



POSITRONIC[®]
GLOBAL *Connector* SOLUTIONS

Quality Solutions

Reliable Service

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SCORPION CONNECTORS CATALOG CORRECTIONS

Dear Customer:

It is our goal to provide you with up-to-date product literature. In order to achieve this goal, we are supplying the attached pages.

These pages will update your **Scorpion Series** catalog to the new revision of **A-010 Rev B4**. It also will correct errors contained in our printed material and/or provide information about product expansion. These changes are indicated by ***bold italics and are underlined***. Please reference page numbers at bottom of each page for proper placement in the catalog.

If you would like to request additional printed copies, please email your name, and mailing address, including postal code to one of the following locations: info@connectpositronic.com (*for customers of the Americas*), contact@connectpositronic.com (*for European customers*), singapore@connectpositronic.com (*for Asia/Pacific customers*). Please to indicate you would like to receive a printed supplement for **A-010 Rev B4** and the quantities you desire.

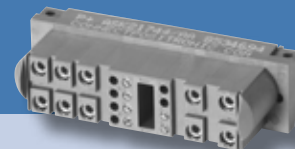
Electronic PDF files can be downloaded from our web site at:

<http://www.connectpositronic.com/products/146/Scorpion/catalogs/>

A-010 Rev B4

PLEASE UPDATE YOUR CATALOG ACCORDINGLY.

We will make these corrections in the upcoming printing of this catalog. Contact us for any additional information at the appropriate location listed above.

**Materials and Finishes:**

Insulators:	Glass-filled polyester, UL 94V-0. Blue color.
Contacts:	Precision machined copper alloy with gold flash over nickel plate. Other finishes available upon request.
15.7mm X 80mm	Size 22 PCB straight and right angle (90°) contact also available in precision formed copper alloy with selective gold flash over nickel at mating end and tin over nickel plate at termination end.
Mounting Brackets:	Brass with tin plate.
Push-on Fasteners:	Copper alloy with tin plate.
Float Mount Bushings:	Steel with zinc plate.
Mounting clips:	Beryllium copper with nickel plate.
Jackscrew System:	Passivated stainless steel.

Electrical Characteristics:**Contact Current Rating (See Page 6 for details of Power Contacts)****Standard Conductivity Contacts:**

Size 8 Contacts:	50 amperes, continuous.
Size 12 Contacts:	40 amperes, continuous.
Size 16 Contacts:	26 amperes, continuous.
Size 18 Contacts:	16 amperes, continuous.
Size 22 Contacts:	3 amperes, nominal.

Hyperboloid Contacts

0.60mm [0.0236] :	4 amperes, nominal
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High Conductivity Contacts:

Size 8 Contacts:	80 amperes, continuous.
Size 12 Contacts:	60 amperes, continuous.
Size 16 Contacts:	40 amperes, continuous.
Size 18 Contacts:	23 amperes, continuous.

Initial Contact Resistance (Standard Conductivity Contacts) per IEC 512-2, Test 2b:

Size 8 Contacts:	0.0006 ohms, maximum.
Size 12 Contacts:	0.001 ohms, maximum.
Size 16 Contacts:	0.0016 ohms, maximum.
Size 18 Contacts:	0.003 ohms, maximum.
Size 22 Contacts:	0.005 ohms, maximum.

Hyperboloid Contacts

0.60mm [0.0236] :	0.005 ohms, maximum.
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Initial Contact Resistance (High Conductivity Contacts) per IEC 512-2, Test 2b:

Size 8 Contacts:	0.0004 ohms, maximum.
Size 12 Contacts:	0.0004 ohms, maximum.
Size 16 Contacts:	0.0007 ohms, maximum.
Size 18 Contacts:	0.0007 ohms, maximum.

Insulation Resistance per IEC 512-2, Test 3a, Method A: 5 G ohms.**Voltage Proof per IEC 512-2, Test 4a, Method C:**

For size 8, 12, 16 and 18 contacts, 2200 V r.m.s. typical;
for size 22 contacts, 1600 V r.m.s. typical;
 for Hyperboloid contacts 0.60mm [0.0236], 1200 V r.m.s. typical.
 Consult sales for your specific requirements.

Working Voltage, Clearance and Creepage Distances:

Consult factory for information about your specific connector choice.

Hot Pluggable [50 Couplings per UL1977, paragraph 15]:

Size 12 Contacts:	250 VAC at 25 amperes. Contact sales for details.
Size 16 Contacts:	Contact sales for availability.

Climatic Characteristic:

Working Temperature: -55°C to +125°C.

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Blue colored connectors shown in this catalog are a trademark of Positronic Industries, Inc, registered in the US. Patent and Trademark Office.

Mechanical Characteristics:

Super Mating System:	Integral guide feature allows for misalignment up to 3.80 mm [0.150 inch].
Blind Mating System:	Integral guide feature allows for misalignment up to 2.00 mm [0.079 inch].
Locking Latch System:	Design of connector body provides locking system for cable to cable, cable to printed board and cable to panel mount applications.
Jackscrew System:	Standard threads, 4-40 UNC. Consult sales for other screw sizes
Polarization:	Design of connector body provides polarization features.
Removable Contacts:	Install contact from rear face of insulator, release from front face of insulator with a contact extraction tool, thereafter extract contact from rear face of insulator. Size 8, Size 12, Size 16, Size 18 and Size 22 female contacts feature "Closed entry" design for highest reliability.
Keying Features:	Consult sales for availability.
Removable Contact Retention in Connector Body per IEC 512-8, Test 15a:	
Size 8, Size 12 and Size 16 Contacts:	67N [15 lbs.] minimum.
Size 18 Contacts:	45N [10 lbs.] minimum.
Size 22 Contacts:	27N [6 lbs.] minimum.
Non Removable Crimp Contact:	Insert contact to rear face of insulator. Size 22 female contact has "closed entry" design for highest reliability.

Non Removable Crimp Contact Retention in Connector Body per IEC 512-8, Test 15a:

Size 22 Contacts:	27N [6 lbs.] minimum.
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Fixed Contacts: Printed board terminations, both straight and right angle. Size 8, 12, 16, 18 and Hyperboloid 0.60mm [0.0236] female contacts feature "Closed entry" design for highest reliability. Size 22 female contact has "Open Entry" design.

