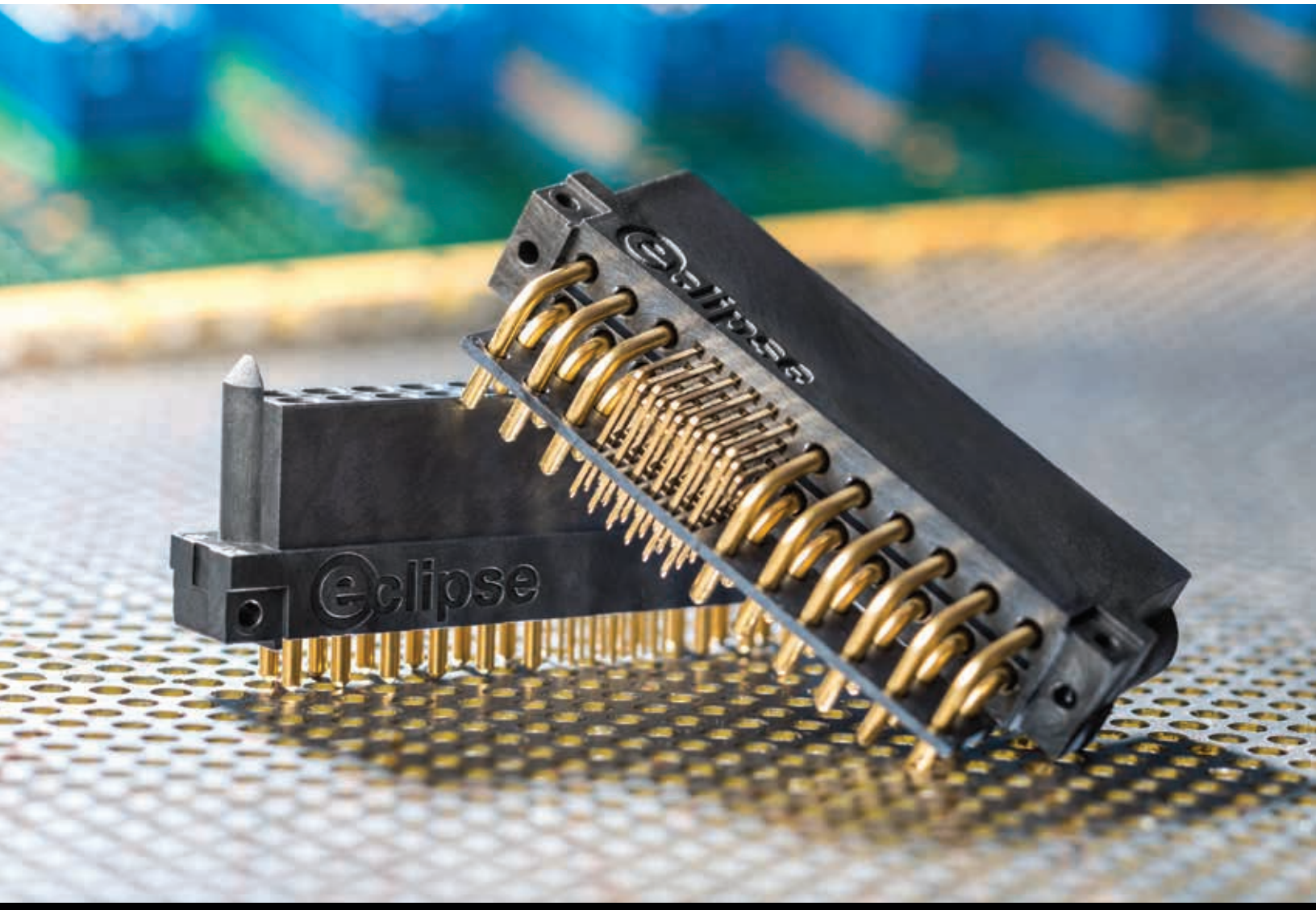
eclipse

HYBRID POWER & SIGNAL

- For use in power supplies, server equipment and related hardware
- Machined power contacts paired with formed signals offer very high performance-to-cost ratio



Positronic®

THE SCIENCE OF **CERTAINTY**™

M06U-NC

OVERVIEW

Positronic power connectors are widely known to offer the highest degree of linear current density in the marketplace. That is achieved by 1) selecting copper alloys low in resistance; 2) by the precision machining process; and 3) by the female contact geometry that provides excellent normal force against the male contact. Although the machining process is fundamental to the Eclipse's power density, machining may not be required for the signal contact cluster. In some applications, this results in unnecessary cost escalation without the added value to the application. The Eclipse is the solution. It offers machined power contacts for world-class current density paired with a cost-effective signal contact cluster. Retain the performance without the cost implications.

