



POWER | PROTECT | CONNECT

DOCUMENT / PART NO.: V890-1AX1-A1

TITLE : PRODUCT SPECIFICATION

ISSUE	DESCRIPTION OF CHANGE										REVIEWED BY	APPROVED BY					ECN#
A	FIRST ISSUE										BILL CHEN	SHUN LEUNG 2007-07-30					
B	ADD THREE PCB FOOTPRINT DIMENSIONS ON PAGE 4										BILL CHEN	SHUN LEUNG 2008-03-31					RD2080054
C	CHANGE JACK PORT LOGO FROM "BEL" TO "BEL STEWART"										ZX HUANG	SHUN LEUNG 2008-06-21					RD2080127
D	ADD PATENTED INFORMATION AND UPDATE ROHS DESCRIPTION & OTHER GENERAL REQUIREMENT										ANTON LIAO	LEUNG WAI SHUN 2012-08-15					RD2120170
E	UPDATE THE DRAWING FORM AND CHANGE THE BEL LOGO ON PRODUCT										ANTON LIAO	LEUNG WAI SHUN 2015-08-26					RD2150155
F	UPDATE PATENT NUMBER AND GENERAL REQUIREMENT										ANTON LIAO	LEUNG WAI SHUN 2017-04-22					RD2170060
G	MOVE THE UL LOGO FROM FRONT VIEW TO TOP VIEW										TONY YUAN						RD2250045
PAGE	1	2	3	4	5												
REV.	G	G	G	G	G												
PAGE																	
REV.																	

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LED1 POLARITY			LED2 POLARITY		
PIN 14	PIN 13	COLOR	PIN 12	PIN 11	COLOR
-	+	YELLOW	-	+	GREEN

RoHS



ELECTRICAL CHARACTERISTICS @ 25°C

URNS RATIO

TP1	1CT : 1CT ±3%
TP2	1CT : 1CT ±3%
TP3	1CT : 1CT ±3%
TP4	1CT : 1CT ±3%

CL @ 100kHz/100mVRMS

8mA DC BIAS	350µH MIN.
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INS. LOSS

1MHz TO 100MHz	-1.1 dB MAX
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RET. LOSS (MIN) @ 100 OHMS +/-15%

1MHz-40MHz	-18 dB
40MHz-100MHz	-12+20LOG(F/80MHz) dB

CM TO CM REJ

1MHz - 100MHz	-20 dB MIN
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CROSSTALK (TX - RX)

1MHz - 30MHz	-40 dB MIN
30MHz - 60MHz	-30 dB MIN

HIPOT (Isolation Voltage): 1500 Vrms

100% OF PRODUCTION TESTED TO COMPLY WITH IEEE 802.3 ISOLATION REQUIREMENTS.

LED 1

VF (FORWARD VOLTAGE) IF=20mA YELLOW 2.1V TYP.

AD (DOMINANT WAVELENGTH) IF=20mA YELLOW 590nm TYP.

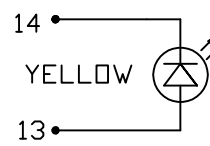
LED 2

VF (FORWARD VOLTAGE) IF=20mA GREEN 2.2V TYP.

AD (DOMINANT WAVELENGTH) IF=20mA GREEN 570nm TYP.