Fixed Contact Retention in Connector Body per IEC 512-8, Test 15a:

Size 8 Contacts:	67N [15 lbs.] minimum.
Size 12 and Size 16 Contacts:	45N [10 lbs.] minimum.
Size 18 Contacts:	45N [10 lbs.] minimum.
Size 22 Contacts:	27N [6 lbs.] minimum.
Size 22 Precision Formed Contact:	27N [6 lbs.] minimum.
Hyperboloid Contacts 0.60mm [0.0236]:	27N [6 lbs.] minimum.

Sequential Contact Mating System:

Size 8 Contacts:	One level. Consult sales for two levels.
Size 12 Contacts:	Two levels. Consult sales for three levels.
Size 16 Contacts:	Two levels. Consult sales for three levels.
Size 18 Contacts:	Two levels. Consult sales for three levels.
Size 22 Contacts:	One level. Two levels for Printed Board mount connectors.

Hyperboloid Contacts

0.60mm [0.0236]:	One level.
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Printed Board and Panel Mounting Holes:

Mounting holes provided in connector body for both printed board and panel mounting. Self-tapping screws or push-on fastener options are available.

Mechanical Operations per IEC 512-5:

Size 8, 12, 16 and 18 contacts:	1000 cycles minimum.
Size 22 contacts:	500 cycles minimum.
Size 22 Precision Formed contact:	250 cycles minimum.
Hyperboloid Contacts 0.60mm [0.0236] :	Up to 100,000 cycles.

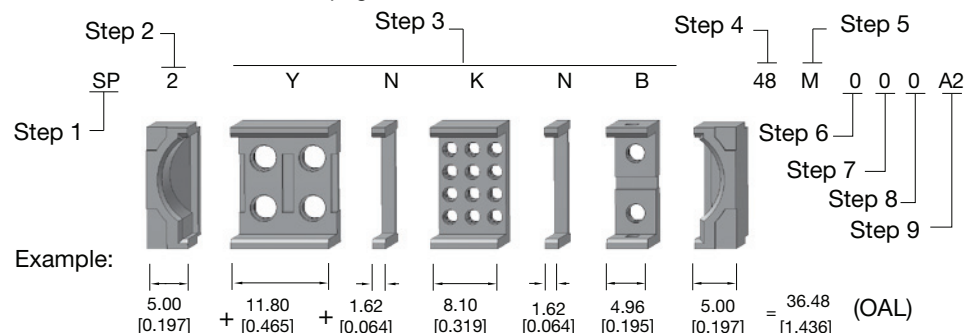
Recognized: UL in process. Consult sales for TÜV.

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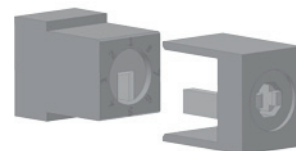


**How to calculate Over All Length (OAL) of a Scorpion connector:**

Overall Length (OAL) of a connector is the sum of all the modules length. Refer to example below for OAL calculation. See page 7 and 8 for individual module dimensions.

**KEYING MODULES**

The keying module is designed to offer maximum 8 keying positions. Consult sales for availability

**Notes:**

- 1 A Scorpion part number can be a maximum of 30 characters. If the connector configuration exceeds this number, please consult sales for a special part number for your unique requirement.
- 2 Contact position numbers may not be continuous. Consult sales for more information.
- 3 Consult sales for connector length exceeding 101.00 mm [3.976 inch].
- 4 Consult sales for connector offering both fixed solder and crimp contacts.
- 5 Alignment bar is only available for size 16, size 18, size 22, and hyperboloid 0,60 [0.0236] right angle (90°) contacts.
- 6 Consult sales for availability of hood system.
- 7 ~~If a size 18 or size 22 crimp modules are placed immediately next to end modules, it is suggested to insert a blank module "N" between the end module and size 18 or size 22 module. THIS STATEMENT NOW OBSOLETE.~~
- 8 Posiband contacts available for size 12, 16, 18 and 22 contacts only. **Specify code F in step 5 when ordering crimp connector.**

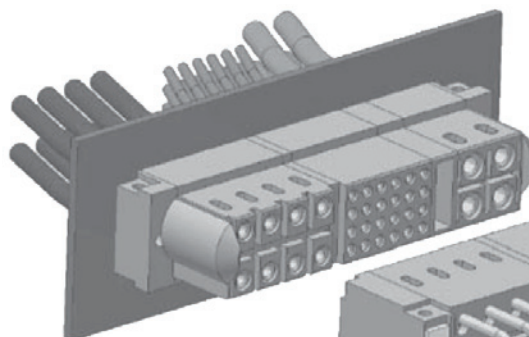
Board to Panel with Blind Mating System

Female Panel Mount Connector

Typical part number:

SP2YN4TND1F0091

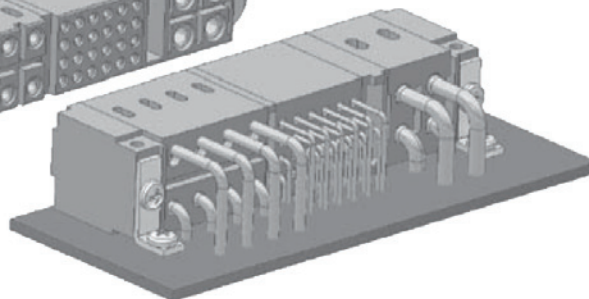
(Contacts ordered separately)



Male Right Angle PCB Mount Connector

Typical part number:

SP2YN4TND4M0B9A1

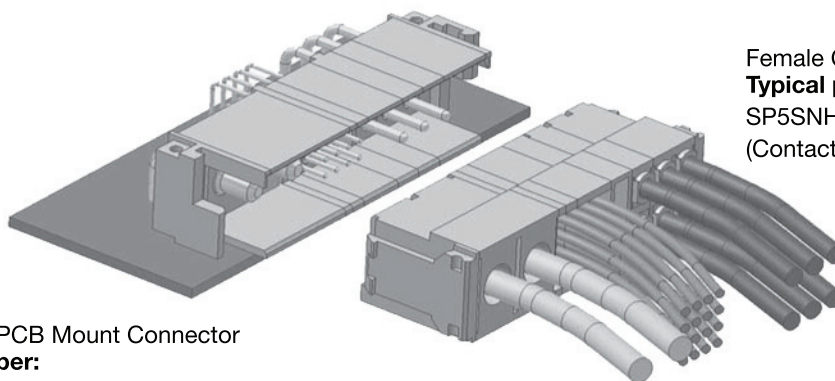
**Cable to Board with Locking Latch System**

