

## RoHS-Compliant Small Form Factor Pluggable Press-Fit Cage PL-KP2-00-000-04 and PL-KP2-00-000-21



### Key Features

- Compatible with all MSA compliant SFP transceivers and PCB layouts for single and double sided applications
- Robust one piece design
- PCI compliant and solder-down version also available
- RoHS-compliant

### Applications

- Switch and hub devices
- Mass storage systems interconnect
- Host adapter cards
- Enterprise switch interconnects

The unique RoHS-Compliant, one-piece, pluggable, press-fit cage represents one of JDSU's complementary products to the Small Form Factor Pluggable (SFP) transceivers. Optimized for use with all transceiver products complying with the SFP multisource agreement (MSA), the cage design allows for low-cost implementation using standard manufacturing processes. Its hardened spring-tempered material, plus excellent material memory characteristics, further provide for consistent transceiver mate/de-mate performance that provides for port flexibility over the life of the system.

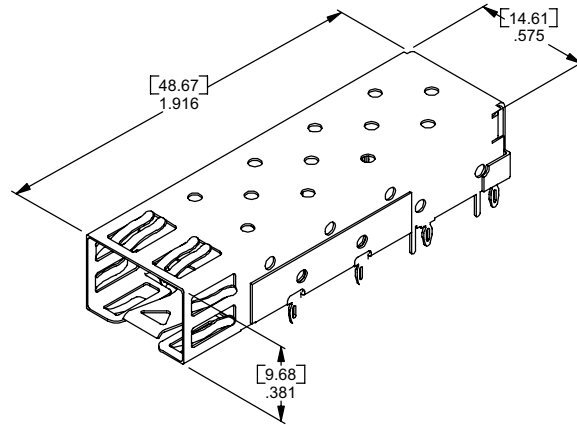
### Highlights

- Industry's most robust and sturdy cage design optimized for all SFP applications, including Fibre Channel, Gigabit Ethernet, and SONET
- Supports all industry SFP transceivers, using MSA-compliant board layouts and hole sizes for single and double sided applications
- Extensive compatibility testing with industry-wide MSA-based modules for interoperability in multiple vendor implementation
- One piece design offers superior mechanical stability, simplifying implementation to customer PCBs
- Tested for common applications and standard industry processes to allow seamless integration into manufacturing without additional equipment or requirements
- Excellent material memory characteristics provide for high cage retention to PCB, reducing field failures due to cage pull up

## 2

**Features**

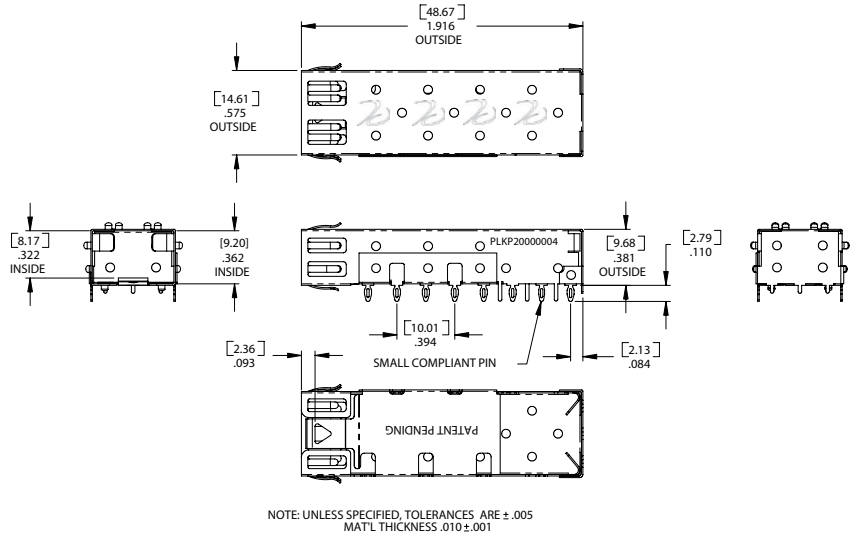
- RoHS-compliant
- Proven SFP MSA compliant transceiver cage
- Supports MSA compliant board layout and hole sizes
- Tested for insertion force and retention
- PCI compatible version available
- Supports multiple system configurations
- Belly-to-belly or dual sided boards
- Robust manufacturing process
- Sturdy construction
- Hardened spring tempered alloy
- One piece metal design
- Cage retention strength of 27 lbs
- Simple assembly
- Utilizes common manufacturing equipment and processes
- Press-fit attachment before or after soldering
- 360 degree EMI contact fingers
- Low emission design
- FCC Class B compliant