OPERATING TEMPERATURE 0°C TO +70°C

LED 1



TRD1+ 5

TRD1- 9

TRD2+ 4

TRD2- 8

TRD3+ 3

TRD3- 7

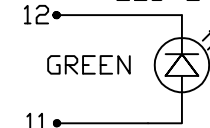
TRD4+ 2

TRD4- 6

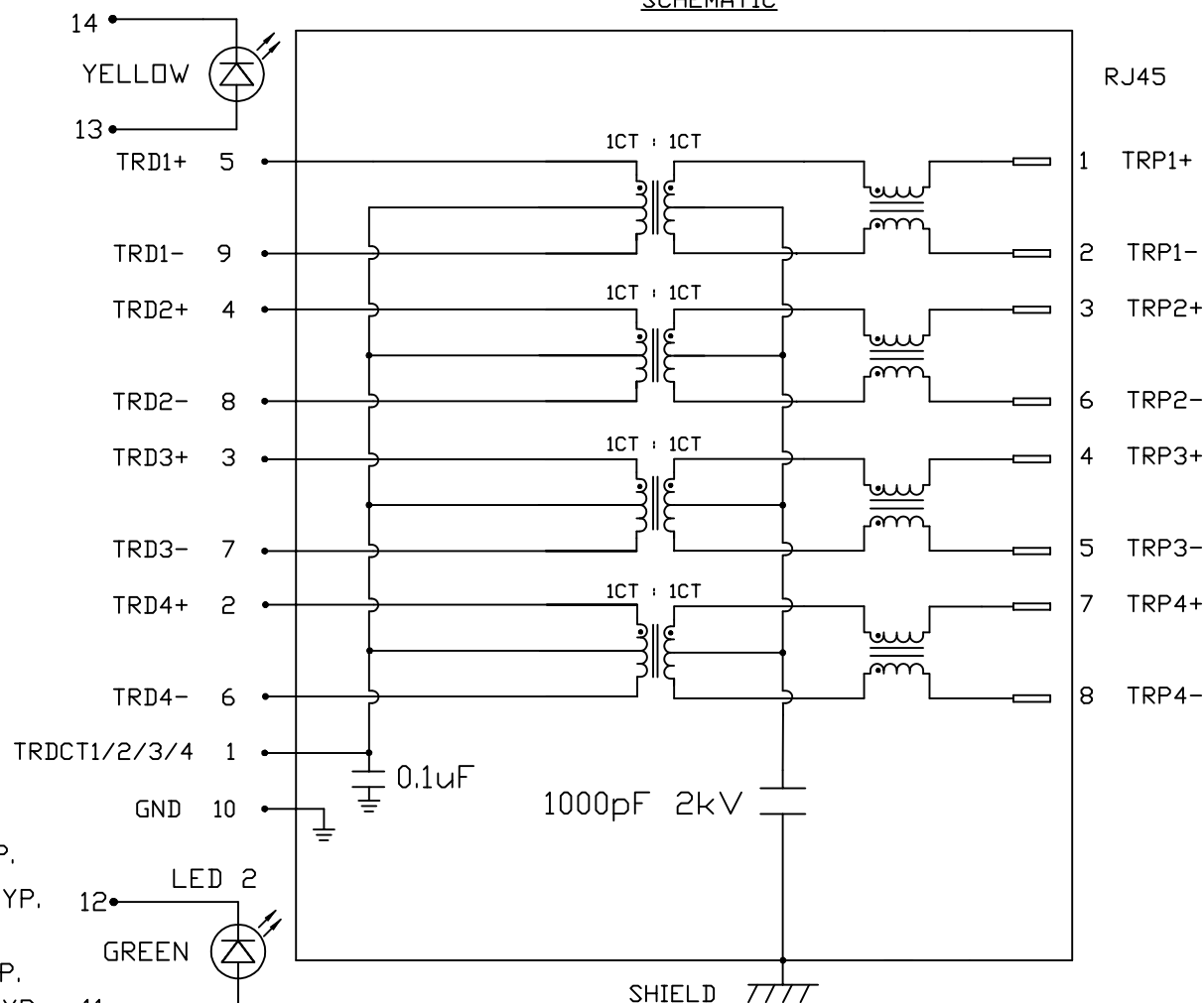
TRDCT1/2/3/4 1

GND 10

LED 2



SCHEMATIC



RJ45

1 TRP1+

2 TRP1-

3 TRP2+

6 TRP2-

4 TRP3+

5 TRP3-

7 TRP4+

8 TRP4-

REV. : G

PAGE : 2

ORIGINATED BY

BILL LIU

DATE 2025-09-15

DRAWN BY

FRANK LIU

DATE 2025-09-15

TITLE

gigabit MagJack®
(8 core, Vertical)
PATENTED

PART NO. / DRAWING NO.

V890-1AX1-A1

FILE NAME

V890-1AX1-A1_G.DWG

STANDARD DIM.

TOL. IN INCH

.X

.XX

.XXX

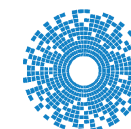
[] METRIC DIM.

AS REF.