Female Cable Connector

Typical part number:

SP5SNHKN4BC1F0001

(Contacts ordered separately)

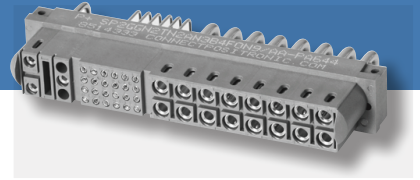


Male Right Angle PCB Mount Connector

Typical part number:

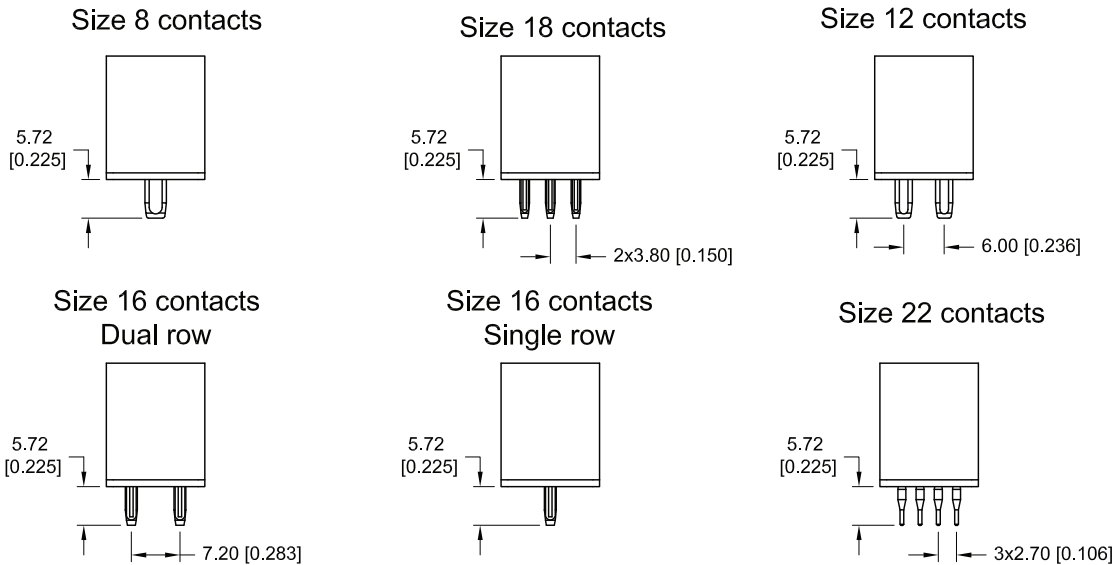
SP5SNHKN4BC4M000A1





Press-Fit Straight PCB Mount Connectors

Specify Code 93 or 938 in Step 4 of ordering information

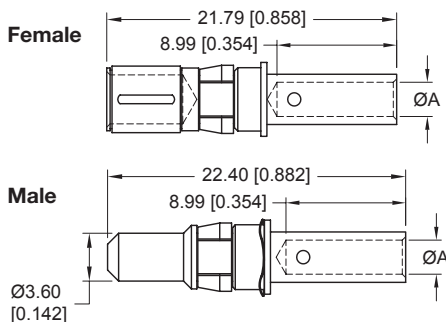


Code 93 is standard material contact and code 938 is high conductivity material power contact.

Male connector shown for reference. Dimensions also apply to female connector.
Consult sales for Contact Hole Patterns of Straight PCB Mount.



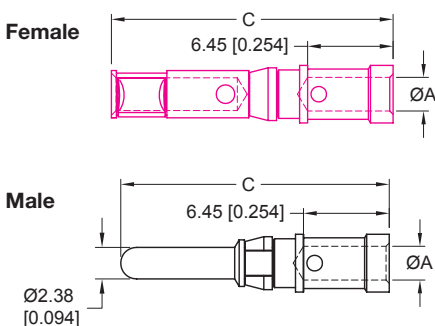
Size 8 Removable Crimp Contacts



Female Contacts		Male Contacts		Wire Size AWG [mm²]	ØA
Part Number (Standard Conductivity Contacts)	Part Number (High Conductivity Contacts)	Part Number (Standard Conductivity Contacts)	Part Number (High Conductivity Contacts)		
N/A	FC4008DS	NA	MC4008DS	8 [10.0]	4.60 [0.181]
FC4010D	N/A	MC4010D	N/A	10 [5.3]	3.10 [0.122]
FC4012D		MC4012D		12 [4.0]	2.57 [0.101]
FC4016D		MC4016D		16 [1.5]	1.70 [0.067]

N/A - Not Applicable

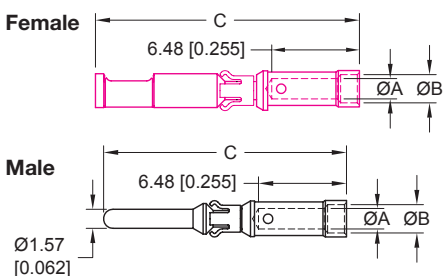
Size 12 Removable Crimp Contacts



Part Number (Standard Conductivity Contacts)	Part Number (High Conductivity Contacts)	Wire Size AWG [mm²]	ØA	Sequential Mate	C
Female Contacts					
FC1210P2	FC1210P2S	10 [6.0]	3.10 [0.122]	N/A	21.25 [0.837]
FC1212P2	FC1212P2S	12 [4.0]	2.54 [0.100]		
Male Contacts					
MC1210N-PA563	MC1210NS-PA563	10 [6.0]	3.10 [0.122]	First	23.18 [0.912]
MC1210N	MC1210NS			Standard	20.18 [0.794]
MC1212N-PA563	MC1212NS-PA563	12 [4.0]	2.54 [0.100]	First	23.18 [0.912]
MC1212N	MC1212NS			Standard	20.18 [0.794]

N/A - Not Applicable

Size 16 Removable Crimp Contacts



Materials and Finishes:

Precision machined copper alloy with gold flash over nickel.