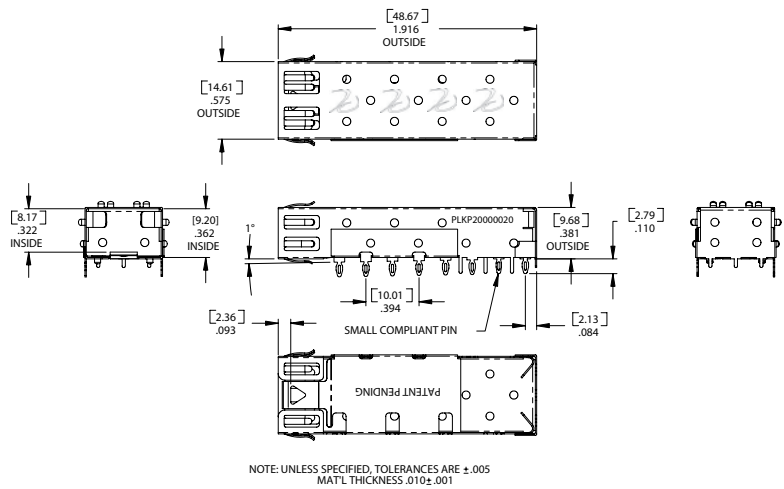
The PL-KP2-00-000-xx press-fit cage accommodates all MSA-compliant SFP transceivers, and is ideally suited for application on printed circuit board (PCB) with a minimum thickness of 0.062 inches. The excellent material memory characteristics provide high cage retention to the PCB, resulting in fewer field failures.

## Section 1 Functional Description

The press Fit Cage is designed in compliance with the Small Form Factor Pluggable (SFP) Transceiver Multisource Agreement (MSA) See Figure 1 and Figure 2,. PL-KP2-00-000-xx may be used with both the single-sided PCB layout and the double-sided PCB layout and double-sided offset PCB layout.