UNIT : INCH [mm]

SCALE : N/A

SIZE : A4

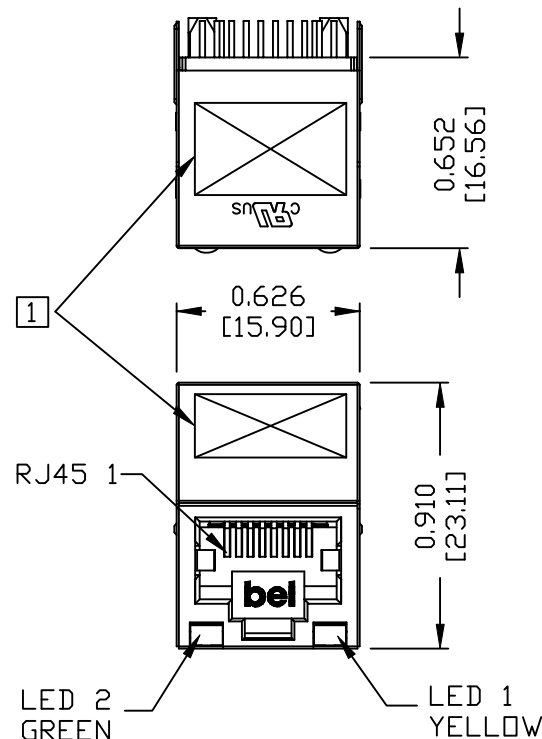
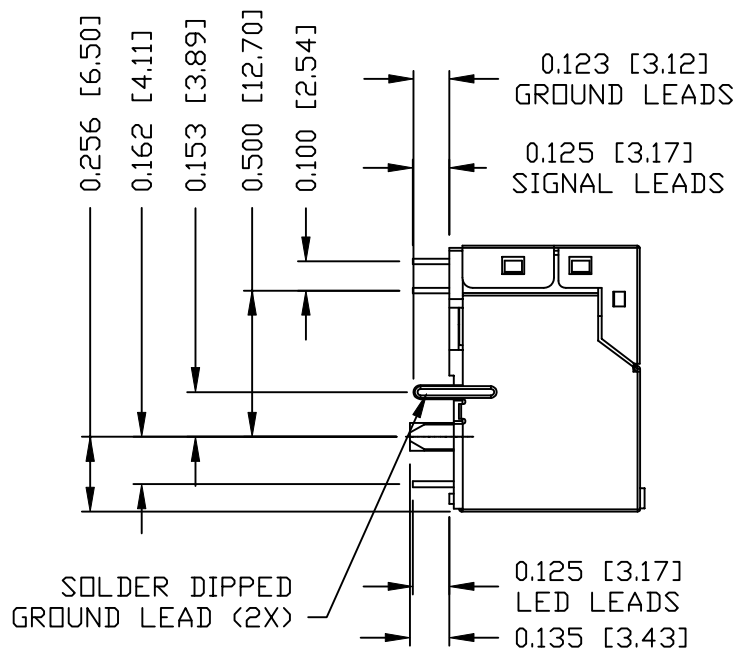


bel MAGNETIC SOLUTIONS
a bel group

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MECHANICAL SPECIFICATION

RoHS



NOTES:

PLASTIC HOUSING: THERMOPLASTIC PBT, BLACK
FLAMMABILITY RATING UL 94V-0
CONTACTS: 30 MICRO-INCH HARD GOLD PLATING OR EQUIVALENT.
OUTPUT PINS: TIN-COATED COPPER WIRE, DIA 0.018 INCH.
100 MICRO-INCH MIN MATTE TIN. PINS ARE SOLDER DIPPED.
METAL SHIELD: NICKEL PLATED ON COPPER ALLOY.
(ALL GROUND LEADS ARE SOLDER DIPPED)
JACK CAVITY CONFORMS TO FCC RULES AND REGULATIONS.

[1] MARK PART WITH MFG LOGO, MFG NAME, PART NUMBER,
DATE CODE AND PATENTED.

2. THE PRODUCT IS RoHS COMPLIANT.

c us UL RECOGNIZED - FILE #E196366 AND E169987.