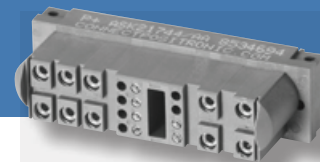
Consult sales for other contact sizes, materials, finishes, termination styles and more details.

Part Number (Standard Conductivity Contacts)	Part Number (High Conductivity Contacts)	Wire Size AWG [mm²]	ØA	ØB	Sequential Mate	C
Female Contacts						
FC112P2-PA907	FC112P2S-PA907	12 [4.0]	2.49 [0.098]	N/A	N/A	19.33 [0.761]
FC114P2-PA907	N/A	14-16 [2.5-1.5]	2.06 [0.081]	2.67 [0.105]		
FC116P2-PA907		16-18-20 [1.5-1.0-0.5]	1.70 [0.067]	2.36 [0.093]		
FC120P2-PA907		20-22-24 [0.5-0.3-0.25]	1.14 [0.045]	1.73 [0.068]		
Male Contacts						
MC112N-133.5	MC112NS-133.5	12 [4.0]	2.49 [0.098]	N/A	First	21.74 [0.856]
MC112N	MC112NS				Standard	19.41 [0.764]
MC114N-133.5	N/A	14-16 [2.5-1.5]	2.06 [0.081]	2.67 [0.105]	First	21.74 [0.856]
MC114N					Standard	19.41 [0.764]
MC116N-133.5		16-18-20 [1.5-1.0-0.5]	1.70 [0.067]	2.36 [0.093]	First	21.74 [0.856]
MC116N					Standard	19.41 [0.764]
MC120N-133.5		20-22-24 [0.5-0.3-0.25]	1.14 [0.045]	1.73 [0.068]	First	21.74 [0.856]
MC120N					Standard	19.41 [0.764]

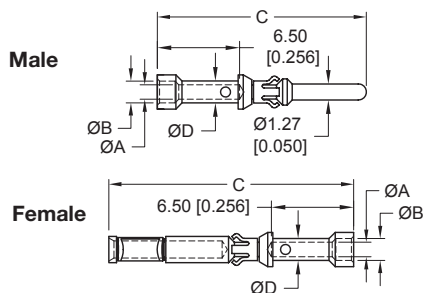
N/A - Not Applicable

Note: Please use correct wire size and it should be smaller than ØA of the contact. Some connectors may not accommodate some thicker insulation wires. Customer review for wire selection is recommended. Removable contacts should be allowed to float after installation in connector body. This enables superior mating performance. If floating is not enabled, some mating issues may occur; especially when wires/cables are bent at a severe angle.





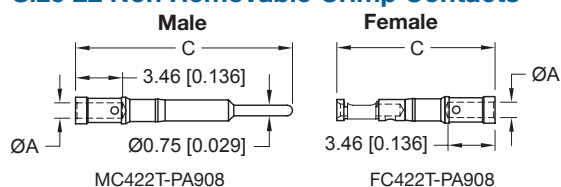
Size 18 Removable Crimp Contacts



Part Number (Standard Conductivity Contacts)	Part Number (High Conductivity Contacts)	Wire Size AWG [mm²]	ØA	ØB	ØD	Sequential Mate	C
Female Contacts							
FC1816P2	FC1816P2S	16-18 [1.5-1.0]	1.70 [0.067]	1.70 [0.067]	2.43 [0.096]	N/A	19.34 [0.761]
FC1820P2	FC1820P2S	20 [0.5]	1.14 [0.045]	1.73 [0.068]	1.73 [0.068]		
Male Contacts							
MC1816N-PA561	MC1816NS-PA561	16-18 [1.5-1.0]	1.70 [0.067]	1.70 [0.067]	2.43 [0.096]	First	21.08 [0.830]
MC1816N	MC1816NS					Standard	19.08 [0.751]
MC1820N-PA561	MC1820NS-PA561	20 [0.5]	1.14 [0.045]	1.73 [0.068]	1.73 [0.068]	First	21.08 [0.830]
MC1820N	MC1820NS					Standard	19.08 [0.751]

N/A - Not Applicable

Size 22 Non Removable Crimp Contacts



Removable Contacts	Non Removable Contact	Wire Size AWG [mm²]	ØA	C
Male	Male			
MC422N9	MC422T-PA908	22-26 [0.3]-[0.12]	0.89 [0.035]	15.49 [0.610]
Female	Female			
FC422P9	FC422T-PA908	22-26 [0.3]-[0.12]	0.89 [0.035]	11.41 [0.449]

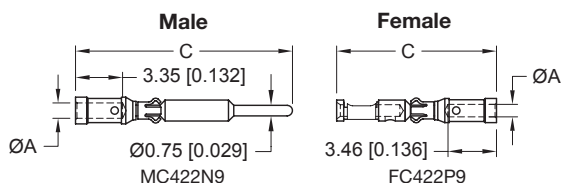
N/A - Not Applicable

Materials and Finishes:

Precision machined copper alloy with gold flash over nickel.

Consult sales for other contact sizes, materials, finishes, termination styles and more details.

Size 22 Removable Crimp Contacts



Recommended Tools for Crimp Contacts

Contact Extraction Tool



Contact Insertion Tool



Cycle-Controlled Step
Adjustable Hand Crimp Tool



Contact Size	Contact Extraction Tool	Contact Insertion Tool	Hand Crimp Tool
Size 8	4311-0-0	Not Applicable	9504-19-0 (FC4008DS and MC4008DS contacts) 9509-0-0 (*C4010D, *C4012D, and *C4016D contacts)
Size 12	2711-0-0	9099-3-0	9509-6-1 with 9509-6-2 positioner (*C1210** contacts) 9501-0 with 9502-38-0 positioner (MC1212** contacts) 9501-0 with 9502-37-0 positioner (FC1212** contacts)
Size 16	9081-0-0	9099-0-0	9501-0 with 9502-1-0 positioner (FC1**P2, MC1**N) 9501-0 with 9502-17-0 positioner (MC1**N-133.5) 9509-3 (FC112N2S, MC112NS and MC112NS-133.5)
Size 18	9081-9-0	9099-6-0	9507-0 with 9502-32-0 positioner (male contacts) 9507-0 with 9502-30-0 positioner (female contacts)
Size 22	^ 9081-3-0	9099-7-0	9507-0 with 9502-12-0 positioner (male contacts) 9507-0 with 9502-13-0 positioner (female contacts)

^ Not Applicable for Size 22 non-removable crimp contacts.

