## INTRODUCTION:

Adam Tech MTJ series Modular Telephone Jacks are a complete line of PCB and wire leaded jacks which are UL and CSA approved and meet all required FCC rules and regulations. Adam Tech offers a multitude of sizes (4p2c thru 10p10c) with styles including single, ganged and stacked versions with options of ferrite or magnetic filtering and or metal shielding. Jacks with integral LED's and combination hybrids such as MTJ/USB jacks are also available. These jacks are available in thru-hole or SMT mounting.

## FEATURES:

UL 1863 recognized
FCC compliant to No. 47 CFR part 68
Magnetic and Ferrite filtered types
4,6,8 and 10 positions available
Single, stacked or ganged
Hi-Temp and LED options
Unshielded or Metal Shielded
Thru-Hole or SMT mounting
Cat. 5 \& 5E ANSI/TIA/EIA 568.2

## MATING PLUGS:

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

## SPECIFICATIONS:

## Material:

Standard Insulator: PBT, or ABS, rated UL94V-0
Optional Hi-Temp Insulator: Nylon 6T rated UL94V-0
Insulator Colors: Black or medium gray
Contacts: Phosphor Bronze
Shield: Phosphor Bronze, tin plated

## Contact Plating:

Flat contacts: Gold Flash over Nickel underplate on contact area,
Tin over Copper underplate on solder tails.
Round contacts: Gold flash over Nickel underplate overall
Electrical:
Operating voltage: 150V AC max.
Current rating: 1.5 Amps max.
Contact resistance: $20 \mathrm{~m} \Omega$ max. initial
Insulation resistance: $500 \mathrm{M} \Omega \mathrm{min}$.
Dielectric withstanding voltage: 1000V AC for 1 minute
Mechanical:
Insertion force: 4 contacts: 17.6 N
6 contacts: 20.6 N
8 contacts: 22.5 N
10 contacts: 24.5 N
Durability: 500 Cycles
Temperature Rating:
Operating temperature: $-40^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$
Soldering process temperature:
Standard insulator: $235^{\circ} \mathrm{C}$
Hi-Temp insulator: 260C

## PACKAGING:

Anti-ESD plastic trays
SAFETY AGENCY APPROVALS:
UL Recognized E224049



TYPE 1


6P4C


MTJ-661X1

Ordering Information pg. 9


TYPE 1
8P8C



MTJ-881X1

Ordering Information pg. 9


Recommended PCB Layout

# MODULAR TELEPHONE JACKS .498" HEIGHT, SIDE ENTRY - TYPE 0 <br> mTJ SERIES 



# MODULAR TELEPHONE JACKS INTERNAL SHIELD LOW PROFILE SMT- TYPE Y <br> MTJ SERIES 



# MODULAR TELEPHONE JACKS <br> MTJ SERIES 




TYPE Q
COMPACT JACK 4P4C


Recommended PCB Layout


Recommended PCB Layout


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# MODULAR TELEPHONE JACKS THRU HOLE SIDE ENTRY - TYPE 7 <br> MTJ SERIES 



Recommended PCB Layout


# MODULAR TELEPHONE JACKS <br> .484" HEIGHT, SIDE ENTRY - TYPE 9 <br> MTJ SERIES 



MTJ-889X1-FSE-PG
Shown with optional panel ground tabs

See page 20 for other
Shield Pin Location Options


MTJ-889X1-FSE
TYPE 9 8P8C


Recommended PCB Layout

## MODULAR TELEPHONE JACKS TOP ENTRY, ENCLOSED BODY - TYPE F <br> MTJ SERIES




# MODULAR TELEPHONE JACKS .500" HEIGHT, SIDE ENTRY - TYPE G <br> MTJ SERIES 

|  | pg. 9 <br> TYPE G <br> 6P6C <br> Recommended PCB Layout |
| :---: | :---: |
|  | Recommended PCB Layout |
|  | Recommended PCB Layout (FSD) <br> PCB Layout (FSA, FSB, \& FSE) |



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## MODULAR TELEPHONE JACKS .472" HEIGHT, THRU HOLE \& SMT - TYPE W <br> MTJ SERIES





MTJ-88WX1-FSE-SMT-PG
Shown with optional panel ground tabs


MTJ-88WX1-FS-TSMT


MTJ-88WX1-FS-TSMT-PG Shown with optional panel ground tabs

TYPE W SHIELDED TRUE SMT 8P8C


Recommended Solder Pad Layout

MODULAR TELEPHONE JACKS .504" HEIGHT, SMT, TOP ENTRY-TYPE H MTJ SERIES



Recommended PCB Layout


# MODULAR TELEPHONE JACKS .626" HEIGHT, SMT, TOP ENTRY-TYPE K MTJ SERIES 



Recommended PCB Layout
4p4c

# MODULAR TELEPHONE JACKS .626" HEIGHT, SMT, TOP ENTRY-TYPE V <br> MTJ SERIES 



Recommended PCB Layout


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MODULAR TELEPHONE JACKS
.551" HEIGHT, SIDE ENTRY - TYPE E
MTJ SERIES


TYPE E 8P8C



Recommended PCB Layout


ADAM TECH
Adam Technologies, Inc.

