XMC Fixed/Removable CFast™ Module

RRT-XMC-CFast

The XMC Fixed/Removable CFast™ module is a mezzanine storage module with a dual-channel PCI Express to SATA 3 controller that supports:

- One Fixed CFast™
- One Removable CFast™
- One Fixed and one removable CFast™

Provides boot drive and/or disk storage for VPX, VME, cPCI and ATCA single board computers (SBCs) with XMC Slot.

CFast™ is same form factor as Compact Flash but with SATA interface thus providing faster throughput. The CFast™ connectors are rated for 10,000 mating cycles to support frequent insertions/removals.

FEATURES:

- XMC PCIe Gen2 x1 interface per VITA 42.3
- Transfer rates up to 500 MB/s
- CFast™ capacities up to 1 TB (2 CF drives x 512 GB)
- Air or conduction cooled
- Uses COTS CFast™ drives for wide range of options
- Removable CFast™ drive secured by rugged retainer clip (air cooled)
- Robust design for extreme temperature, shock & vibration environments
- High performance SATA3 transfer rates. Backwards compatible with SATA1/2
- Compatible with all SBCs with XMC slot
- Meets XMC VITA 42 height requirements
- For –X version all parts rated for -40C to 85C. No parts derating
- CFast™ with write protect switch available
- VxWorks™, Linux and Windows™ drivers available
- Front panel activity LEDs (air cooled)
- ROHS compliant
Ordering Information – XMC Fixed/Removable CFast™ Module

**RRT-XMC-CFast** - F - C - UR - X - SH12MM

**Requirements**
- **Port**
  - R - Removable CFast™ (air cooled versions only)
  - F - Fixed CFast™
  - B - One Fixed & 1 Removable CFast™
- **Cooling**
  - C - Conduction Cooled
  - A - Air Cooled

**Options** May be Left Blank
- **Conformal Coating**
  - UR - polyurethane
  - AR - acrylic
- **Extended Temperature Range**
  - X - -40°C to 85°C
- **Stack Height**
  - SH12MM - Stack Height of 12mm (10 mm Stack Height standard)

Example: RRT-XMC-CFast-R-A
Example: RRT-XMC-CFast-F-C-UR-X-SH12MM
Example: RRT-XMC-CFast-R-F-A

Ordering Information – CFast™ Drive

**RRT-CFast** - SLC - 512GB - 50 - X - WP

**Requirements**
- **NAND FLASH Type**
  - SLC - Single Level
  - MLC - Multi Level
- **Capacity in MB or GB**
  - Any capacity up to 512GB

**Options** May be Left blank
- **Write Performance**
  - 30 - 30MB/s, 50 - 50MB/s, 100 - 100MB/s, 150 - 150MB/s, 200 - 200MB/s; 300 - 300 MB/s
- **Extended Temperature Range**
  - X - -40°C to 85°C
- **Write Protect**
  - WP - Write Protect

Example: RRT-CFast-MLC-512GB-50
Example: RRT-CFast-SLC-15GB-30-X-WP
## XMC Fixed/Removable CFast™ Module Specifications

<table>
<thead>
<tr>
<th>Performance</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Capacities</td>
<td>4GB-1TB per COTS availability (2 CF Drives x 512GB)</td>
</tr>
<tr>
<td>XMC Interface</td>
<td>VITA 42.3/PCIe 2.0x1 Compliant</td>
</tr>
<tr>
<td>XMC Interface Speed</td>
<td>2.5/5Gbits/s</td>
</tr>
<tr>
<td>CFast™ Interface</td>
<td>SATA 3 backwards compatible with SATA 1/2</td>
</tr>
<tr>
<td>Sector Size</td>
<td>512</td>
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<table>
<thead>
<tr>
<th>Reliability</th>
<th></th>
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<tbody>
<tr>
<td>MTBF – Drive Carrier (1)</td>
<td>3 million hours</td>
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<thead>
<tr>
<th>Power</th>
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<tbody>
<tr>
<td>Voltage</td>
<td>VPWR +5V +/- 5% or +12V +/- 5% +3.3 +/- 0.3V</td>
</tr>
<tr>
<td>Watts-idle</td>
<td>1.2</td>
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<tr>
<td>Watts-active</td>
<td>2.5</td>
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<table>
<thead>
<tr>
<th>Environmental</th>
<th></th>
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<tbody>
<tr>
<td>Temperature Operating, VITA 47 Class</td>
<td>0º to 70ºC , AC1, CC1</td>
</tr>
<tr>
<td>Temperature Operating (2) , VITA 47 Class</td>
<td>-40º to 85ºC , CC4, AC3</td>
</tr>
<tr>
<td>Temperature Storage</td>
<td>-55º to 95ºC</td>
</tr>
<tr>
<td>Relative Humidity</td>
<td>5% to 95%</td>
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<tr>
<td>Altitude</td>
<td>80,000 ft (26,000 meters)</td>
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<tr>
<td>Shock (3), VITA 47 Class 0S2</td>
<td>40g, 11 millisecond terminal sawtooth pulse</td>
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<tr>
<td>Vibration (4)</td>
<td>0.1g/Hz</td>
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</table>

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<tr>
<th>Physical</th>
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<tbody>
<tr>
<td>Weight</td>
<td>3.5 oz; 100 g max</td>
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</tbody>
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1) Telcordia SR-322, Issue 3, operating temp (40C), electrical stress (50%), environmental factor (1.0).
2) Thermal qualification per MIL-STD-810, Method 501 Procedure II, and MIL-STD-810, Method 502, Procedure II.
3) Shock qualification per MIL-STD-810F, Method 516, Procedure I.
4) Vibration qualification per MIL-STD-810F, Method 514, Procedure I.