Consult sales for additional crimping tools and crimping information.



SUGGESTED PRINTED BOARD HOLE SIZES FOR COMPLIANT PRESS-FIT CONNECTORS

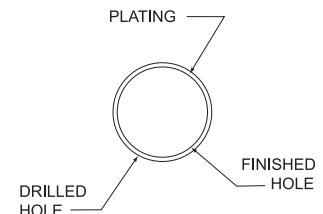
Traditionally, tin-lead has been a popular plating for PCB holes. However, many PCB hole platings must now be RoHS Compliant. Positronic is pleased to offer **PCB HOLE SIZE FOR RoHS!** PCB plating as shown below.

OMEGA & BI-SPRING COMPLIANT PRESS-FIT CONTACT HOLE				
BOARD TYPE	CONTACT SIZE / TYPE	RECOMMENDED DRILL HOLE SIZE	RECOMMENDED PLATING	FINISHED HOLE SIZES
TIN-LEAD SOLDER PCB	22 OMEGA	$\phi 1.150 \pm 0.025$ [$\phi 0.0453 \pm 0.0010$]	15μ [0.0006] minimum solder over 25μ [0.0010] min. copper	$\phi 1.000 \pm 0.090 - 0.060$ [$\phi 0.0394 \pm 0.0035 - 0.0024$]
	16 BI-SPRING	$\phi 1.750 \pm 0.025$ [$\phi 0.069 \pm 0.001$]		$\phi 1.600 \pm 0.090 - 0.060$ [$\phi 0.0630 \pm 0.0035 - 0.0024$]
	12 BI-SPRING	$\phi 2.59 \pm 0.025$ [$\phi 0.102 \pm 0.001$]		$\phi 2.44 \pm 0.05$ [$\phi 0.096 \pm 0.002$]
	8 BI-SPRING	$\phi 3.180 \pm 0.025$ [$\phi 0.125 \pm 0.001$]		$\phi 3.02 \pm 0.05$ [$\phi 0.119 \pm 0.002$]
RoHS PCB PLATING OPTIONS				
COPPER PCB	22 OMEGA	$\phi 1.19 \pm 0.025$ [$\phi 0.047 \pm 0.001$]	25μ [0.0010] min. copper	$\phi 1.09 \pm 0.05$ [$\phi 0.043 \pm 0.002$]
	16 BI-SPRING	$\phi 1.750 \pm 0.025$ [$\phi 0.069 \pm 0.001$]		$\phi 1.600 \pm 0.090 - 0.060$ [$\phi 0.0630 \pm 0.0035 - 0.0024$]
	12 BI-SPRING	$\phi 2.59 \pm 0.025$ [$\phi 0.102 \pm 0.001$]		$\phi 2.44 \pm 0.05$ [$\phi 0.096 \pm 0.002$]
	8 BI-SPRING	$\phi 3.180 \pm 0.025$ [$\phi 0.125 \pm 0.001$]		$\phi 3.02 \pm 0.05$ [$\phi 0.119 \pm 0.002$]
IMMERSION TIN PCB	22 OMEGA	$\phi 1.19 \pm 0.025$ [$\phi 0.047 \pm 0.001$]	0.85±0.15μ [0.000033±0.000006] immersion tin over 25μ [0.0010] min. copper	$\phi 1.09 \pm 0.05$ [$\phi 0.043 \pm 0.002$]
	16 BI-SPRING	$\phi 1.750 \pm 0.025$ [$\phi 0.069 \pm 0.001$]		$\phi 1.600 \pm 0.090 - 0.060$ [$\phi 0.0630 \pm 0.0035 - 0.0024$]
	12 BI-SPRING	$\phi 2.59 \pm 0.025$ [$\phi 0.102 \pm 0.001$]		$\phi 2.44 \pm 0.05$ [$\phi 0.096 \pm 0.002$]
	8 BI-SPRING	$\phi 3.180 \pm 0.025$ [$\phi 0.125 \pm 0.001$]		$\phi 3.02 \pm 0.05$ [$\phi 0.119 \pm 0.002$]
IMMERSION SILVER PCB	22 OMEGA	$\phi 1.19 \pm 0.025$ [$\phi 0.047 \pm 0.001$]	0.34±0.17μ [0.000013±0.000007] immersion silver over 25μ [0.0010] min. copper	$\phi 1.09 \pm 0.05$ [$\phi 0.043 \pm 0.002$]
	16 BI-SPRING	$\phi 1.750 \pm 0.025$ [$\phi 0.069 \pm 0.001$]		$\phi 1.600 \pm 0.090 - 0.060$ [$\phi 0.0630 \pm 0.0035 - 0.0024$]
	12 BI-SPRING	$\phi 2.59 \pm 0.025$ [$\phi 0.102 \pm 0.001$]		$\phi 2.44 \pm 0.05$ [$\phi 0.096 \pm 0.002$]
	8 BI-SPRING	$\phi 3.180 \pm 0.025$ [$\phi 0.125 \pm 0.001$]		$\phi 3.02 \pm 0.05$ [$\phi 0.119 \pm 0.002$]
ELECTROLESS NICKEL / IMMERSION GOLD PCB	22 OMEGA	$\phi 1.19 \pm 0.025$ [$\phi 0.047 \pm 0.001$]	0.05μ [0.000002] min. immersion gold over 4.5±1.5μ [0.000177±0.000059] electroless nickel per IPC-4552 over 25μ [0.0010] min. copper	$\phi 1.09 \pm 0.05$ [$\phi 0.043 \pm 0.002$]
	16 BI-SPRING	$\phi 1.750 \pm 0.025$ [$\phi 0.069 \pm 0.001$]		$\phi 1.600 \pm 0.090 - 0.060$ [$\phi 0.0630 \pm 0.0035 - 0.0024$]
	12 BI-SPRING	$\phi 2.59 \pm 0.025$ [$\phi 0.102 \pm 0.001$]		$\phi 2.44 \pm 0.05$ [$\phi 0.096 \pm 0.002$]
	8 BI-SPRING	$\phi 3.180 \pm 0.025$ [$\phi 0.125 \pm 0.001$]		$\phi 3.02 \pm 0.05$ [$\phi 0.119 \pm 0.002$]

“Omega” Termination



“Bi-Spring” Termination

COMPLIANT
PRESS-FIT TERMINATION
CONTACT HOLE

Note: For PCB plating compositions not shown, consult Technical Sales.