3. THE PRODUCT IS PATENT PRODUCT, THE PATENT NUMBER IS U.S. PAT. 6,840,817.

4. THE PRODUCT IS RECOMMENDED FOR WAVE SOLDERING PROCESS, PEAK TEMPERATURE 260°C MAX. AND 10 SECONDS MAX..

ORIGINATED BY
TONY YUAN
DATE 2025-09-15

TITLE
gigabit MagJack®
(8 core, Vertical)
PATENTED

DRAWN BY
JARRY YE
DATE 2025-09-15

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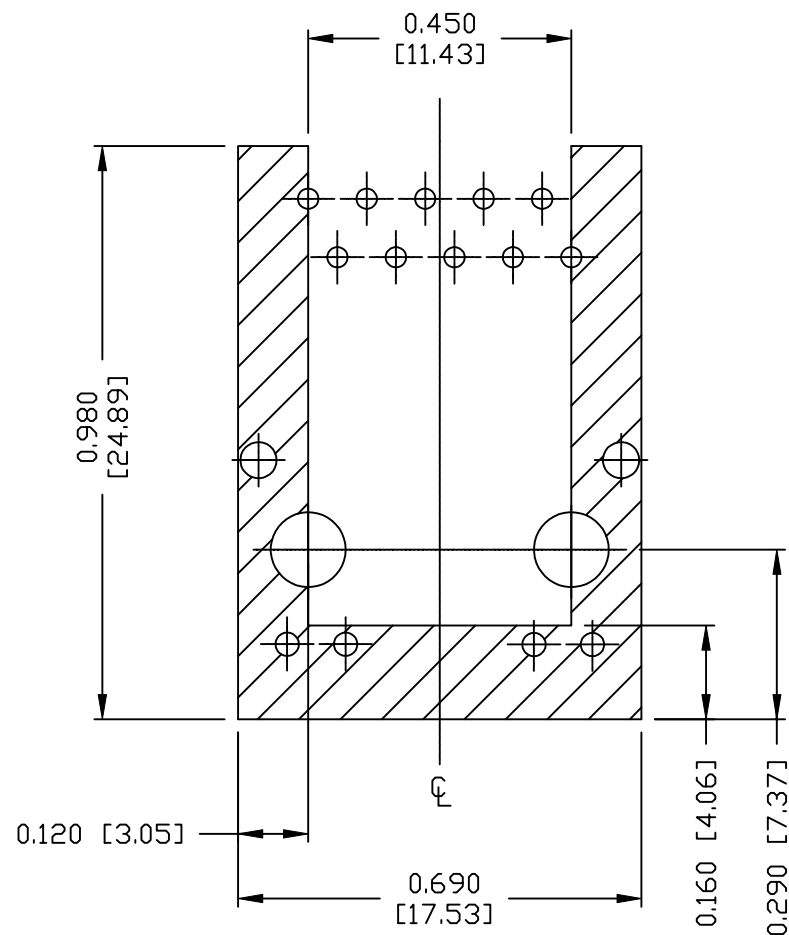
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RoHS



NOTES

THE SHADED AREA ON THE CUSTOMER BOARD ARE
 RECOMMENDED TO BE CLEAR OFF ANY VIA HOLE OR
 COMPONENT PAD.

ORIGINATED BY
 TONY YUAN
 DATE 2025-09-15

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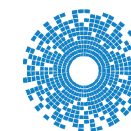
.X
 .XX
 .XXX ±0.004

[] METRIC DIM.
 AS REF.

