Built**SAFE**[™] ISC-8422

6U VME64x PMC/XMC Carrier Board

- Two PMC/XMC mezzanine sites
- Rugged conduction-cooled package

Mercury's BuiltSAFE[™] products bring the highest level of flight safety assurance to aerospace and defense applications. Our proven, reusable Design Assurance Level (DAL) certified artifacts for mission computing, avionics, networking and datalink comms processing save time and cost while decreasing risk.

The BuiltSAFE ISC-8422 is a rugged, conduction-cooled 6U VME PMC/ XMC Carrier Board for airborne applications requiring conductioncooled equipment. It is specifically designed for the most demanding applications in harsh environments.

The ISC-8422 is ideally suited to link legacy VME systems to modern PCle-based system architectures. In modular distributed measurement applications, such as aircraft test benches, the BuiltSAFE ISC-8422 may be used to secure investments in VME/PMC-based systems, while taking full advantage of the bandwidth and switch capabilities offered by PCle-based architectures. ISC-8422 offer a PCle expansion/ chaining solution for RIO6-8096 processor boards.

BuiltSAFE for Avionics

Mercury's expertise and experience in safety certifiable solutions has been built on successful execution of dozens of programs over three decades. This domain knowledge is the foundation of our BuiltSAFE portfolio of open architecture modules, systems and software for avionics, communications, video servers, and mission computing.

S Mercury systems_™



Mercury Systems is a leading commercial provider of secure sensor and mission processing subsystems. Optimized for customer and mission success, Mercury's solutions power a wide variety of critical defense and intelligence programs.



Technical Specifications

Compliance

Conduction-cooled 6U VME64x

Power Consumption

Minimum	typical	maximum	units
-	5	18	Watts

Switches / Bridges

One PCIe x4 to PCI/PCI-X bridge

Buses

Two 64-bit PCI 3.0/PCI-X buses at up to 133 MHz on PMC-J11/J12/J13/J21/J22/J23

High-Speed Links/Connections

1x PCIe x8 on VME-PO 1x PCIe x8 on XMC-J15 (VITA 42.3) 1x PCIe x4 on XMC-J25 (VITA 42.3)

PMC/XMC Sites

Two PMC/XMC sites (VITA 42.3)

Advanced Board Management Controller

Temperature monitoring (thermal sensors on critical positions) on I2C Elapsed time counter

Development /Debug

Onboard JTAG test port

Ruggedization Levels

Level	Description	Cooling Type	Operating Temperature	Vibration (1 hour per axis)	Operating Shocks
C4	Extended range CC	Conduction	-40°C to 85°C [CC4]	5-100 Hz: increase at 3 dB/octave, 100-1000 Hz: 0.1 g ² /Hz, 1000-2000Hz: decrease at 6 dB/octave	40g, 11ms saw-tooth, three axes

Environmental Specifications

Condition	Limits, standards	Comments
Non-operating temperature	-55°C to 105°C [C4]	
Humidity	95%	
Altitude	-1,500 to 60,000 feet	May require conformal coating
Fungus resistance	No nutrient materials	
Workmanship	IPC-A-160 class 3	
Soldering	IPC J-STD-001 class 3	
PCB Manufacturing	IPC-A-600 class 3	
Conformal coating	IPC-CC-830	Optional
Materials	REACH compliant	ROHS variants as an option
Flammability	UL 94 Class V-0	
Quality	EN 9100:2008	

Product Ordering

ISC-8422R0

8112)

Low-power conduction-cooled 6U VME PMC/XMC carrier board for RIO5 / RIO6 (VME-PO: 1x PCIe x8, XMC: VPP-

Related Hardware Products

DBG-6286B0	Rear I/O debugging board for ISC-8422/RIO5-8086 (2x CPU COP, 2x iPass, 2x RJ45, 2x µDB9)
DBG-6288B0	Rear I/O debugging board for ISC-8422/RI05-8088
	(2x CPU COP, 2x RJ45, 2x µDB9)
VPP-8112	Video I/O and processor XMC

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