PRESS-FIT USER
INFORMATION

When properly used, Positronic Industries Bi-Spring Power or Omega Signal Press-Fit terminations provide reliable service even under severe conditions.

Connectors utilizing this leading technology press-fit contact are easy to install:

1. Inexpensive installation tooling is available from Positronic. To order installation tools, please contact Technical Sales.
2. Insert the connector into the printed circuit board or backplane and seat connector fully.
3. Secure the connector to the P.C. board or backplane using two self-tapping screws. The screws should be 2-28 Triplask II Trilobular threads supplied by customer, which can be purchased separately.

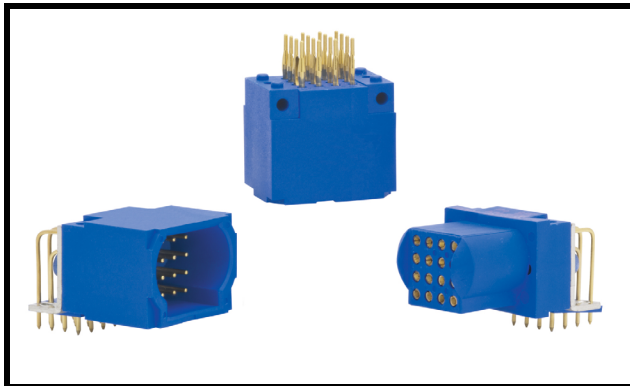




NEW PRODUCT RELEASE



POSITRONIC INDUSTRIES, INC.
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Positronic is proud to have participated in PICMG 3.8. The Scorpion series was chosen as the PICMG 3.8 power connector. For more information on the PICMG 3.8 connectors, see pages 19-22.

December 15, 2011

Positronic's Scorpion Series chosen for PICMG 3.8

AdvancedTCA was developed to define next generation carrier-grade telecommunications equipment. ATCA architecture enables increased mobility and improves reliability, availability, and serviceability. The ATCA specification allows the standard to keep up with an evolving and competitive industry.

One of the latest ATCA evolutions is the PICMG 3.8 standard. PICMG 3.8 specifies Zone 3 requirements for rear transition modules in ATCA systems. The standard also addresses power, cooling, and keying issues. This addition to the family of PICMG standards supports the use of ATCA in a variety of applications outside of telecommunications.

One of the key features of PICMG 3.8 is the definition of a power and system management connector. This allows a consistent means of supporting generic system requirements, while allowing the flexibility to utilize application specific connectors as needed.

Positronic's Scorpion connector series was chosen as the power and system management connector for the 3.8 standard. The Scorpion's high-density packaging of miniature power contacts made it the preferred choice for this application.

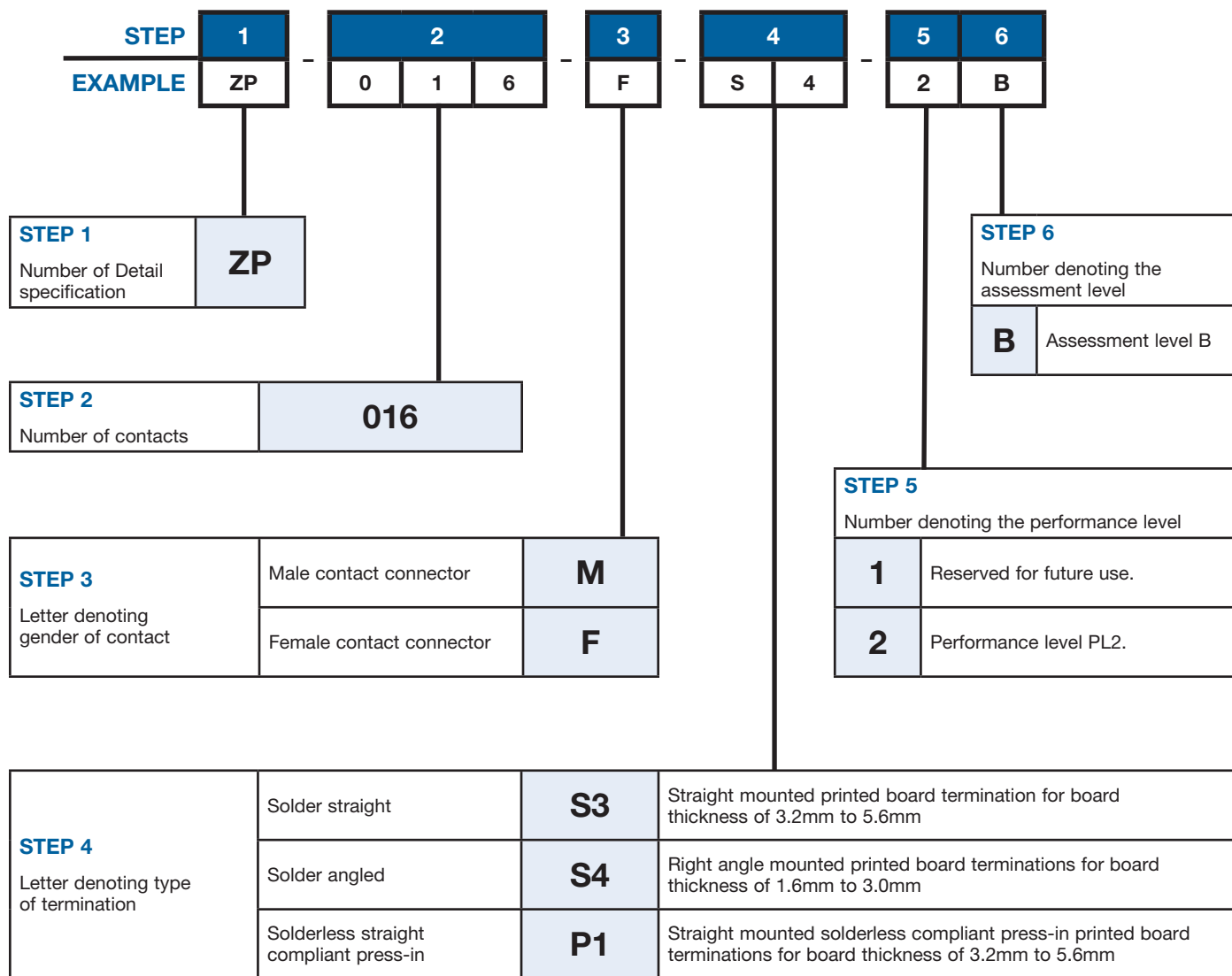
The PICMG 3.8 power connector has 16 contacts rated at 3 amperes each at a maximum temperature rise of 30 degrees C; all contacts energized. Contact resistance is 6 milliohms maximum. The connector package offers blind mating capability and is only 19.8 mm wide. Contact termination types include right angle solder and straight press-fit.