TECH SPECS

PART NUMBER PREFIX	EC
PERFORMANCE LEVEL	Industrial
CONTACT STYLE	Fixed
FEMALE CONTACT DESIGN	LSA (power) Formed (signal)
MATING CYCLES	250
CONTACT TERMINATIONS	Straight solder Right angle solder
CONTACT RETENTION	Signal - 4.9N [1.1 lbs] min Size 16 - 31.1N [7 lbs] min Size 8 - 66.7N [15 lbs] min
RETENTION MECHANISM	Press-in
PROOF VOLTAGE (RMS)	Signal - 1000 V Size 16 - 1750 V Size 8 - 2200 V
WORKING VOLTAGE (RMS)	Signal - 300 V Size 16 - 600 V Size 8 - 700 V
SEQUENTIAL MATING	Contact Technical Sales
CLEARANCE AND CREEPAGE DISTANCE (MINIMUM)	1.00mm [0.039 inch]
INSULATOR MATERIAL	LCP (halogen-free)
INSULATOR COLOR	Black
INSULATOR CONSTRUCTION	Monoblock
INSULATION RESISTANCE	5G Ω (min)
POLARIZATION	Insulator
BLIND MATING SYSTEM	Integral guide feature allows for misalignment up to 1.70mm [0.067 inch]
TEMPERATURE RANGE	-55°C to 125°C
RESISTANCE TO WAVE SOLDER HEAT	260°C for 10 seconds
RoHS COMPLIANCE	All parts are RoHS 5/6 compliant (< 4% lead). Select parts are RoHS 6/6 compliant (< 0.1% lead).
QUALIFICATIONS*1	UL (in process)

*1 The listed qualification may not apply to all products within the family. Safety agency certifications not listed here may be pending at the time of printing. Contact Technical Sales for current status.

