

### INTRODUCTION:

Adam Tech MTJ series RJ-45 connectors with integrated magnetics are designed to support Base 10, 100 and 1000-T applications such as hubs, routers, ADSL modems, and ATM transmission equipment. The integrated magnetics allows the design engineer to save PC board real-estate and lower the total part count per system. This series meets all applicable specifications for CAT 5, 5e, 6 and IEEE 802.3. The USB model meets all applicable USB 2.0 specifications. All configurations are available with optional LED's.

### FEATURES:

Single, stacked and ganged configurations available All products have a full metal shield to guard against electromagnetic interference. Hi-Temp option available All products are fully lead free and RoHS compliant

### MATING PLUGS:

Adam Tech modular telephone plugs and all industry standard telephone plugs.

### SPECIFICATIONS:

#### MATERIAL:

Insulator: PBT, glass filled, rated UL94V-0  
Insulator Color: Black  
Contacts: Phosphor Bronze or Brass  
Shield: Copper Alloy, Nickel or Tin plated

### Contact Plating:

Gold over Nickel underplate on contact area, Tin over Copper underplate on solder tails.

### ELECTRICAL:

Operating Voltage: 150V AC  
Current Rating: 1.5 Amps Max.  
Contact Resistance: 20 mΩ Max.  
Insulation Resistance: 500 MΩ Min.  
Dielectric Withstanding Voltage: 1500V AC for 1 Minute  
DC resistance: 1.2 Ohms Max.  
Interwinding capacitance: 35pF @ 1MHz  
Insertion loss: 100KHz to 80MHz = -1.1dB Min.  
Return loss: 1MHz to 30MHz = -18dB Min.  
30MHz to 80MHz = -12dB Min.  
Rise time: 30nS Max.  
Cross talk: 1MHz to 100MHz = 40dB TYP.  
Common to Common mode Attenuation: 35dB TYP.

### MECHANICAL:

Insertion force: 8 Contacts: 22.5N  
10 Contacts: 24.5N

### TEMPERATURE RATING:

Operation Temperature: -40°C ~ +85°C

### PACKAGING:

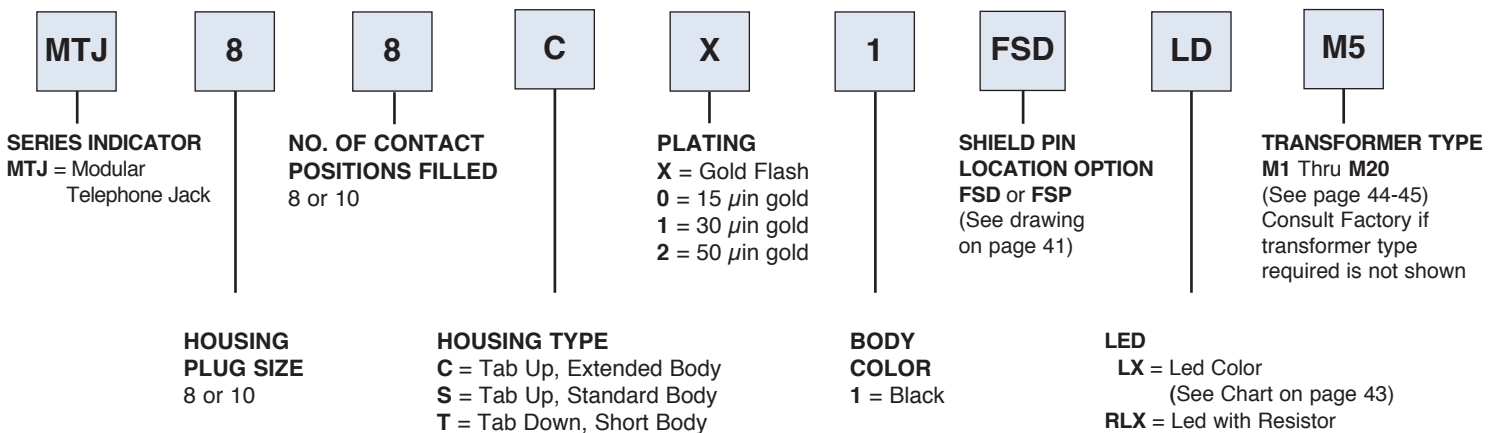
Anti-ESD plastic trays or tubes

### SAFETY AGENCY APPROVALS:

UL Recognized & CSA Certified, File no. E224049



## MAGNETICS TELEPHONE JACK ORDERING INFORMATION



### OPTIONS:

Add designator(s) to end of part number

HT = Hi-Temp insulator for Hi-Temp soldering processes up to 260°C

PG = Panel ground tabs

LED 1 OPTION

LED 2 OPTION

8

1

.653 [16.60]

