



# Molex's New Stacked Multi-port Modular Jack with Lightpipes Exceeds Category 5 Level Performance, Reduces Electrical Interference and Saves PCB Real Estate

## Features and Benefits

- Signal integrity remains high due to no interference
- Compact design saves PCB real estate
- The RJ45 Lightpipe modular jack provides Category 5 level performance for Ethernet applications
- Manufacturability is improved since there are no LED leads to solder to the board
- Meets FCC 68.5 specification
- Molex modular jacks are 100% electrically tested
- Rework of LEDs is more efficient since the LED chip is replaced on the PCB and the Molex stacked, multi-port jack can be resoldered to the board
- The plug latches are located at the top of the upper row providing easy thumb depression for mating and unmating
- Fully shielded housing features enhanced grounding tabs
- Traditional industry pin layout
- Each lightpipe arrow is divided to provide 2 indicators per port

## Typical Applications

- Networking Products
- Hubs
- Routers
- Ethernet Switches
- Bridges
- ATM Transmission Equipment

Molex's new stacked, multi-port jack was tested in accordance with EIA/TIA 568A and surpassed all requirements for Category 5. The product is fully shielded with enhanced panel grounds to optimize shielding effectiveness.

The Molex lightpipe design replaces standard leaded LEDs integrated into other manufacturers' multi-port jacks. This innovative design allows the placement of any color surface mount LED on the PCB along with other surface mount components. Molex offers the flexibility to select any color or special LED requirements for specific applications. The Molex Category 5 stacked multi-port jack with lightpipes is then soldered to the board over the surface mount LEDs.

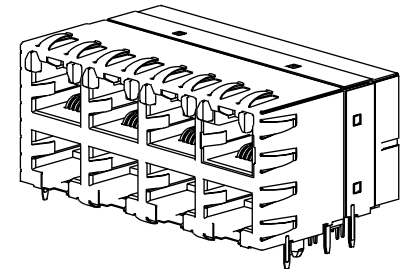
The patented lightpipes are located above the top row of the stacked multi-port jacks so hanging cables do not obstruct visibility. These lightpipes are designed as distinctive arrow shapes. The downward pointing arrow indicates activity on the lower port and the upward pointing arrow indicates activity on the upper port.

Placement of the Molex multi-port jack is easier as there are fewer leads to locate and solder on the board. This design maintains signal integrity because there is no inference from LED leads. The combination of PCB mounted LEDs and lightpipes reduces the potential for undesirable electrical noise being

radiated across transmission lines. PCB real estate is reduced since there are no integrated LEDs at each port.

The stacked multi-port modular jack with lightpipes is offered in a through hole version for wave soldering in 8-port (2 rows of 4 ports), 12-port (2 rows of 6 ports) and 16-port (2 rows of 8 ports) configurations.



**44170**
**High Speed, Stacked,  
Multi-Port  
Right Angle  
Shielded with Lightpipes**

**Features and Benefits**

- Exceeds Category 5 performance
- Traditional industry pin layout
- Distinctive lightpipe arrow indicators
- Lower electrical noise than LED offerings
- 30% fewer leads than LED offerings
- Space saving design

**Reference Information**

Product Specification: PS-44170-0003  
 Packaging: Tray  
 UL File No.: E107635  
 CSA File No.: LR149980  
 Mates With: FCC 68 Plugs  
 Designed In: Inches

**Electrical**

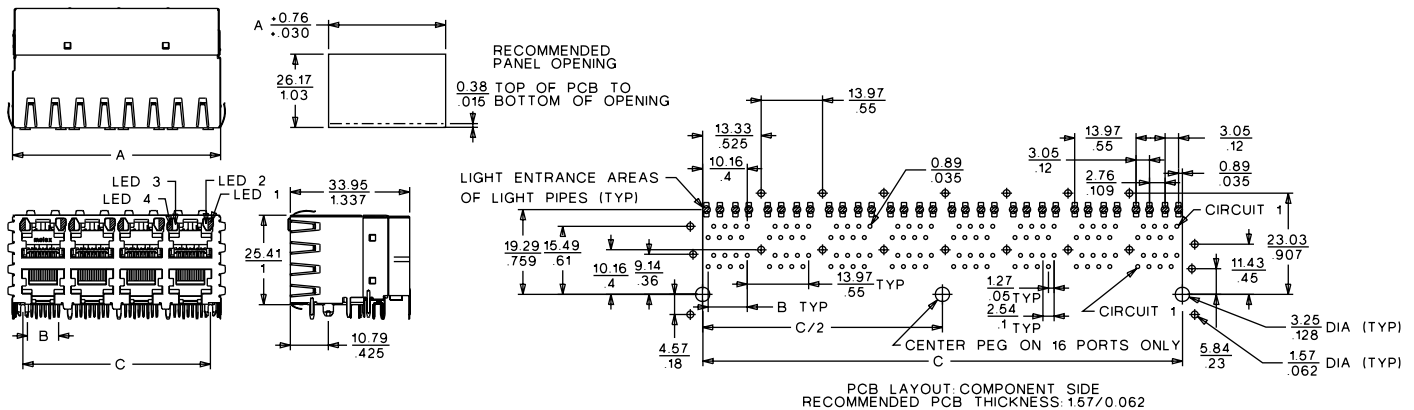
Voltage: 125V  
 Current: 1.5A max.  
 Contact Resistance: 10mΩ max.  
 Dielectric Withstanding Voltage: 1000V AC  
 Insulation Resistance: 500 MΩ min.

**Mechanical**

Durability: 500 Cycles

**Physical**

Housing: Black glass-filled Polyester, UL 94V-0  
 Plating: Contact Area—1.27μm (50μ") min. Gold  
 Solder Tails—1.27μm (50μ") Tin/Lead on both contact area and solder tails  
 Underplating—Nickel  
 Temperature: -40 to +80°C


**ORDERING INFORMATION AND DIMENSIONS**

Circuits	Loaded Contacts	No. of Ports	Order No.		Dimension		
			Snap Fit Pegs	Press Fit Pegs	A	B	C
8	8	8	44170-0001	44170-0004	59.18 (2.33)	8.89 (.350)	53.34 (2.10)
8	8	12	44170-0002	44170-0005	87.12 (3.43)	8.89 (.350)	81.28 (3.20)
8	8	16	44170-0003	44170-0006	115.06 (4.53)	8.89 (.350)	109.22 (4.30)

Note: Contact Inside Sales for 30μ" select Gold plating or for alternative rear and center grounding tab option order numbers.


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