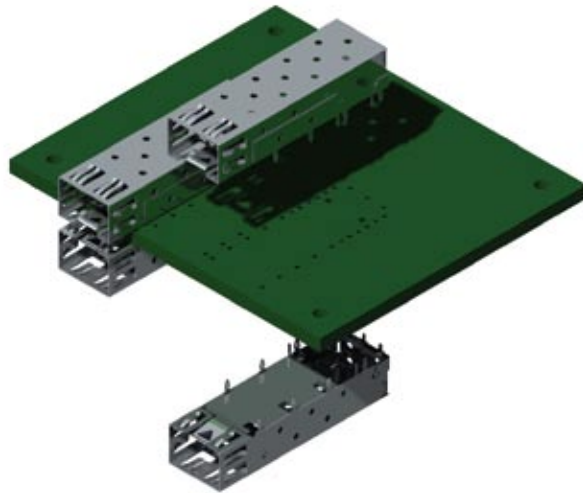


**Figure 1 Standard press-fit cage mechanical drawing (PL-KP2-00-000-04)**

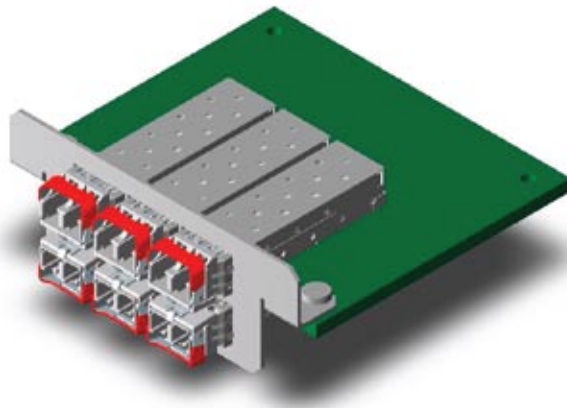


**Figure 2 1 degree tilt PCI-compliant press-fit cage mechanical drawing (PL-KP2-00-000-21)**

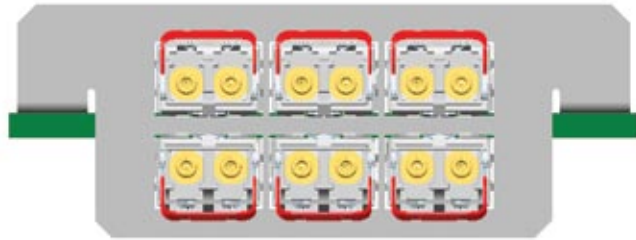
The double-sided PCB layout allows for one cage on the topside of the card and one on the bottom side that is directly under the topside cage (called belly-to-belly) (See Figure 3, Figure 4 and Figure 5). The pins are staggered to avoid interference upon installation. The PCB must be a minimum of .125" thick for Belly-to-Belly Applications.



**Figure 3** Belly-to-belly mounting

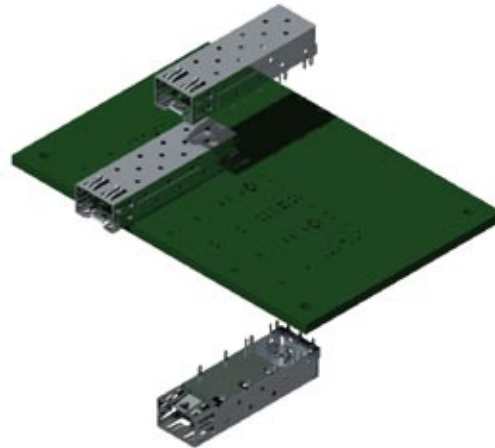


**Figure 4** Belly-to-belly mounting

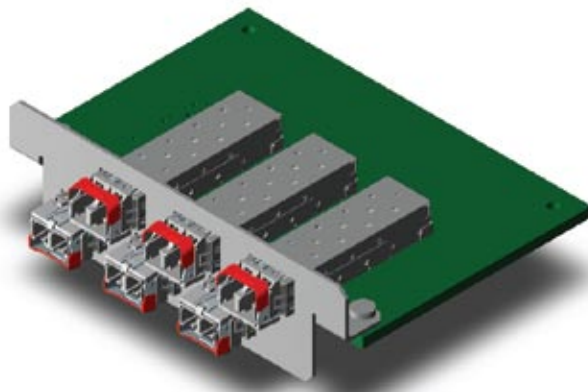


**Figure 5** Offset belly-to-belly front view

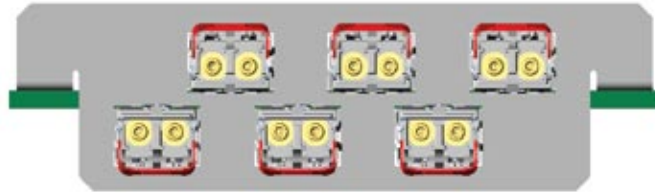
The double-sided offset PCB layout allows for cages on both sides of the PCB, but staggered to allow more room for finger access between the units (offset belly-to-belly) (See Figure 6, Figure 7 and Figure 8). The PCB must be a minimum of 0.125” thick for Offset Belly to Belly applications.