.200 [5.08]

.100 [2.54]

1.283 [32.60]

.531 [13.50]

.137 [3.50]

.423 [10.75]

.796 [20.22]

A

.423 [10.75]

.796 [20.22]

A

.137 [3.50]

**TYPE C**  
TAB UP & TOP LEDs,  
EXTENDED BODY

.100 [2.54]

.100 [2.54]

.280 [7.12]

.080 [2.03]

.696 [17.68]

.125 [3.18]

.500 [12.70]

.635 [16.13]

ø.035 [0.89]

ø.128 [3.25]

ø.062 [1.57]

Recommended PCB Layout  
FSP Option Shown

**MTJ-88CX1-FSP-PG-LG-M3**

SHIELD PIN LOCATION  
FSD DIMENSION: A = .120 [3.05]  
FSP DIMENSION: A = .125 [3.05]

AVAILABLE WITH MAGNETIC TRANSFORMERS: M1, M3, M4, M5, M6, M7, M8, M9, M10, M11, M12, M13, M16 & M20.

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LED 1 OPTION

LED 2 OPTION

8

1

.637 [16.20]

.290 [7.37]

.100 [2.54]

.996 [25.30]

.531 [13.50]

.137 [3.50]

.423 [10.75]

A

.423 [10.75]

A

.137 [3.50]

**TYPE S**  
TAB UP & TOP LEDs,  
STANDARD BODY

.523 [13.28]

.323 [5.20]

.450 [11.43]

.450 [11.43]

.610 [15.50]

.350 [8.89]

ø.040 [1.02]

ø.035 [0.90]

ø.128 [3.25]

ø.063 [1.60]

Recommended PCB Layout  
FSP Option Shown

**MTJ-88SX1-FSP-PG-LG-M7**

SHIELD PIN LOCATION  
FSD DIMENSION: A = .120 [3.05]  
FSP DIMENSION: A = .125 [3.17]

AVAILABLE WITH MAGNETIC TRANSFORMERS: M1, M3, M4, M5, M6, M7, M9, M10, M11, M12 & M13. See pgs. 42-43

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LED 1 OPTION

LED 2 OPTION

1

8

.626 [15.90]

.450 [11.43]

.100 [2.54]

.840 [21.35]

.531 [13.50]

.137 [3.50]

.423 [10.75]

A

.423 [10.75]

A

.137 [3.50]

**TYPE T**  
TAB DOWN & BOTTOM LEDs,  
SHORT BODY

.450 [11.43]

.050 [1.27]

.450 [11.43]

.450 [11.43]

.610 [15.50]

.350 [8.89]

.159 [4.06]

ø.035 [0.90]

ø.128 [3.25]

ø.063 [1.60]

ø.040 [1.02]

Recommended PCB Layout  
FSP Option Shown

**MTJ-88TX1-FSP-PG-LG-M5**

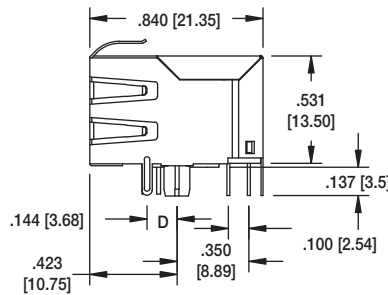
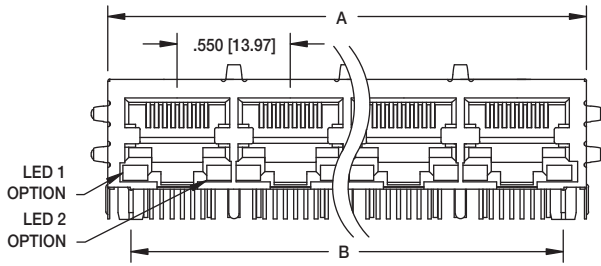
SHIELD PIN LOCATION  
FSD DIMENSION: A = .120 [3.05]  
FSP DIMENSION: A = .125 [3.05]

