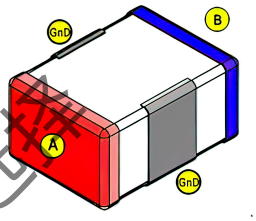
TOP-EMC

BDL EMI Filter

■ DESCRIPTION

When used in balanced line applications,the revolutionary design provides simultaneous line-to-line and line-to-ground filtering,using a single ceramic chip. In this way,differential and common mode filtering are provided in one device.For unbalanced applications,it provides ultra low ESL (equivalent series inductance). Capableof replacing 2 or more conventional devices, it is ideal for balanced and unbalanced lines.



The BDL(Balanced Dual-Line) device performs as a broadband filter enabling better EMC compliance for electrical equipment in a wide range of applications.

■ FEATURE

BDL is effective up to 10GHz and frequencies beyond.
Noise cancellation within BDL makes ESL reducing from nH to pH levels.
Unlike feed through capacitors,BDL is in bypass,so no DC current limitations.
Two tightly matched line to ground capacitors in one device.

■ ADVANTAGES

- Replace up to 7 components with one BDL
- Matched capacitance line to ground,both lines
- One device for EMI suppression or decoupling
- Differential and common mode attenuation
- Low inductance due to cancellation effect

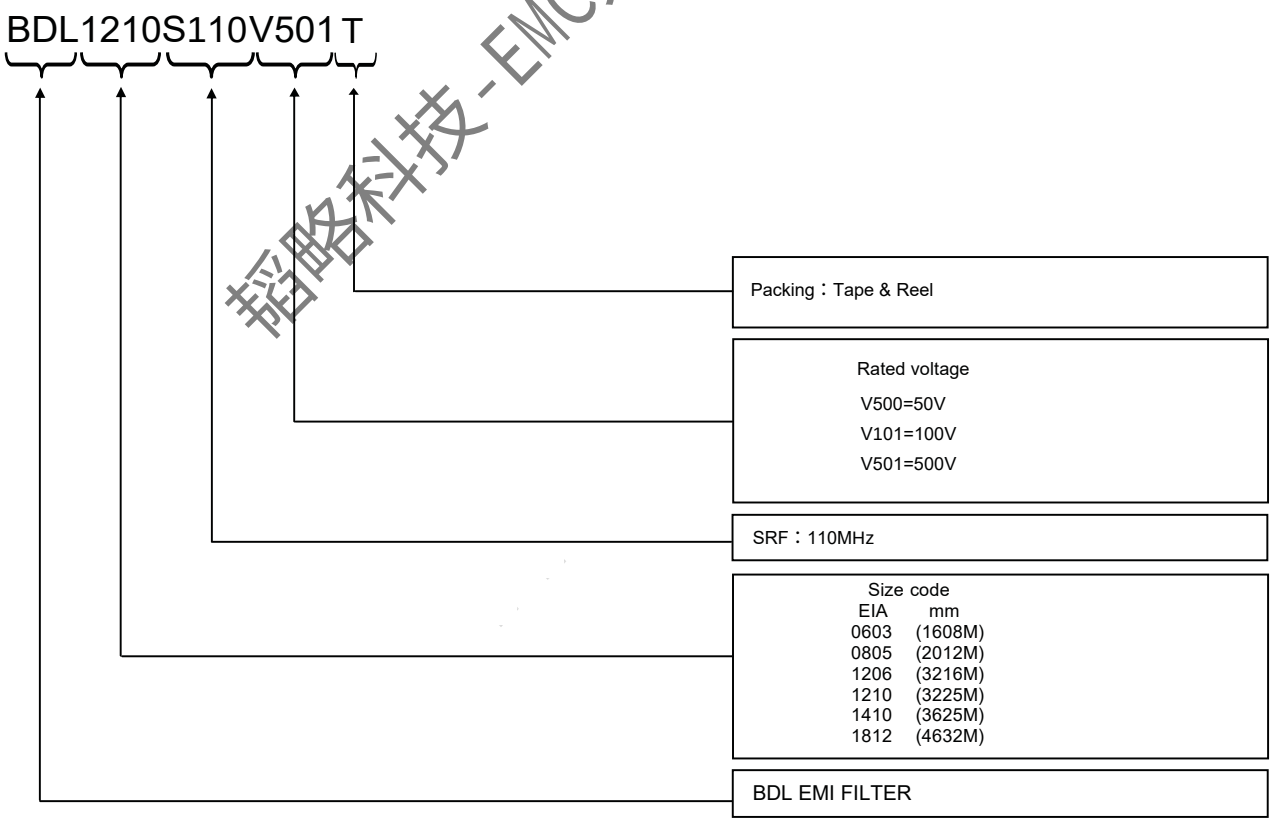
■ APPLICATIONS

- Amplifier Filter & Decoupling
- DDR Memory
- High Speed Data Filtering
- FPGA/ASIC Decoupling
- DC Motor

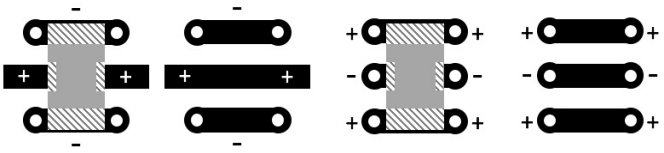
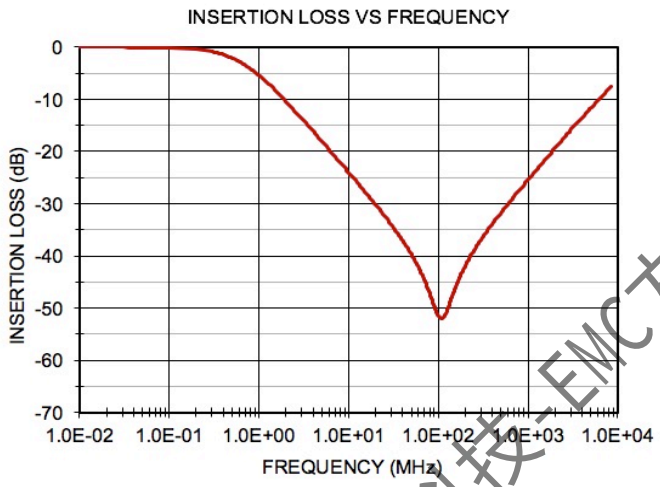
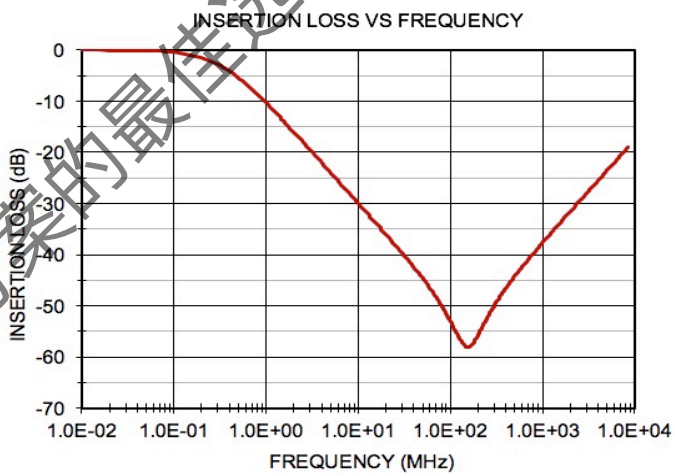
■ QUICK REFERENCE DATA

DESCRIPTION	VALUE
Rated voltage	500V
SRF	110MHz
Insulation Resistance	IR>500Ω•F or 10GΩ whichever is less Measurement at 25℃,WVDC,time is 2 minutes max.
Dissipation Factor	≤2.5%(0.025)
Dielectric Strength	1.5×WVDC,25℃
Operating temperature range	-55℃ to +125℃
Test voltage(DC)for 1 minute	1.5×UR
Capacitance(A/B)	5000pF±20%