UNIT : INCH [mm]
 SCALE : N/A
 SIZE : A4

REV. : G

PAGE : 4



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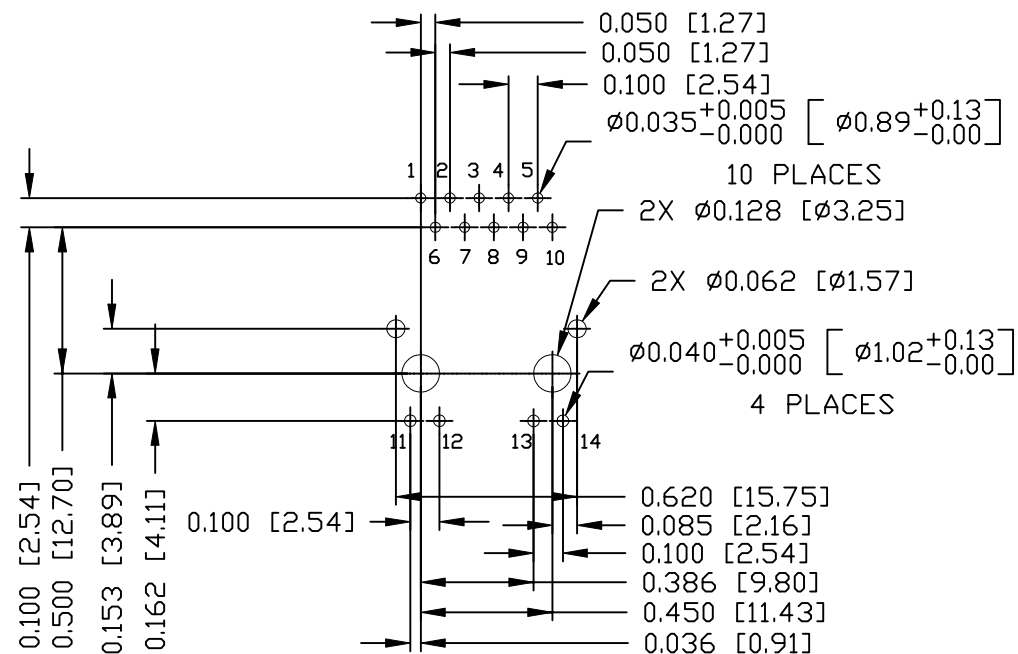
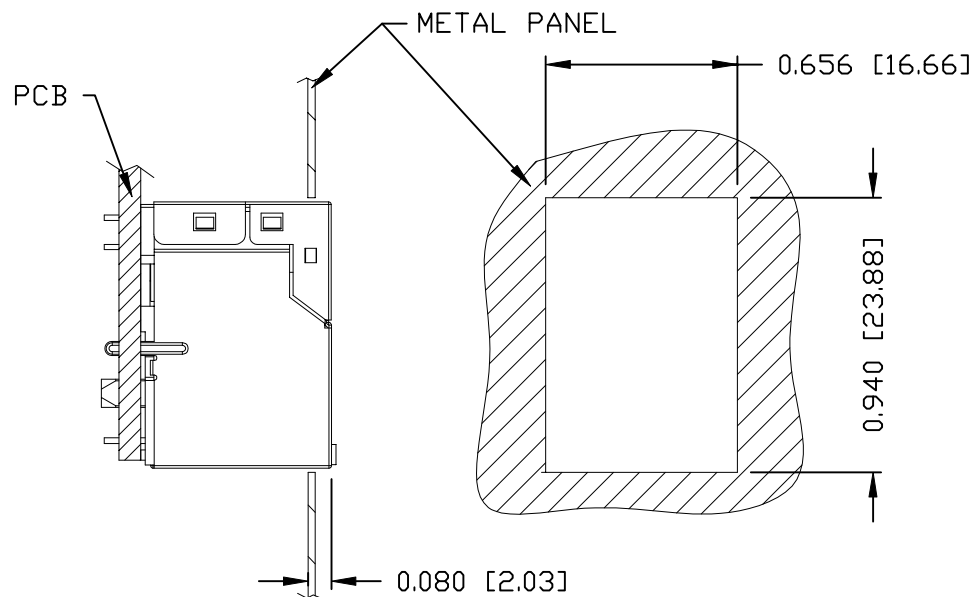
RoHS



RECOMMENDED PCB FOOTPRINT

COMPONENT SIDE VIEW

SUGGESTED PANEL OPENING



NOTES:

THE DISTANCE OF PANEL INSIDE SURFACE RELATIVE TO FRONT SURFACE OF PART IS ONLY A SUGGESTION.
IN CASE THIS DISTANCE IS DIFFERENT, THE REQUIRED PANEL OPENING DIMENSIONS CHANGE ACCORDINGLY.

PACKING INFORMATION

PACKING TRAY : 0200-9999-I3(TOP)

0200-9999-I4(BOTTOM)

PACKING QUANTITY : 55 PCS FINISHED GOODS PER TRAY
9 TRAYS (495 PCS FINISHED GOODS)
PER CARTON BOX

NOTER: CARDBOARDS ARE PLACED BETWEEN LAYERS
OF PACKING TRAY INSIDE CARTON BOX
(INCLUDE THE UPPERMOST AND LOWERMOST TRAY)

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