

# SMD Common Mode Choke - U2012 (Low Profile)

Features & Application

2020/1/1

- For noise suppression in super high speed signal lines: USB 3.x, HDMI 2.0, HDBaseT™, DisplayPort, DVI, etc.; and in high speed differential signal lines: USB 2.0, IEEE1394, LVDS, etc.
- Up to 6.0 GHz differential mode 3 dB cutoff frequency; up to 35 dB common mode noise attenuation in GHz range
- Lowest profile 0805 common mode choke – 0.93 mm tall



Core material Ferrite, with UV EXPOXY cover

Environmental RoHS compliant

Terminations Matte tin over nickel over silver-palladium-glass finish

Ambient temperature –40°C to +125°C with Irms current.

Maximum part temperature 140°C

Storage temperature Component: –40°C to +140°C.

Tape and reel packaging: –40°C to +80°C

Resistance to soldering heat Max three 40 second reflows at

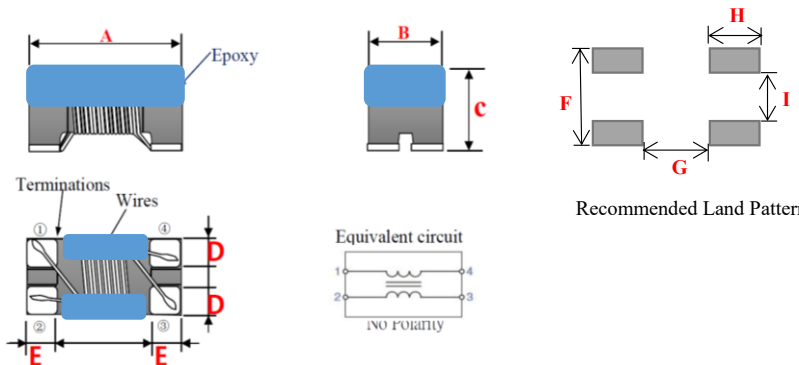
+260°C, parts cooled to room temperature between cycles

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

★ When ordering, please check part number

Part number	Impedance(Ω) @100MHz ± 25%	DC Resistance (Ω) max	Irms (mA)
CMU2012H900-0.3AT	90	0.35	300
CMU2012H121-0.3AT	120	0.35	300
CMU2012H181-0.3AT	180	0.50	300

Isolation (Vrms) : 250V. Winding to winding isolation (hipot) tested for one minute.



Dimensions	
A	2.00±0.2
B	1.20±0.2
C	1.00±0.2
D	0.40 typ
E	0.45 typ
F	1.20 typ
G	0.80 typ
H	0.90 typ
I	0.40 typ
unit : mm	

Impedance/Inductance/Q/	LCR Angilent E4991A
Resistance DC	Chroma 16502
Current per winding that causes a 20°C rise from 25°C ambient	
Electrical specifications at 25°C	

Weight 7.9 – 10 mg.

Packaging 2000/7 # reel; Plastic tape: 8 mm wide.

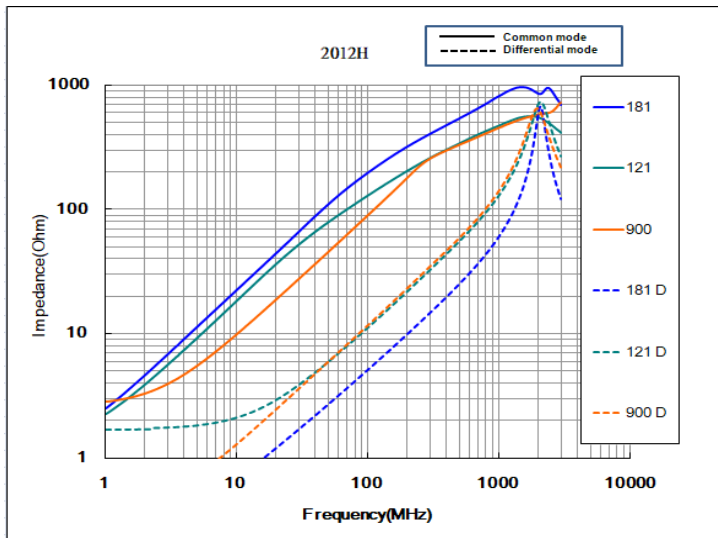
Packaging will differ, according to the various chip size.

Contact Us	
US	sales-us@bing-ri.com.tw
Taiwan	sales-tw@bing-ri.com.tw
China	sales-cn@bing-ri.com.tw
Japan	sales-jp@bing-ri.com.tw

Official Website :
<a href="https://www.bing-ri.com.tw/">https://www.bing-ri.com.tw/</a>

Typical Impedance vs Frequency

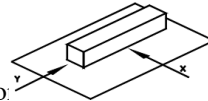
Common Mode & Differential mode



GENERAL CHARACTERISTICS

1. Operating temperature range:  $-40$  TO  $+125^{\circ}\text{C}$  (Includes temperature when the coil is heated)
2. External appearance: On visual inspection, the coil has no external defects.
3. Terminal strength: After soldering. Between copper plate and terminals of coil. Push in two directions of X.Y withstanding at below conditions.

Terminal should not peel off. (refer to figure at right) 0.5kg Min –2012



4. Insulating resistance: Over  $100\text{M}\Omega$  at  $100\text{V D.C.}$  between coil and core
5. Dielectric strength: No dielectric breakdown at  $100\text{V D.C.}$  for 1 minute between coil and core
6. Temperature characteristics: Inductance coefficient  $(0\sim 2,000)\times 10^{-6}/(^{\circ}\text{C } -25\sim +80)$ .  $^{\circ}\text{C}$ , inductance deviation within  $\pm 5.0\%$ , after 96 hours.
7. Humidity characteristics (Moisture Resistance): Inductance deviation within  $\pm 5\%$ , after 96 hours in  $90\sim 95\%$  relative humidity at  $40 \pm 2$  and 1 hour drying under normal condition.
8. Vibration resistance: Inductance deviation within  $\pm 5\%$ , after vibration for 1 hour. In each of three orientations at sweep vibration ( $10\sim 55\sim 10$  Hz) with  $1.5\text{mm P-P}$  amplitudes.
9. Shock resistance: Inductance deviation within  $\pm 5\%$ , after being dropped once with  $981\text{m/s}^2$  ( $100\text{G}$ ) shock attitude upon a rubber block method shock testing machine, in three different
10. Resistance to Soldering Heat:  $260$ , 10 seconds (See attached recommend reflow)
11. Storage environment: Storage condition: Temperature Range:  $10 \sim 35$  (Generally:  $21 \sim 31$ ), Humidity Range:  $50\% \sim 80\%$  RH (Generally:  $65\% \sim 75\%$ ); Transportation condition: Temperature Range:  $-35 \sim 85$ , Humidity Range:  $50\% \sim 95\%$  RH
12. Use components within 12 months. If 12 months or more have elapsed, check solderability before use.
13. Reflow profile recommend:

Lead-free heat endurance test

Lead-free the recommended reflow condition