CONTACT LAYOUTS

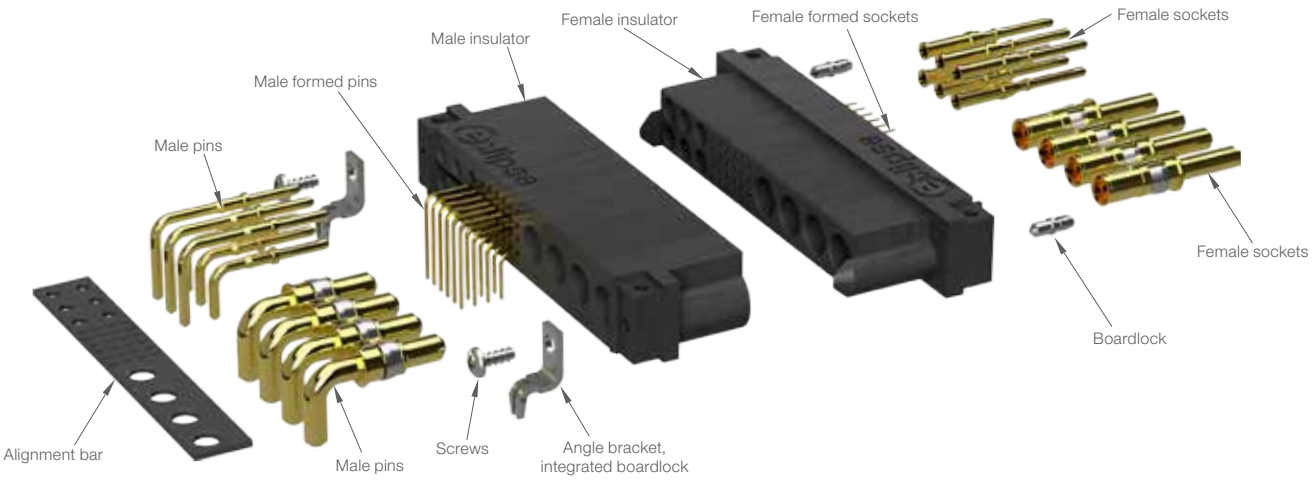
Face view of female



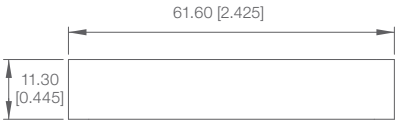
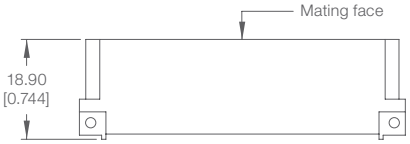
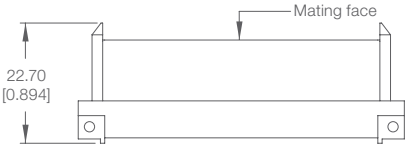
LAYOUT	42	34	30
Contacts			
#8		4	6
#16	18	6	
Signal	24	24	24
Contact Current Rating (A) at 30°C Temperature Rise			
#8 Standard		TBD	25
#8 High Conductivity HC		TBD	31.5
#16 Standard	11.5	TBD	
#16 High Conductivity HC	20	TBD	
Signal	1	1	1
Contact Current Rating (A) per UL1977			
#8 Standard		TBD	50
#8 High Conductivity HC		TBD	65
#16 Standard	22.5	TBD	
#16 High Conductivity HC	36	TBD	
Signal	1	1	1
Contact Resistance (mΩ)			
#8 Standard		TBD	0.6
#8 High Conductivity HC		TBD	0.4
#16 Standard	3	TBD	
#16 High Conductivity HC	1	TBD	
Signal	40	40	40
Dimensions			
Width (mm)	61.60		
Height (mm)	11.30		
Availability	Summer 2017	Contact Technical Sales	Contact Technical Sales

HC High conductivity

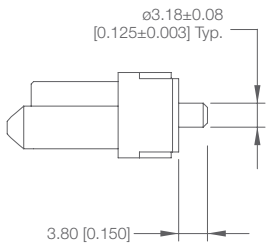
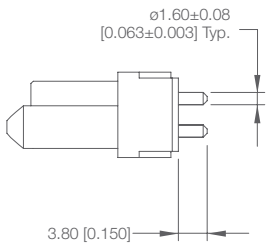
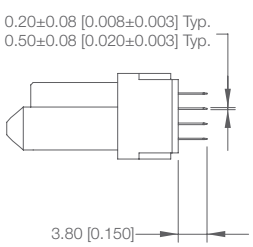
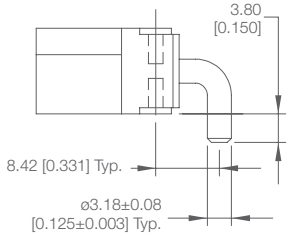
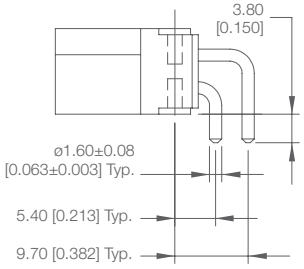
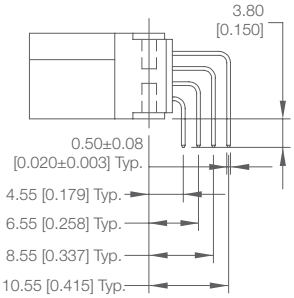
EXPLODED VIEW



INSULATOR DIMENSIONS

FACE VIEW	MALE TOP VIEW	FEMALE TOP VIEW
		

CONTACT TERMINATIONS

	SIZE 8	SIZE 16	SIGNAL
Straight solder			
Right angle solder			

Notes

1 For clarification purposes, select mechanical details have been removed.

CREATE A PART

EC | 42 | - | M | B | 40 | A | - | XX | B3

Series

EC Eclipse

Layout

42 (18) #16, (24) signal
34 (4) #8, (6) #16, (24) signal
30 (6) #8, (24) signal

Contact Gender

M Male pin
F Female socket

Body Style

B PCB Mount

Termination

30 Straight solder*1
31 Straight solder, high conductivity alloy on #16 and larger*1
40 Right angle solder*2
41 Right angle solder, high conductivity alloy on #16 and larger*2

*1 For female gender only
*2 For male gender only

Contact Plating

A Power Contacts: Gold flash over 30µ Ni (nominal) over Cu
Signal Contacts: Gold flash over 50µ Ni (nominal)

C Power Contacts: 30µ Au (min) over 50µ Ni (nominal) over Cu
Signal Contacts: 30µ Au (min) over 50µ Ni (nominal)

Mating Side Accessories

XX None

Termination Side Accessories

XX None
L1 Boardlocks
B1 Angle brackets
B3 Angle brackets, integrated boardlocks

Notes

1 All EC Series parts are RoHS 5/6 compliant (< 4% lead). Select parts are available RoHS 6/6 compliant (< 0.1% lead). Contact Technical Sales for more information.