ORDERING INFORMATION - CODE NUMBERING SYSTEM FOR PICMG 3.8 POWER CONNECTORS

Specify Complete Connector By Selecting An Option From Step 1 Through 6



The 3.8 specification has it's own part number system. For your convenience, here is a cross reference to Positronic part numbers.

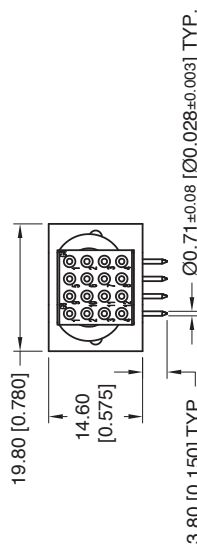
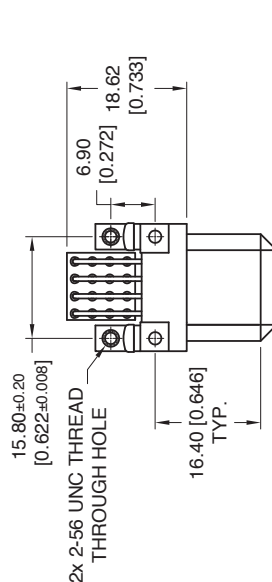
PART NUMBER CROSS REFERENCE			
GENDER / TERMINATION	PICMG PART NUMBER	POSITRONIC PART NUMBER	2-D DRAWING
female / right angle	ZP-016F-S4-2B	SP7KH4F0BS0A1/AA-PA778	See page 20
male / right angle	ZP-016M-S4-2B	SP7KH4M0BS0A1/AA-PA778	See page 21
male / straight compliant press-in	ZP-016M-P1-2B	SP7KH93M0000A1/AA-PA778	See page 22



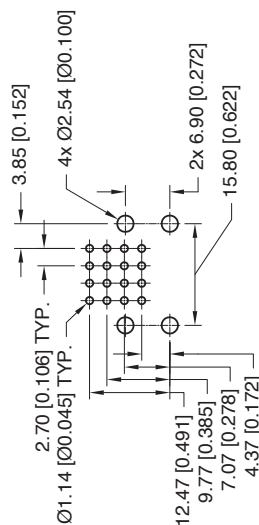
ASK22140-* SHEET 1 OF 1

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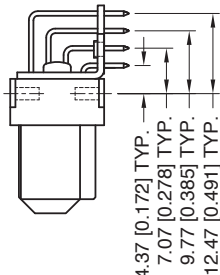
DATE	REV	REVISION RECORD	DRN	CKD	APP
09 Jun 10	E	PA ECO 10123	LP	RG	NK
23 Dec 10	F	PA ECO 10273	LP	EH	NK
04 Mar 11	G	PA ECO 11039	LP	EH	NK



CONTACT HOLES PATTERN



SIZE 22 CONTACTS



NOTES:

- 1) MATERIALS AND FINISHES
INSULATOR: GLASS-FILLED POLYESTER, UL 94V-0. COLOR: BLUE.
CONTACTS: PRECISION MACHINED COPPER ALLOY WITH GOLD OVER NICKEL PLATE.
ANGLE BRACKETS: BRASS, TIN PLATE OVER NICKEL.
SCREWS: STEEL, ZINC PLATE WITH CHROMATE SEAL.
- 2) THIS MOS ALLOWS THE CONNECTOR TO BE PROVIDED WITH SPECIAL CONTACTS AT ALL POSITIONS.
- 3) DETAILED PRODUCT, ELECTRICAL, AND MECHANICAL INFORMATION IS AVAILABLE IN THE LATEST STANDARD SCORPION PRODUCT PUBLICATION. VISIT CONNECTPOSITRONIC.COM/PRODUCTS/146/SCORPION OR CONNECTPOSITRONIC.COM.

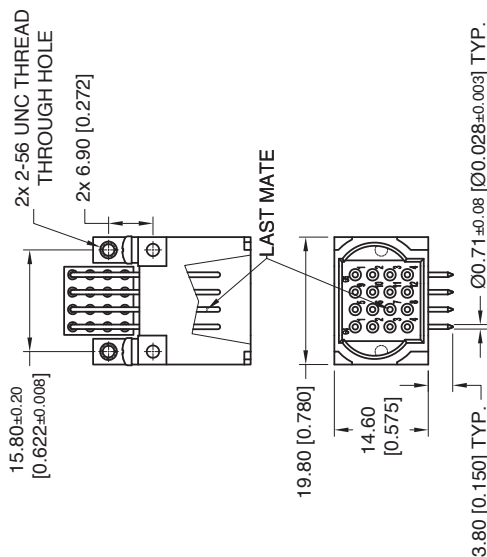
DRAWING NO.	ORDERING PART NUMBER	REMARKS																							
ASK22140-1	SP7KH4F0BS0A1-PA778	-																							
ASK22140-2	SP7KH4F0BS0A1/AA-PA778	RoHS COMPLIANT PER RoHS DIRECTIVE 2002/95/EC OF 27 JAN 2006																							
POSITRONIC ASIA PTE. LTD Email: singapore@connectpositronic.com For more information, please visit website at www.connectpositronic.com																									
<table><tr><td rowspan="2"></td><td>SERIES</td><td>SCALE</td><td>DRAWN</td><td>CHECKED</td><td>APPROV</td></tr><tr><td>SP</td><td>NTS</td><td>LP</td><td>EH</td><td>KN</td></tr><tr><td colspan="2">GENERAL TOL. LINEAR : ±0.25 [0.010] ANGULAR : ±3°</td><td colspan="4">TITLE Physics xTCA Zone 3 Power Female right angle solder front board connect</td></tr><tr><td colspan="2">UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS (INCHES)</td><td colspan="2">DATE 03 SEP 09</td><td colspan="2">SHEET 1 OF 1</td></tr></table>				SERIES	SCALE	DRAWN	CHECKED	APPROV	SP	NTS	LP	EH	KN	GENERAL TOL. LINEAR : ±0.25 [0.010] ANGULAR : ±3°		TITLE Physics xTCA Zone 3 Power Female right angle solder front board connect				UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS (INCHES)		DATE 03 SEP 09		SHEET 1 OF 1	
	SERIES	SCALE		DRAWN	CHECKED	APPROV																			
	SP	NTS	LP	EH	KN																				
GENERAL TOL. LINEAR : ±0.25 [0.010] ANGULAR : ±3°		TITLE Physics xTCA Zone 3 Power Female right angle solder front board connect																							
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS (INCHES)		DATE 03 SEP 09		SHEET 1 OF 1																					
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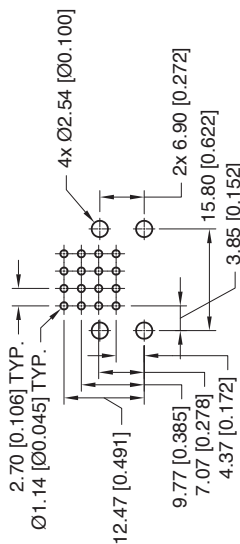