AVAILABLE WITH MAGNETIC TRANSFORMERS: M1, M3, M4, M5, M6, M7, M9, M10, M11, M12 & M13. See pgs. 42-43

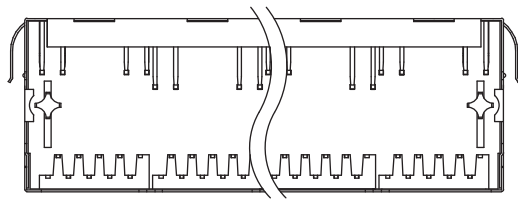
Ordering Information pg. 40

TYPE T

TAB DOWN, SHORT BODY  
MAGNETICS & LEDs  
2, 4 & 5 PORTS GANGED



"D" DIM.  
FSA = .170 [4.32]  
FSB = .144 [3.65]  
FSG = .180 [4.57]  
FSE = .120 [3.05]

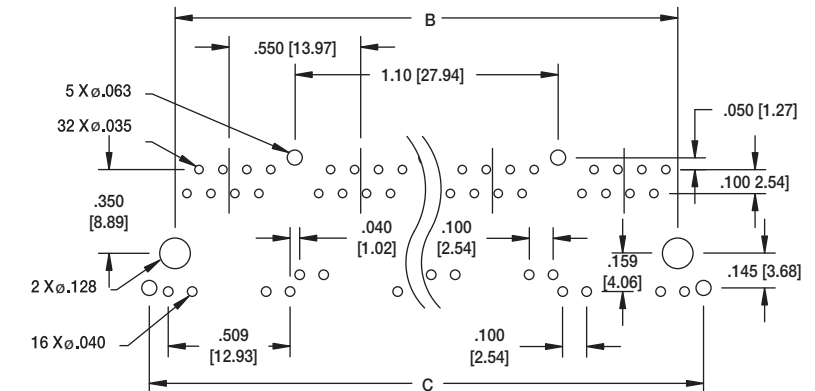


**MTJG-4-88TX1-FSB-PG**

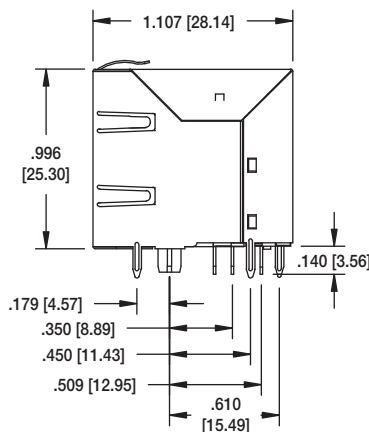
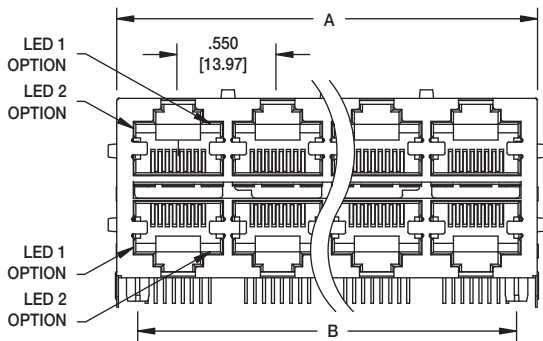
Drawing shown with metal shield, panel ground tabs, LEDs and magnetics option

A = .550 [13.97] X (NO OF PORTS - 1) + .679 [17.27]  
B = .550 [13.97] X (NO OF PORTS - 1) + .450 [11.43]