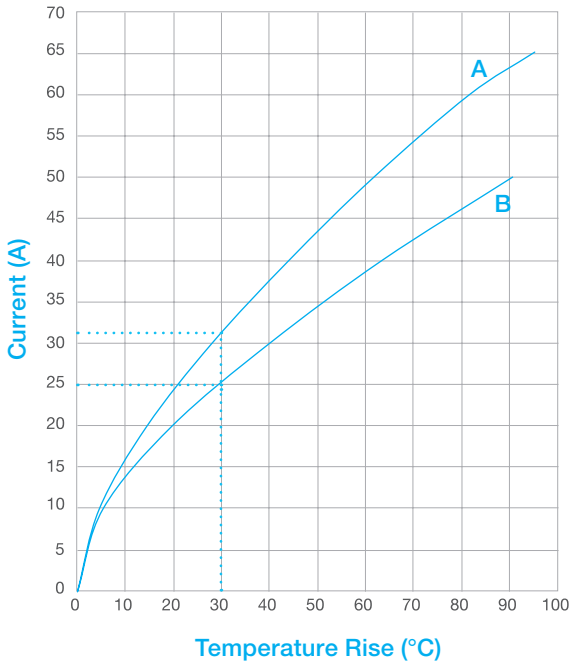
2 First mate ground and last mate enable available upon request. Contact Technical Sales.

FOR MODIFICATIONS TO STANDARD PARTS, PLEASE CONTACT TECHNICAL SALES.

TEMPERATURE RISE CURVES

Tested per IEC Publication 512-3, Test 5a

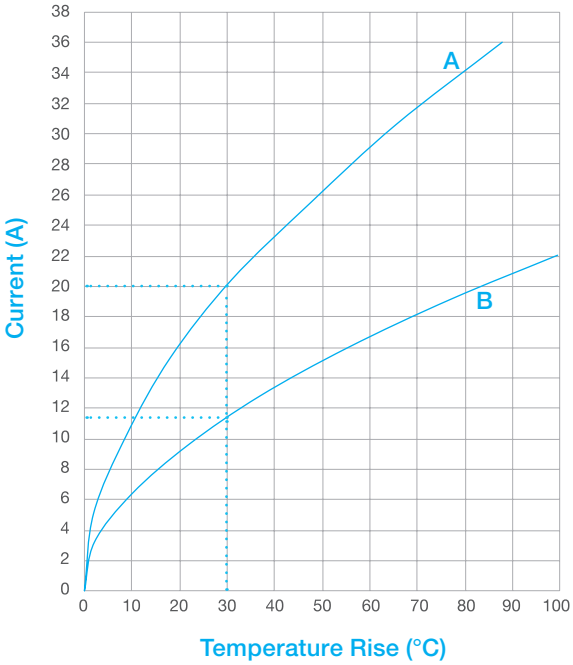
SIZE 8



A Tested with (6) #8 contacts, high conductivity

B Tested with (6) #8 contacts, standard conductivity

SIZE 16



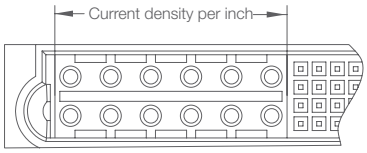
A Tested with (18) #16 contacts, high conductivity

B Tested with (18) #16 contacts, standard conductivity

Notes

1 All (24) signal contacts were charged with 1.0 amps continuous for the duration of the test.

LINEAR CURRENT DENSITY



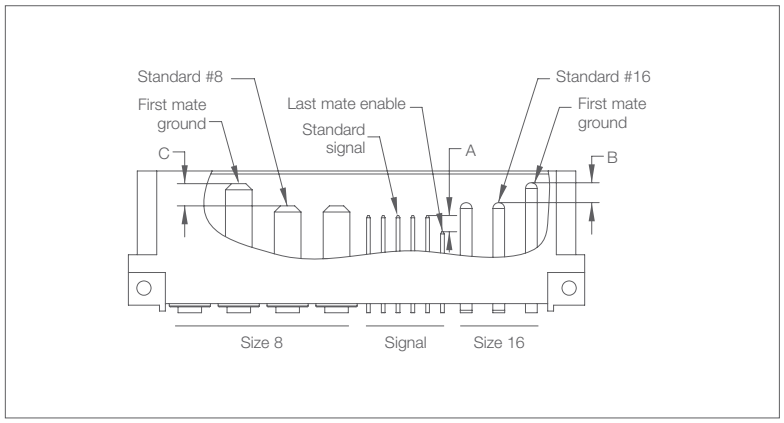
Layout 42: Male connector (Front View)

At a 30°C temperature rise, linear current density reaches 240A per inch.

At the maximum operating temperature, it increases to 430A per inch.