## FILTERED MODULAR JACKS

Inductive filtered modular jacks improve signal integrity and are available in a variety of styles including tin plated copper shielding with a choice of magnetic transformer or ferrite filter. Adam Tech offers drop in equivalents to all industry standard filtered jacks


Ordering Information pg. 9
TYPE M
EMI FERRITE FILTERED JACK


MTJ-88MX1
Non-Shielded


MTJ-88MX1-FSE Metal Shielded


MTJ-88MX1-FSE-PG Metal Shielded with panel ground tabs


EMI FERRITE FILTERED \& SHIELDED JACK



8p8c Recommended PCB Layout


FSE Shield
8p8c Recommended PCB Layout


FSD Shield
8p8c Recommended PCB Layout

# TELEPHONE JACKS WITH LEDs LED JACKS, TYPE AA, AR \& D <br> MTJ SERIES 



## MODULAR JACKS WITH LEDS SINGLE \& GANGED LED JACKS <br> MTJ SERIES



Ordering Information pg. 29
TYPE AR
WITH SMT OPTION 8P8C



| Add suffix to end of P/N: |  |  |
| :---: | :--- | :--- |
| LED CONFIGURATION |  |  |
| SUFFIX | LED 1 | LED 2 |
| LA | YELLOW | YELLOW |
| LD | GREEN | GREEN |
| LG | YELLOW | GREEN |
| LH | GREEN | YELLOW |
| LI | ORANGE/ <br> GREEN | ORANGE/ <br> GREEN |

2, 4 \& 8 PORTS AVAILABLE
A = . 620 [15.75] $\times$ No. of Ports +.029 [0.75]
B $=.620$ [15.75] x No. of Ports - $1+.500$ [12.70]
C $=.620$ [15.75] $\times$ No. of Ports - 1
$\mathrm{D}=.620$ [15.75] x No. of Ports + . 019 [0.50]


## ORDERING INFORMATION GANG JACK WITHOUT LEDs



ORDERING INFORMATION GANG JACK WITH LEDs

CONTACT PLATING
X = Gold flash
$0=15 \mu \mathrm{in}$. gold
$1=30 \mu \mathrm{in}$. gold
$2=50 \mu \mathrm{in}$. gold

LED Configuration See Chart Below

| Add suffix to end of P/N: |  |  |
| :---: | :--- | :--- |
| LED CONFIGURATION |  |  |
| SUFFIX | LED 1 | LED 2 |
| LA | YELLOW | YELLOW |
| LD | GREEN | GREEN |
| LG | YELLOW | GREEN |
| LH | GREEN | YELLOW |
| LI | ORANGE/ <br> GREEN | ORANGE/ <br> GREEN |


HOUSING COLOR MTJG-4-88ARX1-FSM-PG-LG

OPTIONS:
PORT SIZE / POSITIONS FILLED
$62=6$ position, 2 contacts (6P2C)
$64=6$ position, 4 contacts (6P4C)
$66=6$ position, 6 contacts (6P6C)
$88=8$ position, 8 contacts (8P8C)

Add as suffix to basic part no.
FSX = Full metal shield
PG = Panel ground tabs
SMT = Surface mount tails with Hi-Temp insulator for hi-temp soldering processes up to $260^{\circ} \mathrm{C}$


MTJG-3-667HX2

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## MODULAR TELEPHONE JACKS GANGED JACKS, SIDE ENTRY-TYPE 2, 2B \& 2C MTJG SERIES



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## MODULAR TELEPHONE JACKS <br> GANGED JACK, TOP \& SIDE ENTRY-TYPE 7 <br> mTJG SERIES