AVAILABLE WITH MAGNETIC TRANSFORMERS: M1, M3, M4, M5, M6, M7, M9, M10, M11, M12 & M13. See pgs. 44-45

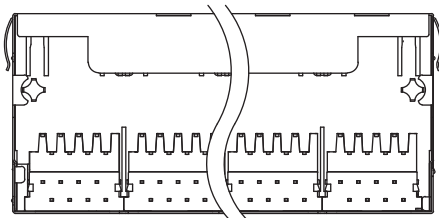


Recommended PCB Layout



TYPE J  
STACKED

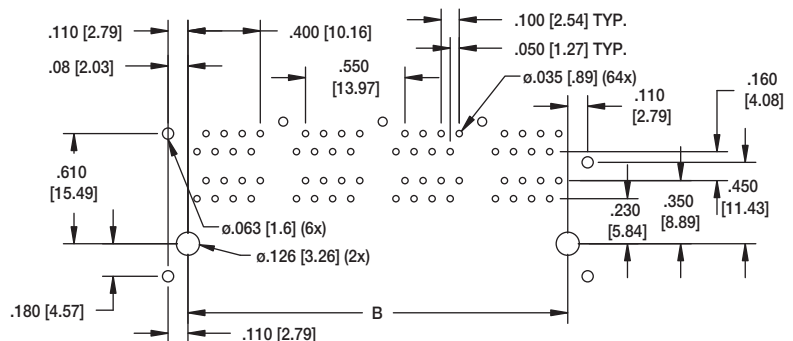
DIMENSIONS		
PORTS	A	B
2 X 1	.677 [17.20]	.450 [11.43]
2 X 2	1.227 [31.17]	1.00 [25.40]
2 X 4	2.331 [59.22]	2.100 [53.34]
2 X 5	2.876 [73.07]	2.650 [67.31]
2 X 6	3.426 [87.04]	3.200 [81.28]
2 X 8	4.527 [115.00]	4.300 [109.22]



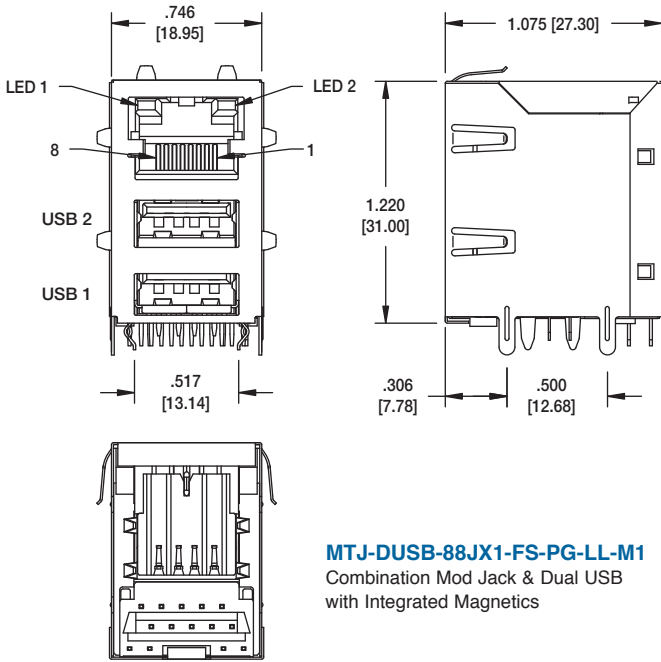
**MTJG-8-88JX1-FSE-LD-M1**

Drawing shown with metal shield, panel ground tabs & LEDs.

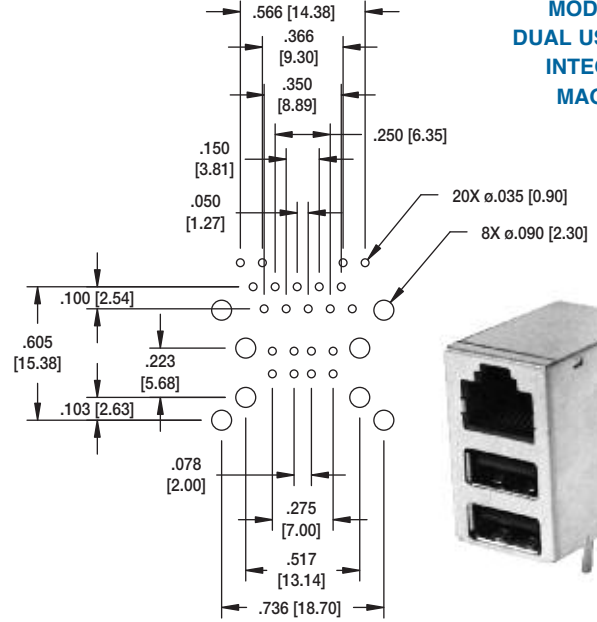
AVAILABLE WITH MAGNETIC TRANSFORMERS: M1, M3, M4, M5, M6, M7, M9, M10, M11, M12 & M13. See pgs. 44-45



