FEATURES AND SPECIFICATIONS

1.00mm (.039”) Pitch iCool™ Low Profile VRM Connector

87786, 78086
Vertical, Surface Mount
87787, 87810
Vertical, Through Hole
87818
Right Angle, Through Hole

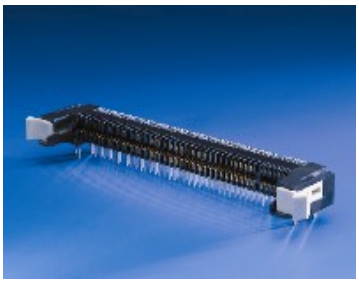
Molex expands its offering of Voltage Regulator Module (VRM) connectors with the addition of a 24-signal, 38-power circuit configuration

The necessity for a highly efficient DC-to-DC power conversion to be located close to the processor is vital, especially in today’s high performance microprocessors. Molex provides such a solution in the iCool™ Low Profile VRM connectors. Incorporating a low loop inductance design, the iCool is created exclusively for high output currents at high slew rates for applications like servers, PCs and workstations.

Designed for both the VRM 10.0 and 11.0 applications, these VRM connectors handle up to 150 amps of current (based on 400 FLM) in the 4.00” connectors under ambient temperatures of up to 60°C. Configurations of 200A or more.

This new revision includes the series 78086. This new surface-mount version has a lower profile and narrower body compared to the rest of VRM connectors. This provides greater options for customers who have real estate constraints in their design.


iCool Vertical versions


iCool Right Angle versions

Features	*Benefits*
• High-temperature thermoplastic housing	• Withstands lead-free process
• Open housing design	• Allows air flow to cool the contacts
• Four beveled metal pins (Forklocks)	• Secure connectors to PCB against shock and vibration
• Low loop inductance design	• Ideal for high slew rates characteristics
• Plastic locating peg	• Ensures proper insertion and polarization on the PCB
• Unique reverse angle latch notch feature	• Retains the VR Module securely during shock and vibration

SPECIIFICATIONS

Reference Information
Packaging: Tray
Mates With: Voltage Regulator Module
Designed In: Millimeters

Electrical
Voltage : Power: 48V
Signal: 48V

Current : Refer to Temperature Rise Chart on Page 3

Contact Resistance :
For series 87786, 87787, 87810 and 78086
Power 5 milliohms max.
Signal 10 milliohms max.

For series 87818
Power 7.5 milliohms max.
Signal 15 milliohms max.

Dielectric Withstanding Voltage: 1100V AC

Insulation Resistance: 5000 Megohms min.

Mechanical
Contact Retention to Housing:
For series 87786, 87787, 87810 and 78086
Power: 3.43N min/pin
Signal: 3.43N min/pin

For series 87818
Power: 4.90N min/pin
Signal: 3.43N min/pin.

Insertion Force to PCB (Total):
For series 87786, 87787, 87818 and 78086
90.22N max.

For Series 87810
45.11N max.

Mating Force: 245.25N max.

Unmating Force:
For series 87786, 87787, 87818 and 78086
88.26N max.*(Force required to open latches*)

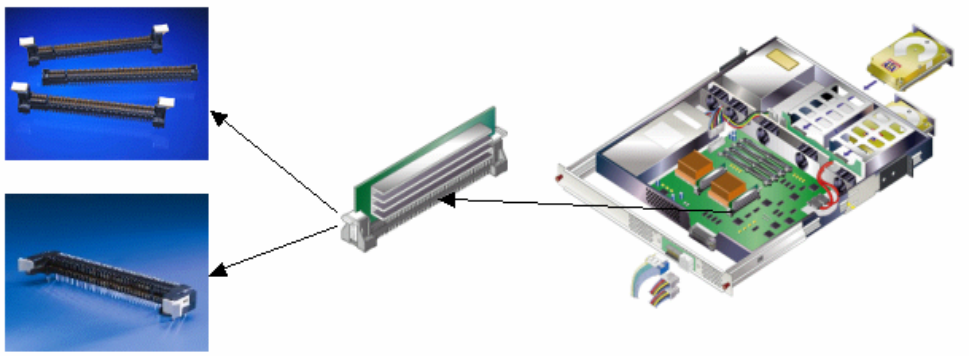
For series 87810 (No latch)
98.1N min.(*Force required to pull out module directly)*

Durability : 25 cycles

Physical
Housing: Thermoplastic, high temperature, UL 94V-0
Contact: Copper (Cu) Alloy
Plating:
Contact Area — 0.76µm(30µ”) Gold
Soldertail plating – Tin(Sn), Lead-free
Underplating — Nickel (Ni)
Operating Temperature: -10°C to +105°C

MARKETS AND APPLICATIONS

- Specifically targeted at 1U and 2U servers but has application in all types of Servers
- Small Form Factor PCs and Workstations



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ORDERING INFORMATION

	Lead-Free Order No.	Description	Circuits Details
	78086-0001	Vertical, Surface Mount with Latches	Signal 24, Power 38
	87786-1002	Vertical, Surface Mount with Latches	Signal 20, Power 72
	87786-1011	Vertical, Surface Mount with Latches	Signal 24, Power 70
	87787-1002	Vertical, Through Hole with Latches	Signal 20, Power 72
	87787-1011	Vertical, Through Hole with Latches	Signal 24, Power 70
	87810-1001	Vertical, Through Hole without Tower	Signal 22, Power 88
	87810-1002	Vertical, Through Hole with Tower	Signal 22, Power 88
	87818-1001	Right Angle, Through Hole with Latches	Signal 20, Power 72

molex
one company › a world of innovation

Americas Headquarters
2222 Wellington Ct.
Lisle, Illinois 60532 USA
1-800-78MOLEX
amerinfo@molex.com

Asia Pacific North Headquarters
Yamato, Kanagawa, Japan
81-462-65-2324
feninfo@molex.com

Asia Pacific South Headquarters
Jurong, Singapore
65-6-268-6868
fesinfo@molex.com

European Headquarters
Munich, Germany
49-89-413092-0
eurinfo@molex.com

Corporate Headquarters
2222 Wellington Ct.
Lisle, Illinois 60532 USA
630-969-4550

Visit our Web site at http://www.molex.com

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