INTRODUCTION

HyperJack™ PoE+ Integrated Connector Module

85719 12-port 2x6 Ganged Modular Jacks with LEDs

Molex leads the market with the first PoE+ Integrated Connector Module

Power over Ethernet (PoE) is a technology that defines the transmission of both data and power to networked devices over a standard ethernet cable, eliminating the need for separate power supplies. PoE+ is the new IEEE 802.3at Power over Ethernet standard. It provides the opportunity for switch makers to increase port-power output to 30 watts and will supersede the existing 15 watt 802.3af standard. The specification of this new 802.3at standard is backward compatible, supporting legacy 802.3af devices.

Molex has developed the HyperJack PoE+ Integrated Connector Module (ICM) in a 2x6 configuration. Based on the RJ-45 jack, the ICM has integrated PoE+ controller silicon to manage and deliver 30 watt Power over Ethernet. This is coupled with Gigabit PoE+ magnetics, thermal management and a high level of protection against electro static discharge (ESD), electrical fast transient (EFT) and electro magnetic interference (EMI). PoE+ according to the IEEE standard requires Cat5 cable or higher.

The Molex PoE+ ICM complies to PoTec V2.0 with a standardized footprint and register set, allowing for simple drop-in upgrades and product expansion.

The Integrated Module provides the customer with flexible port configurations and a fast migration path from non-PoE to fully integrated PoE+ designs. Simply provide a 51-56V and 3.3V power supply to automatically manage and control power to connected Ethernet devices such as voice over internet protocol (VOIP) phones, wireless access points and security cameras. Extra management can be achieved through I²C communication.

FEATURES AND BENEFITS

- Fully integrated design
- Gigabit Ethernet magnetics
- Low power consumption 30W PoE+ controller silicon
- Protection circuitry
- 2 Bi-color light emitting diodes (LED's) per port
- Capability to indicate up to 8 operating states
- Thermally optimized design with excellent heat dissipation
- IEEE802.3at (draft) and PoETec V2.0 (draft) compliant
- Fast time to market by using a drop-in solution to add PoE+ technology to a customers switch
- High-speed data transfer to 1000BASE-T
- Increased range of PoE+ powered devices
- Sophisticated protection against various external disturbances: ESD, EFT, EMI
- Provides 0 to 70°C operating temperature rating
- PoE+ technology in an industry standard footprint
- Auto, semi-auto and manual mode capability

MARKETS AND APPLICATIONS

- Networking equipment with PoE function to support IP phones, security cameras, wireless access points, sensors and actuators, card readers and vision systems
  - Gigabit Ethernet Switches
  - Routers
  - Hubs
  - Midspans
- Industrial Ethernet Applications
  - Switches and Routers

SPECIFICATIONS

HyperJack™ PoE+ Integrated Connector Module

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Electrical
Hipot isolation: 2250.0V DC
OCL: 350µH at 24.0mA min.
Insertion loss: -0.8dB at 100 MHz (typical)
Return loss: -13.5dB at 100 MHz (typical)
NEXT: - 33dB at 100MHz (typical)
CMR: -40dB at 100 MHz (typical)
Input voltage: 51.0 to 56.0V

Mechanical
Connector insertion and removal force:
20N (4.5 lbf)

Locking force: 50N (11 lbf) min.
Durability: 750 cycles

Physical
Housing: Thermoplastic UL94V-0, black
Contact: Phosphor bronze
Plating
Contact Area: Gold (Au)
Solder Tail Area: Tin (Sn)
Underplating: Nickel (Ni)
PCB Thickness: 3.56 mm (.140")
Ambient Operating Temperature: 0 to +70°C

PoE Output Power
Power: 30W per port supplied over RJ-45 contacts 1 and 2 (-) and 3 and 6 (+)
All PoE+ parameters according to IEEE802.3at

LEDs
Connection: Bi-polar
Colors: Green and reddish orange
Forward voltage: 2.4V max at 20mA

Reference Information
Packaging: PK-85719-001
cTUVus: CU72090061.01
Mates with: Plugs according to IEC 60603-7 (series 95043, 44915, 85568)
Designed-In: Millimeters

ORDERING INFORMATION

Order No.	Protocol	Ports	Power per Port	Plant No. for Samples
85719-0001	PoE+	12	30 Watt	6201

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