	<p>Mount on PCB Solder Cream 0.15 mm</p> <p>Push 10N force to X , Y direction</p>	Elec. no variation Appearance no deformation												
High-Voltage	100 V DC between core & winding	Elec. no variation Appearance no deformation												
Load life	Temperature: 25 ± 3°C Load: Allowed DC Current, Test Time: 96 ± 2 Hours	Elec. no variation Appearance no deformation												



●TEST EQUIPMENT

- 1. HP4284A, HP42841A - L, Q, DCR, IDC
- 2. HP8753D Network analyzer – SRF

●OPERATING & STORAGE CONDITION

- 1. Operating Temp: -40 ~ +125°C (Including self - temperature rise)
- 2. Storage Temp: a. Product with Taping: -10 ~ 45°C, 50 ~ 60% RH
b. On Board: -40 ~ +125°C
- 3. Storage Life Time: 6 Month (Less than 40°C and 60% RH)

Standard Atmosphere Conditions:

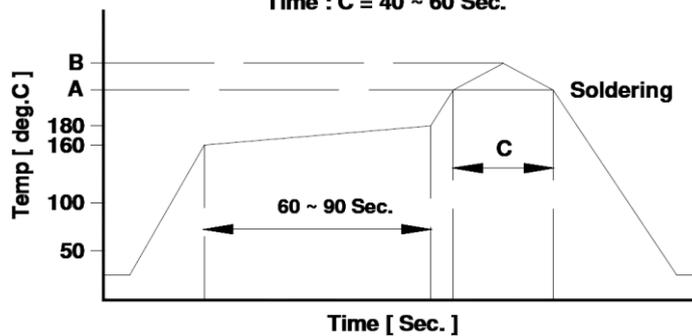
Ambient Temperature 20 ± 15°C; Humidity RH 65 ± 20%

If there may be any doubt on the test result, Measurement shall be made within the following limits:

Ambient Temperature 25 ± 5°C; Humidity RH 75 ± 10%

●RECOMMEND IR REFLOW CURVE (TIME: Second)

Lead Free Solder : A = 217 deg.C , B = 245+/-5 deg.C
Time : C = 40 ~ 60 Sec.



Notice: Iron Soldering, Solder < 30 Watt,
Direct touch the terminal x 3 Sec. Max. @ 350°C

●ATTENTION & CAUTION

- * Keep out of Splashing water or salt water
- * Avoid Toxic Gas (Hydrogen sulfide, Sulfurous acid, Chlorine, Ammonia)
- * Vibrations or shocks which exceed the specified condition
- * Dew condense
- * Layout near the edge of PCB
- * Over flexure after SMT mounting & PCBA
- * Pin foot or SMD pad solder ability: Pb free type is best within 6 months after delivery
- * Humidity sensitive, IPC/JEDEC J-STD-020 MSL if over Level 1, recommend bake 30mins@150°C before PCBA
- * Caution for human life relative applications: PLS contact & consult with AiT team in design stage.



Care Note for Use:

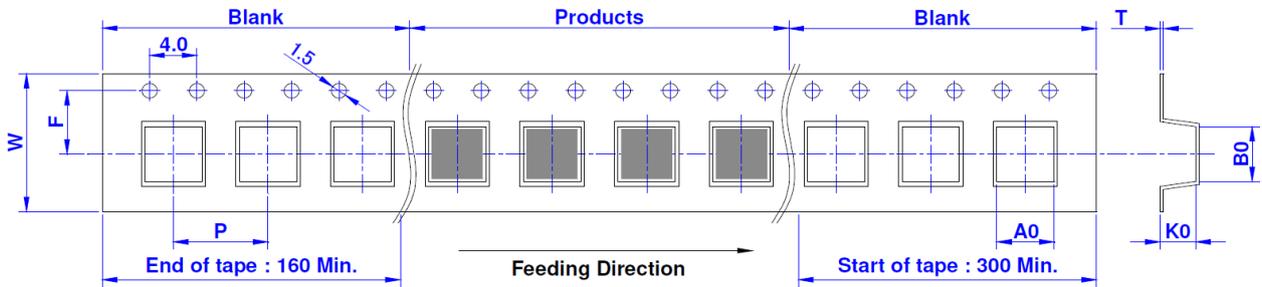
- (1) Storage Condition:
Temperature 25 to 35°C, Humidity 45 to 60% RH
- (2) Use Temperature:
 - a. Minimum Temperature: -40°C Ambient temperature of this product.
 - b. Maximum Temperature: +125°C The value of temperature including ambient and temperature rise of this product.
 - c. Reliability test temperature range from -40 ~ +125°C
 - d. However, this is not meant as temperature grade guarantee for UL.
- (3) Model:
When this product was used in a similar or as new product to the original one, sometimes it might be unable to satisfy the specifications due to difference in condition of usage.
- (4) Drop:
If this product suffered mechanical stress such as drop, characteristics may become poor (due to damage on coil / bobbin / ferrite ... etc.)
Never use such stressed product.