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## MODULAR TELEPHONE JACKS GANGED JACKS, THRU HOLE \& SMT-TYPE 5, N mTJG SERIES





| PART NUMBER | PORTS | DIMENSIONS |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | A | B | C |
| MTJG-2-88JX1-FSG-PG | $2 \times 1$ | $\begin{array}{\|c} .679 \\ {[17.25]} \end{array}$ | $\begin{gathered} .450 \\ {[11.43]} \end{gathered}$ |  |
| MTJG-4-88JX1-FSG-PG | $2 \times 2$ | $\begin{gathered} \hline 1.230 \\ {[31.25]} \end{gathered}$ | $\begin{gathered} 1.00 \\ {[25.40]} \end{gathered}$ | $\begin{gathered} \hline .550 \\ {[13.97]} \end{gathered}$ |
| MTJG-6-88JX1-FSG-PG | $2 \times 3$ | $\begin{aligned} & \hline 1.780 \\ & {[45.21]} \end{aligned}$ | $\begin{gathered} \hline 1.549 \\ {[39.34]} \end{gathered}$ | $\begin{array}{\|c\|} \hline 1.100 \\ {[27.94]} \end{array}$ |


| PART NUMBER | PORTS | DIMENSIONS |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | A | B | C |
| MTJG-8-88JX1-FSG-PG | $2 \times 4$ | 2.33 <br> $[59.18]$ | 2.100 <br> $[53.34]$ | 1.650 <br> $[41.91]$ |
|  | $2 \times 6$ | 3.43 <br> $[87.10]$ | 3.200 <br> $[81.28]$ | 2.750 <br> $[69.85]$ |
| MTJG-16-88JX1-FSG-PG | $2 \times 8$ | 4.537 <br> $[115.25]$ | 4.30 <br> $[109.22]$ | 3.850 <br> $[97.79]$ |

# MODULAR TELEPHONE JACKS STACKED TOP ENTRY JACK-TYPE C MTJG SERIES 

Ordering Information pg. 31
TYPE C


| PART NUMBER | PORTS | DIMENSIONS |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | A | B | C |
| MTJG-4-88CX1-S | $2 \times 2$ | $\begin{gathered} 1.172 \\ {[29.76]} \end{gathered}$ | $\begin{gathered} 1.020 \\ {[25.91]} \end{gathered}$ | $\begin{array}{\|c} .540 \\ {[13.72]} \end{array}$ |
| MTJG-8-88CX1-S | $2 \times 4$ | $\begin{gathered} \hline 2.252 \\ {[57.20]} \end{gathered}$ | $\begin{array}{\|c} \hline 2.100 \\ {[53.34]} \end{array}$ | $\begin{array}{\|c\|} \hline 1.620 \\ {[41.15]} \end{array}$ |




#### Abstract

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 availableAll 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

## ELECTRICAL:

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

## MECHANICAL:

Insertion force: 8 Contacts: 22.5 N
10 Contacts: 24.5 N
TEMPERATURE RATING:
Operation Temperature: $-40^{\circ} \mathrm{C} \sim+70^{\circ} \mathrm{C}$
PACKAGING:
Anti-ESD plastic trays or tubes
SAFETY AGENCY APPROVALS:
UL Recognized E224049

## Contact Plating:

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

## MAGNETICS TELEPHONE JACK ORDERING INFORMATION






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

TYPE T
TAB DOWN \& BOTTOM LEDs, SHORT BODY


Recommended PCB Layout FSP Option Shown

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# MODULAR TELEPHONE JACK WITH INTEGRATED MAGNETICS \& LEDs 10/100 BASE T \& 1000 BASE T 



Ordering Information pg. 41


TYPE T
TAB DOWN, SHORT BODY 2, 4 \& 5 PORTS GANGED
"D" DIM.
FSA $=.170[4.32]$
FSB $=.144[3.65]$
FSG $=.180[4.57$
FSE = . 120 [3.05]
(1)-PSB-PG Drawing shown with metal shield, panel ground tabs, LEDs and magnetics option
A $=.550[13.97] \times($ NO OF PORTS -1) +.679 [17.27]
$\mathrm{B}=.550$ [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. 42-43

Recommended PCB Layout


MTJG-8-88JX1-FSE-LD-M1
Drawing shown with metal shield, panel ground tabs \& LEDs.


| DIMENSIONS |  |  |
| :---: | :---: | :---: |
| PORTS | A | B |
| $2 \times 1$ | 677 <br> $[17.20]$ | .450 <br> $[11.43]$ |
| $2 \times 2$ | 1.227 <br> $[31.17]$ | 1.00 <br> $[25.40]$ |
| $2 \times 4$ | 2.331 <br> $[59.22]$ | 2.100 <br> $[53.34]$ |
| $2 \times 5$ | 2.876 <br> $[73.07]$ | 2.650 <br> $[67.31]$ |
| $2 \times 6$ | 3.426 <br> $[87.04]$ | 3.200 <br> $[81.28]$ |
| $2 \times 8$ | 4.527 <br> $[115.00]$ | 4.300 <br> $[109.22]$ |



Recommended PCB Layout

