XFMEXPRESS™ Hinge Connector for XFMEXPRESS™ (XFME) Memory Device

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Features

• Hinge type connector
  → Operable in a small space
• Dimensions (mm): 17.8(W)×22.2(D)×2.2(H)
  → Low profile, small size
• Lock structure
  → Prevents cover from opening if device is dropped
• Additional heat dissipation structure
  → Many hold downs
• Supports PCIe® Gen4 (16GT/s)
  → Optimized contact shape
※ PCIe is a registered trademark of PCI-SIG
## Specifications and Dimensions

### Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contacts</td>
<td>39 contacts</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>-25~+85°C</td>
</tr>
<tr>
<td>Contact Resistance</td>
<td>100mΩ max</td>
</tr>
<tr>
<td>Durability</td>
<td>5,000 times</td>
</tr>
<tr>
<td>Insulation Resistance</td>
<td>100MΩ min</td>
</tr>
<tr>
<td>Voltage Proof</td>
<td>AC500 Vr.m.s. for 1 minute</td>
</tr>
</tbody>
</table>

### Dimensions

Unit: mm

- Width: 22.2 mm
- Height: 17.8 mm

[Diagram of the component dimensions]
Connector Operation

① Slide the cover to unlock
② Open the cover
③ Insert the device
④ Close the cover
⑤ Slide cover to lock
⑥ Paired condition
Feature 1: Easy Operation

- Hinge type connector is **operable in a small space**
- **Easier insertion and removal operation**
  - Toolless replacement is faster

**Connector Operation**

1. Paired condition
2. Slide the cover to lock
3. Open the cover

※Easy to remove device because the cover lifts up when opening
Feature 2: Small Size

- Small Mounting Area → Allows for miniaturization
- Comparison of internally mounted connector modules

<table>
<thead>
<tr>
<th>Type</th>
<th>SSD</th>
<th>XFME Memory Device</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device size</td>
<td>22mm×30mm or 42mm (M.2 2230 or 2242)</td>
<td>14mm×18mm</td>
</tr>
<tr>
<td>Occupied Area (including connector)</td>
<td>22.0mm×33.6mm=\textbf{739mm}^2</td>
<td>17.8mm×22.2mm=\textbf{395mm}^2</td>
</tr>
</tbody>
</table>

![Image of SSD module and XFME Memory Device](image-url)
Feature 3: Lock and Repairability

- **Excellent lock structure**
  - Hinge cover will not open if device is dropped
- **The cover can be replaced**
  - The damaged cover can be installed a new one
Feature 4: Heat Dissipation

- Connector hinge cover with large surface area
  → Increased ground area for memory card and hinge cover
- Equipped with 10 hold-downs
  → To dissipate heat from the connector to the PCB side
SI Simulation: Return Loss

Solver: HFSS
Sweep range: 0-24GHz
Sweep step: 10MHz

Simulation results meet the PCIe Gen4 Spec
SI Simulation: Insertion Loss

Solver: HFSS
Sweep range: 0-24GHz
Sweep step: 10MHz

Differential Insertion Loss (Device Side)

Differential Insertion Loss (Board Side)

Simulation results meet the PCIe Gen4 Spec
SI Simulation: NEXT

Solver: HFSS
Sweep range: 0-24GHz
Sweep step: 10MHz

Simulation results meet the PCIe Gen4 Spec
THANK YOU!

Please visit Booth 307, Toshiba Memory