**Figure 6** Offset belly-to-belly mounting



**Figure 7** Offset belly-to-belly front view



**Figure 8** Offset belly-to-belly front view

## Section 2 Installation Guide

These cages are designed to be pressed into a PCB with an insertion force of about 60 lbs total (Each of the 8 press fit pins require an approximate force of 7.5 lbs/pin). For best installation, a solid piece of stainless steel or similar metal should be placed flat across the top surface of the cage. For the PCI compliant version, (PL-KP2-00-000-21) the metal piece should be at an angle relative to the cage of 1°. The fixture should not flatten the EMI springs at the front of the cage.

Care should be taken not to twist or tilt the cage during the installation process. Excessive force will result in damage to the unit. A press machine similar to the MEP-6T/12T manufactured by Automated Services Group, West Palm Beach, FL would be fine for cage installation.

Cage removal is very easy. Simply insert a flat metal bar or similar object into the cage assembly and lift it up off the PCB. It takes 27 lbs to remove a cage from a PCB. Actual insertion and removal force may vary depending on plating material and finished hole size. Cages should not be re-installed once they are removed from a board.

## Section 3 Recommended OEM PCB Layouts

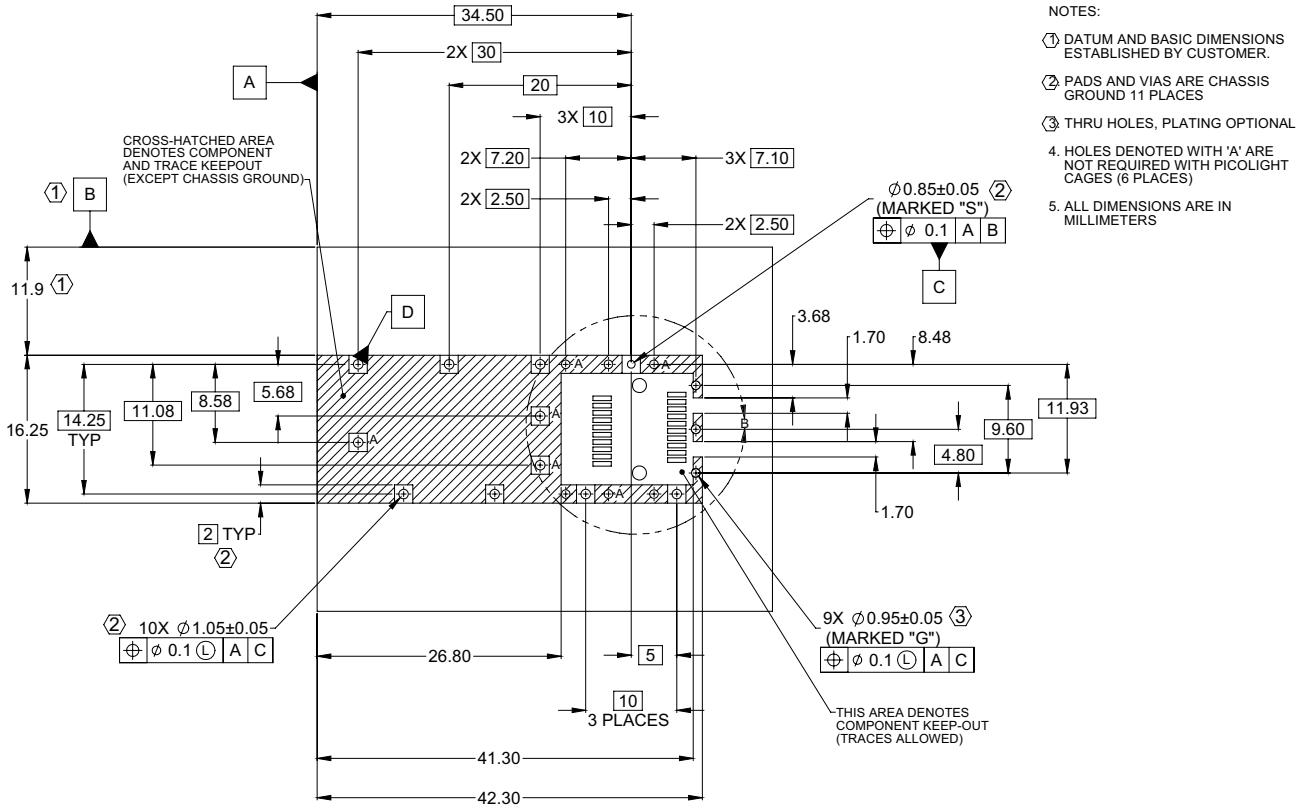


Figure 9 Single sided board layout

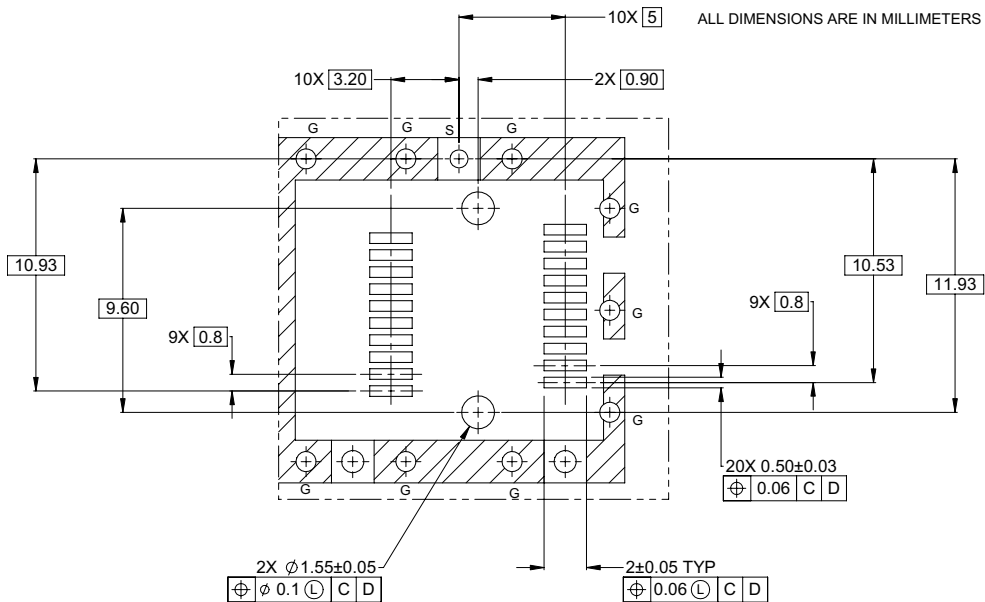


Figure 10 Single sided detail layout

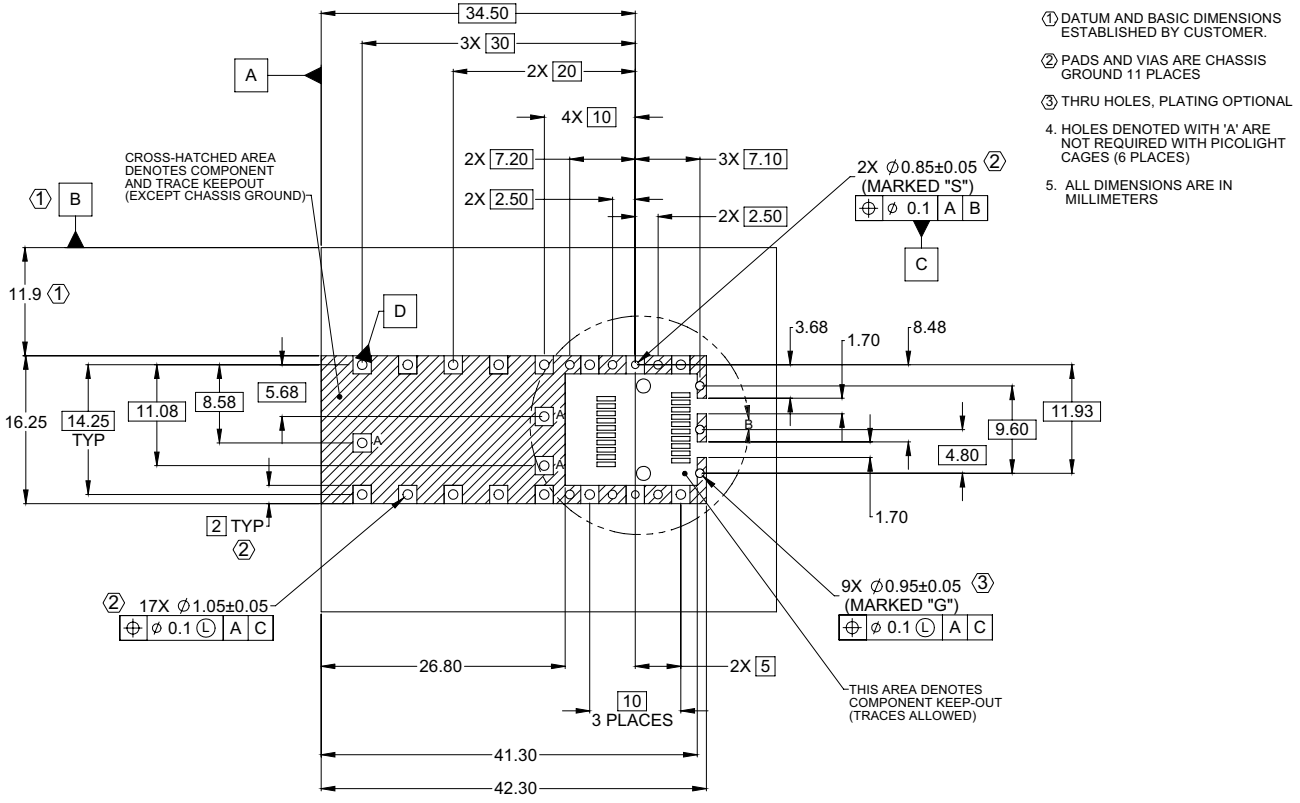


Figure 11 Double sided board layout

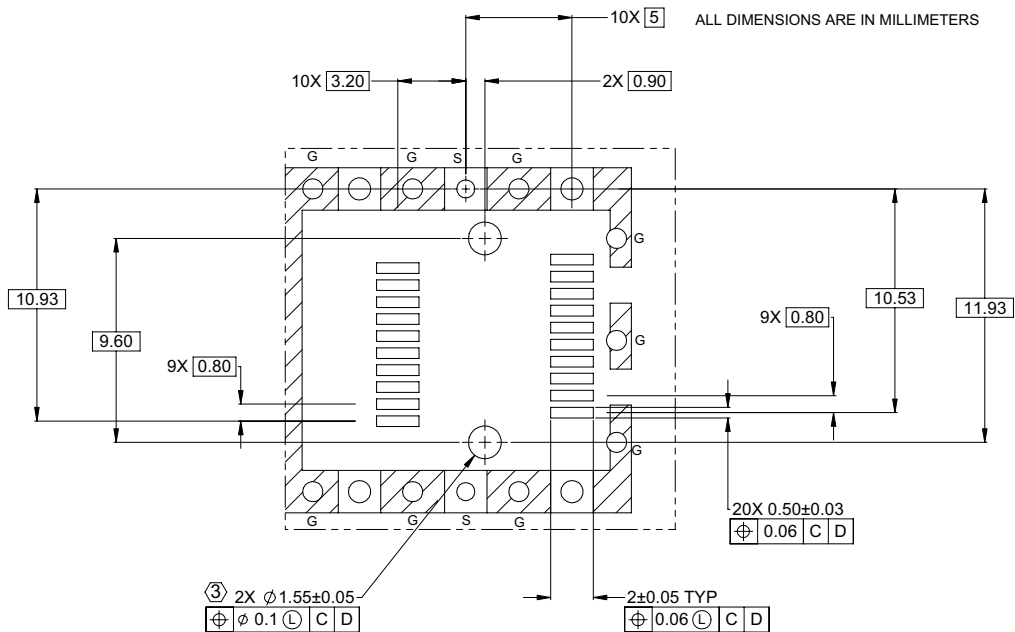
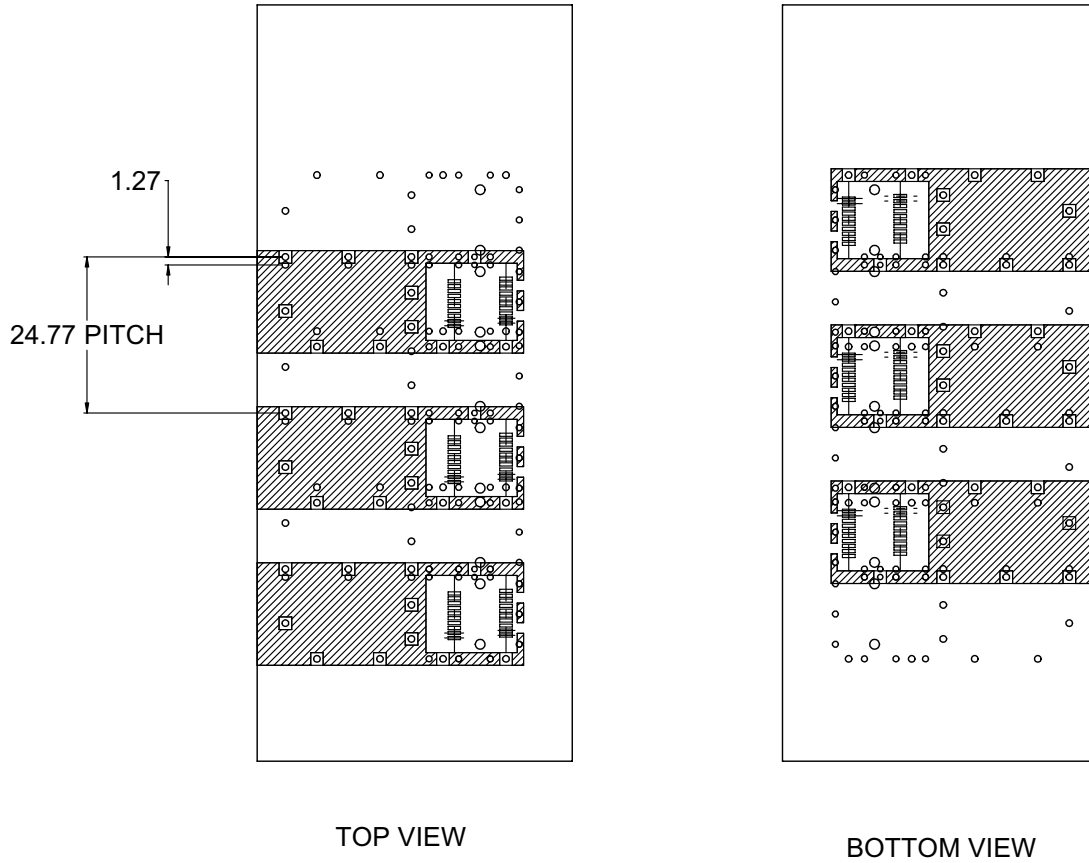


Figure 12 Double sided detail layout





DIMENSIONS ARE IN MILLIMETERS

**Figure 13 Double sided offset layout**

## Section 4 Package and Handling Instructions

The PL-KP2-00-000-xx cages are packaged in card board boxes. Each box has 10 layers of 35 cages in plastic trays. There are 350 cages per box.

### Flammability

The PL-KP2-00-000-xx press-fit cage and EMI cage plug are made from Alloy 77000 sheet metal.

### Order Information

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at [customer.service@jdsu.com](mailto:customer.service@jdsu.com).

### Sample: PL-KP2-00-000-04

Part Number	Description
PL-KP2-00-000-04	Press-Fit Cage, Standard Application
PL-KP2-00-000-21	Press-Fit Cage, PCI-Compliant, 1Degree Tilt