Care Note for Safety:

- (1) Provision to Abnormal Condition:
This product itself does not have any protective function in abnormal condition such as overload, short-circuit and open-circuit conditions, etc.
Therefore, it shall be confirmed from the end product that there is no risk of smoking, fire, dielectric withstand voltage insulation resistance, etc. in abnormal conditions to provide protective devices and /or protection circuit in the end product.
- (2) Temperature Rise:
Temperature rise on this product depends on the installation condition on end products.
It shall be confirmed on the actual end product that temperature rise of this product is within the specified temperature class limit.
- (3) Dielectric Strength:
Dielectric withstanding test with higher voltage than specific value will damage insulating material and shorten its life.
- (4) Water:
This product must not be used in wet condition resulted from water, coffee or any liquid contact because insulation strength becomes very low under such condition.
- (5) Potting:
If this product is potted in some compound, coating material of magnet wire might be occasionally damaged. Please ask us if you intend to pot this product.
- (6) Detergent:
Please consult AiT Semi immediately once under such circumstances because product reliability confirmation etc. is needed when this product come in contact with these chemicals.

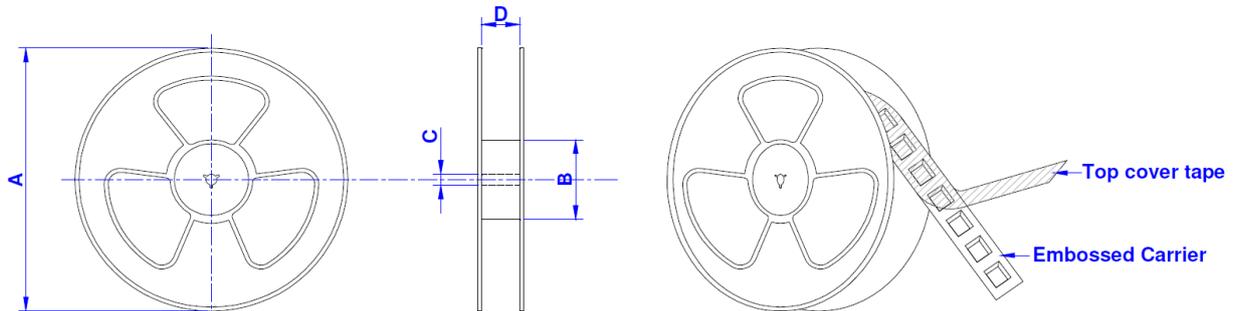


●TAPE DIMENSION: mm



SIZE/mm	W	P	A0	B0	K0	T	F
2012	8.00	4.00	1.54	2.32	1.35	0.23	3.50
3216	8.00	4.00	1.94	3.54	2.10	0.30	3.50

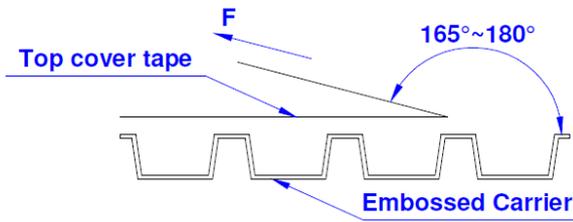
●REEL DIMENSION: mm



SIZE / mm	Reel Size	A	B	C	D	QTY/REEL
2012	7" x 8mm	178	60	13	8.5	2000 PCS
3216	7" x 8mm	178	60	13	8.5	2000 PCS



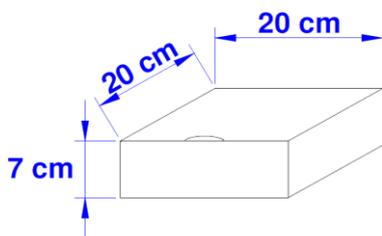
●TEARING OFF FORCE:



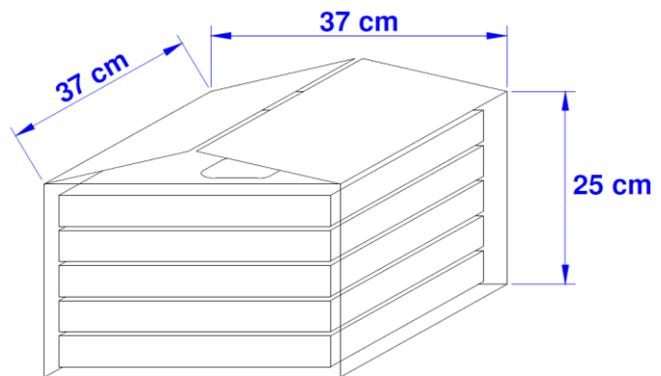
The force for tearing off cover tape is 10 to 130 grams in the arrow direction under the following conditions (referenced ANSI/EIA - 481 - D - 2008 of 4.11 standard).

Room Temp. (°C)	Room Humidity (%)	Room Atm. (hPa)	Tearing Speed (mm/min)
5 ~ 35	45 ~ 85	860~1060	300

●BOX PACKAGE: cm



7" Small Box



Large Box

SIZE/mm	Reels in Small Box	Small Box in Large Box
2012	5	8
3216	5	8



IMPORTANT NOTICE

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