SEQUENTIAL MATING SYSTEM

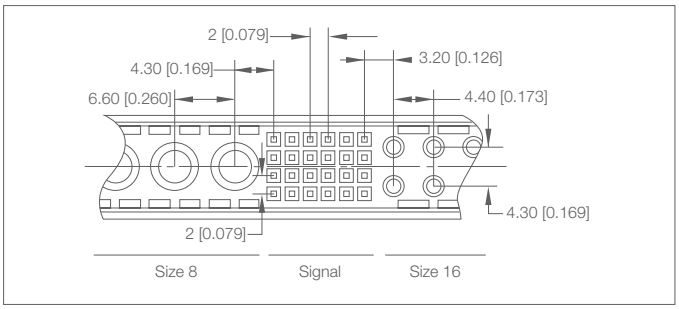
For availability, contact Technical Sales

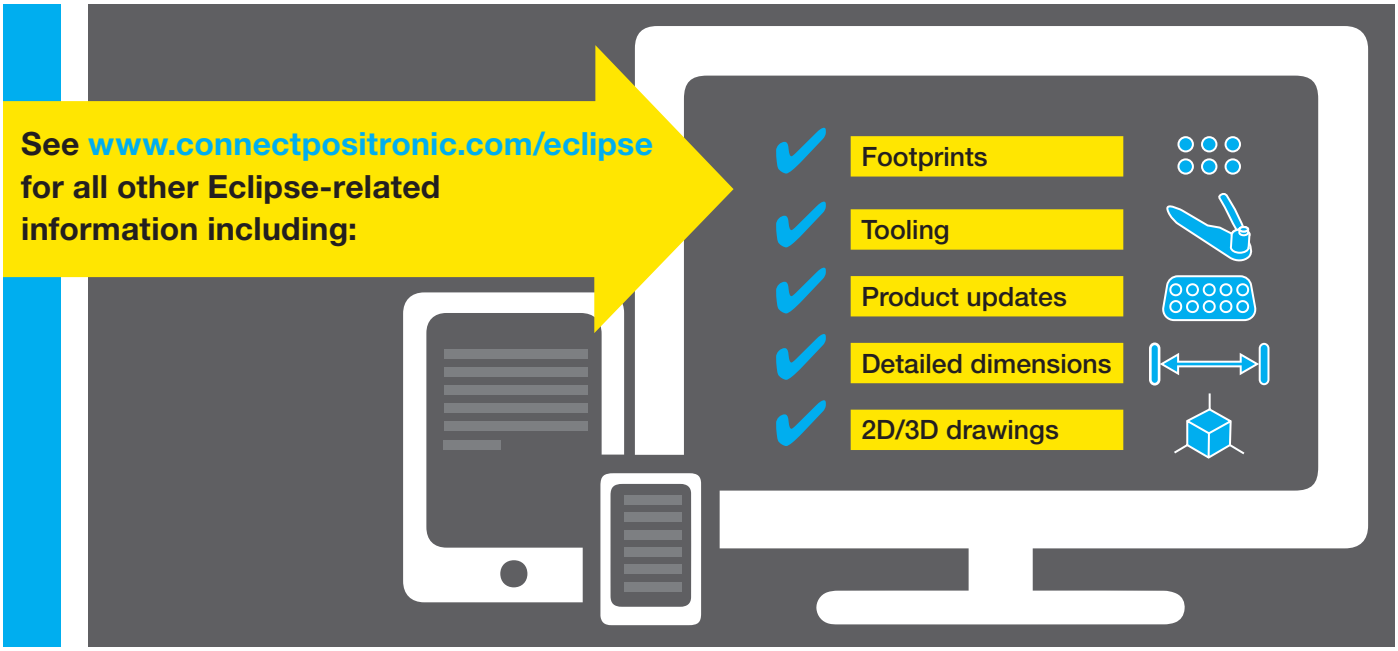


DIMENSION	VALUE
A	2.20 [0.087]
B	2.69 [0.106]
C	TBD

SIZE	STANDARD WIPE LENGTH
#8	4.80 [0.189]
#16	4.82 [0.190]
Signal	4.70 [0.185]

CONTACT PITCH





All dimensional tolerances are ± 0.38 [0.015], unless otherwise specified. Dimensions are in millimeter [inches]. All dimensions are subject to change. Product pictures may not be identical in appearance to actual production parts.

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Products described within this catalog may be protected by one or more of the following US patents:

#4,9000,261* #5,255,580 #5,329,697
#7,115,002 #8,944,697 #9,304,263

*Patented in Canada, 1992 Other patents pending

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