Recommended PCB Layout



**MTJ-DUSB-88JX1-FS-PG-LL-M1**  
Combination Mod Jack & Dual USB  
with Integrated Magnetics



**Recommended PCB Layout**

**COMBINATION  
MOD JACK &  
DUAL USB WITH  
INTEGRATED  
MAGNETICS**



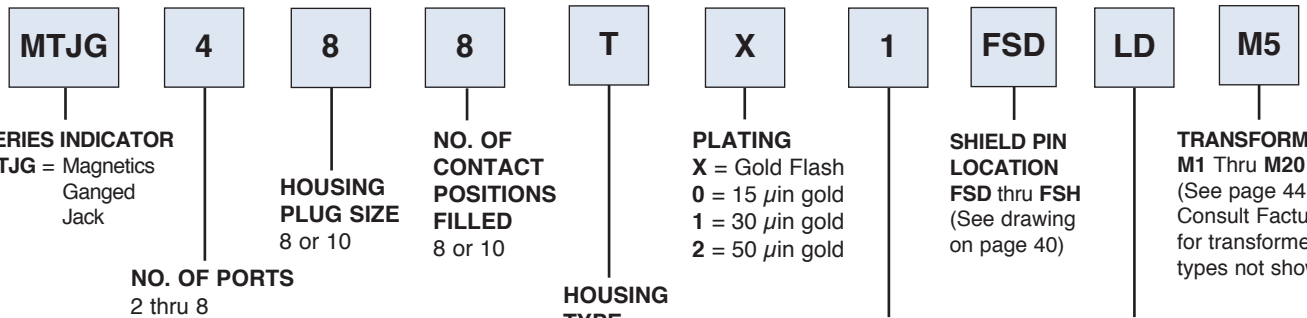
LED CONFIGURATION (Add suffix to end of part no.)		
SUFFIX	LED 1	LED 2
LA	YELLOW	YELLOW
LD	GREEN	GREEN
LG	YELLOW	GREEN
LH	GREEN	YELLOW
LI	ORANGE/GREEN	ORANGE/GREEN
LP	YELLOW/GREEN	YELLOW/GREEN
LQ	YELLOW/GREEN	—
L11	RED	GREEN

OTHER LED COLOR  
COMBINATIONS AVAILABLE

LED SPECIFICATION			
STANDARD LED	WAVE LENGTH	FORWARD VOLT / CURRENT	TYP
GREEN	565 nm	5.5V / 20mA	5.0V
YELLOW	590 nm	5.5V / 20mA	5.0V
ORANGE	610 nm	5.5V / 20mA	5.0V
RED	637 nm	5.5V / 20mA	5.0V

AVAILABLE WITH MAGNETIC  
TRANSFORMERS M1, M3, M4,  
M5, M6, M7, M8, M9, M10, M11,  
M12, M13, M16 & M20  
See Pgs 42-43:

## ORDERING INFORMATION FOR JACKS WITH INTEGRATED MAGNETICS & LEDs



**SERIES INDICATOR**  
MTJG = Magnetics  
Ganged  
Jack

**NO. OF PORTS**  
2 thru 8

**HOUSING  
PLUG SIZE**  
8 or 10

**NO. OF  
CONTACT  
POSITIONS  
FILLED**  
8 or 10

**HOUSING  
TYPE**  
T or J

**PLATING**  
X = Gold Flash  
0 = 15  $\mu$ in gold  
1 = 30  $\mu$ in gold  
2 = 50  $\mu$ in gold

**BODY  
COLOR**  
1 = Black

**SHIELD PIN  
LOCATION**  
FSD thru FSH  
(See drawing  
on page 40)

**LED**  
LX = Led Color  
RLX = Led with Resistor

**TRANSFORMER**  
M1 Thru M20  
(See page 44-45)  
Consult Factory  
for transformer  
types not shown

**OPTIONS:**

Add designator(s) to end of part number  
HT = Hi-Temp insulator for Hi-Temp  
soldering processes up to 260°C  
PG = Panel ground tabs