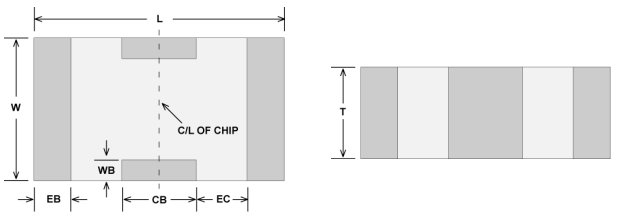
■ DEVICE ORDERING INFORMATION



■ EMI FILTER INSERTION LOSS

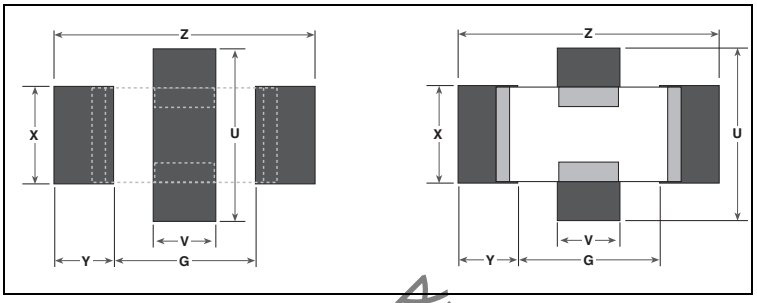
DUAL LINE CONNECTION	PWR BYPASS CONNECTION
	
	
*EMC performance is a function both insertion loss and impedance matching / low noise-mode conversion.	

SIZE	IN	(mm)
L	0.125±0.010	3.175±0.254
W	0.098±0.010	2.489±0.254
T	0.070max	1.778max
EB	0.018±0.010	0.457±0.254
CB	0.045±0.005	1.143±0.127
WB	0.006±0.005	0.152±0.100



■ SOLDER PAD RECOMMENDATIONS:

	SOLDER REFLOW	
	IN	mm
X	0.100	2.54
Y	0.040	1.02
G	0.080	2.03
V	0.045	1.14
U	0.160	4.06
Z	0.160	4.06



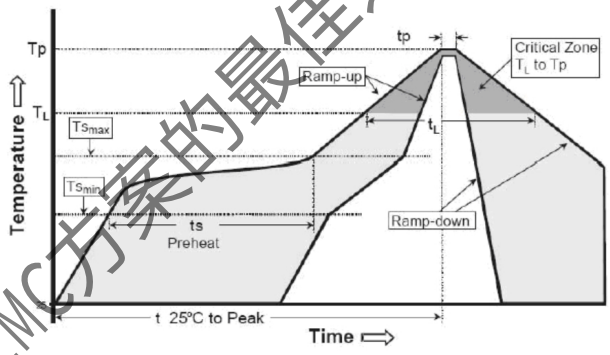
■ SOLDER PROCESS RECOMMENDATIONS:

SOLDER REFLOW:
Recommended temperature profiles for reflow soldering are shown in Table 1 and Figure 1 from J-STD-020C

Preheat ramp: 1-3°C/sec.

Preheat: 75-125°C < T (max)

T (max): 210-260°C



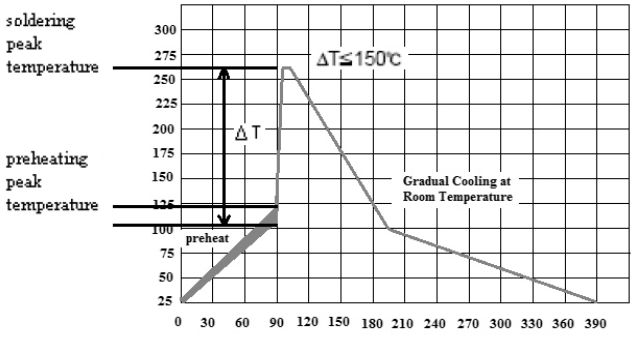
SOLDER WAVE: Caution, NOT recommended for sizes >1206

Preheat Temp.:100-120°C

Δ T Pre-Heat: 150°C max.

Soldering Peak Temp.: 250-260°C, 5 SEC max.

Cool Down: <2°C/SEC



SOLDERING NOT SUPPORTED FOR USE IN MASS

Not recommended for lab proto-typing, use solder reflow, hot-air tool, or conductive epoxy to thermal damage and compromised test results. If Iron is used, follow below

- Preheat circuit and capacitors to within 100° C of soldering
- No contact of iron tip with
- 20 watt iron output
- 350° C tip temperature
- 1.0 mm tip diameter
- Limit soldering time to 3 sec.