

X2Y[®] Chip Carrier for DC Motors

INTRODUCTION

X2Y[®] capacitors are used extensively for EMI filtering in DC motors used in automotive, heavy equipment, industrial control, medical, and agricultural applications. New requirements for Electromagnetic Compatibility (EMC) like CISPR 14-1 (Ed 5.1 2009-2), or its equivalent worldwide counterparts are driving the need for fast prototyping to verify compliance to these increasing EMI suppression requirements. This appnote shows an X2Y carrier board for DC motor prototyping.

Keywords: X2Y, EMI filtering, noise suppression, DC motors, EMC compliance

X2Y[®] CARRIER BOARD

Figure 1 shows an X2Y chip carrier board layout for various size X2Y capacitors typically used in DC motor prototyping; EIA sizes 1812, 1410, 1210 and 1206.

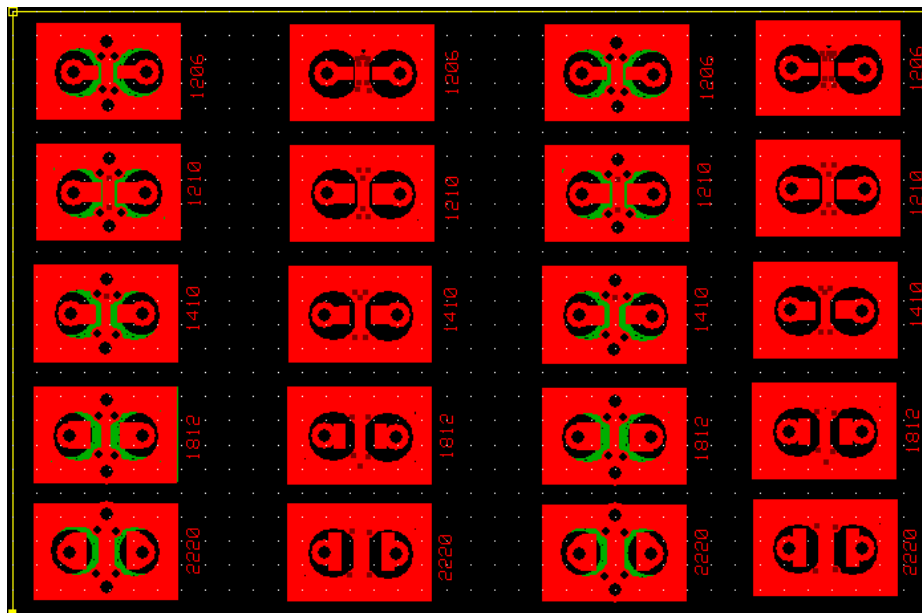


Figure 1. The X2Y[®] chip carrier board.

The .pcb board file can be downloaded from the X2Y website at: [#4006 - X2Y[®] Chip Carrier PCB](#) . To view/order this board file, interested engineers should go to www.expresspcb.com to download and install the free board design software. The cost of the example board shown is approximately \$60:

- Ordered using 2-layer "mini-board" service, which is 1 full day for manufacture and 2 days for shipping (3-day turnaround).
- Includes three complete printed circuit boards.
- In this example, \$60 board cost includes shipping charges to the northeastern USA.

Note: the individual X2Y layouts have to be segmented with a saw. If needed, the plated through holes (vias) can be enlarged with a hand drill to allow for larger gauge wire as necessary.

SUMMARY

The need for noise suppression in DC motors used around the world is on the increase. X2Y[®] is a single component EMI filter that has met the most stringent EMC requirements including those imposed by automotive manufacturing companies. Visit the X2Y website to learn about applying the X2Y chip carrier in motors at: <http://www.x2y.com/appnotes.htm>

CONTACT INFORMATION

Direct inquiries and questions about this application note or X2Y[®] products to x2y@x2y.com or:

X2Y Attenuators, LLC
2730B West 21st Street
Erie, PA 16506-2972
Phone: 814.835.8180
Fax: 814.835.9047

Information and suggestions furnished in this document by X2Y Attenuators, LLC are believed to be reliable and accurate. X2Y Attenuators, LLC assumes no responsibility for its use, nor for any infringements of patents or other rights of third parties which may result from its' use. X2Y[®] is a registered trademark. All other brand or product names mentioned in this document are trademark or registered trademarks of their respective holders. These notes are subject to change without notice. Copyright © X2Y Attenuators, LLC all rights reserved.