ASK22141-* SHEET 1 OF 1

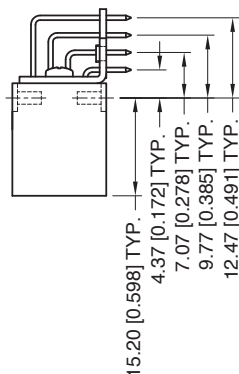
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CONTACT HOLES PATTERN



SIZE 22 CONTACTS



DRAWING NO.	ORDERING PART NUMBER	REMARKS
ASK22141-1	SP7KH4M0BS0A1-PA778	-
ASK22141-2	SP7KH4M0BS0A1/AA-PA778	RoHS COMPLIANT PER RoHS DIRECTIVE 2002/95/EC OF 27 JAN 2001



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SERIES	SCALE	DRAWN	CHECKED	APPROV
SP	NTS	LP	EH	KV
TITLE	DATE	DRAWING NUMBER	REV.	REV.
Physics xTCA Zone 3 Power	02 Sep 09	ASK22141-*	SHEET 1	OF 1
Male right angle solder RTM connector				

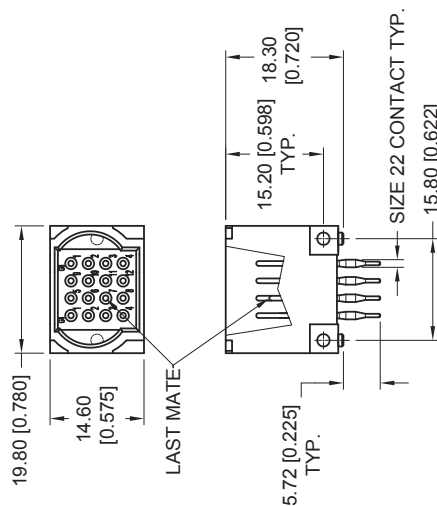
NOTES:

- 1) MATERIALS AND FINISHES
INSULATOR: GLASS-FILLED POLYESTER, UL 94V-0. COLOR: BLUE.
CONTACTS: PRECISION MACHINED COPPER ALLOY WITH GOLD OVER NICKEL PLATE.
ANGLE BRACKETS: BRASS, TIN PLATE OVER NICKEL.
SCREWS: STEEL, ZINC PLATE WITH CHROMATE SEAL.
- 2) THIS MOS ALLOWS THE CONNECTOR TO BE PROVIDED WITH 3.50mm MATING LENGTH AT POSITION 7 OF MODULE G4. 5.00mm MATING LENGTH AT ALL OTHER POSITIONS.
- 3) DETAILED PRODUCT, ELECTRICAL, AND MECHANICAL INFORMATION IS AVAILABLE IN THE LATEST STANDARD SCORPION PRODUCT PUBLICATION. VISIT CONNECTPOSITRONIC.COM/PRODUCTS/146/SCORPION OR CONNECTPOSITRONIC.COM.

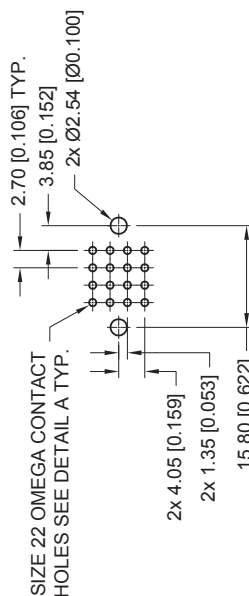


ASK22139-* SHEET 1 OF 1

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CONTACT HOLES PATTERN



NOTES:

- 1) MATERIALS AND FINISHES
INSULATOR: GLASS-FILLED POLYESTER, UL 94V-0. COLOR: BLUE.
CONTACTS: PRECISION MACHINED COPPER ALLOY WITH GOLD OVER NICKEL PLATE.
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DATE	REV	REVISION RECORD	DRN	CKD	APP
09 Jun 10	D	PA ECO 10123	LP	RG	NK
23 Dec 10	E	PA ECO 10273	LP	EH	NK
28 Feb 11	F	PA ECO 11030	LP	EH	NK

DRAWING NO.	ORDERING PART NUMBER	REMARKS
ASK22139-1	SP7KH93M000A1-PA778	-
ASK22139-2	SP7KH93M000A1/AA-PA778	RoHS COMPLIANT PER RoHS DIRECTIVE 2002/95/EC OF 27 JAN 200
POSITRONIC ASIA PTE. LTD Email: singapore@connectpositronic.com For more information, please visit website at www.connectpositronic.com		
	SERIES SP	SCALE NTS
GENERAL TOL. LINEAR : ±0.25 [0.010] ANGULAR : ±°	NTS	DRAWN LP
UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS (INCHES)	Physics xTCA Zone 3 Power Male press fit backplane power connector	CHECKED APPROV EH KV
DATE 02 Sep 09	DRAWING NUMBER ASK22139-*	SHEET 1 OF 1

