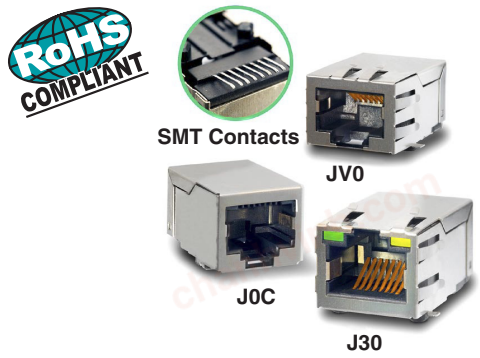
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PulseJack™
Surface Mount 1x1

Description:

100 Base-TX (Fast Ethernet) surface mount RJ45 single port (1x1) Tab-UP/DOWN with or without LEDS Integrated Magnetics Connector, designed to support applications such as: Set Top Box and Network Interface Cars (NIC).



Features and Benefits:

- *RoHS peak wave reflow temperature rating 245°C*
- *J0C SMT product, reduced size and low cost alternative to JV series*
- *Meets IEEE 802.3 specification*
- *High performance for maximum EMI suppression*
- *Minimum 1500Vrms isolation per IEEE 802.3 requirement*

Electrical Specifications @ 25°C - Operating Temperature 0°C to +70°C

RoHS Compliant Part No.	Turns Ratios		Tab Option Up/Down	LEDs[1] L/R	BST Circuit	EMI Finger	Insertion Loss (dB MAX)	Return Loss (dB MIN) 100Ω (±15Ω)			Crosstalk (dB MIN)			Common Mode Rejection (dB MIN)		Hipot (Vrms MIN)
	TX	RX					1-65 MHz	1-10 MHz	30 MHz	60-80 MHz	1-10 MHz	30-60 MHz	60-100 MHz	1-50 MHz	50-130 MHz	@ 60 Hz 1 MIN
J0C-0003NL	1CT:1	1CT:1	Down	No	No	No	-1.0	-18	-14	-10	-35	-35	-30	-20	-20	1500
J0C-0004NL	1CT:1	1CT:1	Down	No	No	Yes	-1.0	-18	-14	-10	-35	-35	-30	-20	-20	1500
J0C-0005NL	1CT:1	1CT:1	Down	No	Yes	No	-1.0	-18	-14	-10	-35	-35	-30	-20	-20	1500
J0C-0006NL	1CT:1	1CT:1	Down	No	Yes	Yes	-1.0	-18	-14	-10	-35	-35	-30	-20	-20	1500
JV006I21NL	1CT:1	1CT:1	Down	No	No	Yes	-1.0	-20	-16	-12	-40	-35	-30	-30	-20	1500
JV011I21NL	1CT:1	1CT:1	Down	No	Yes	Yes	-1.0	-20	-16	-12	-40	-35	-30	-30	-20	1500
JV026I21NL	1CTS:1	1CT:1	Down	No	Yes	Yes	-1.0	-20	-16	-12	-40	-35	-30	-30	-20	1500
J3011G21DNL	1CT:1	1CT:1	Up	G/Y	Yes	Yes	-1.0	-20	-16	-12	-40	-35	-30	-30	-20	1500
J3026G01DNL	1CTS:1	1CT:1	Up	G/Y	Yes	No	-1.0	-20	-16	-12	-40	-35	-30	-30	-20	1500
J3026G21DNL	1CTS:1	1CT:1	Up	G/Y	Yes	Yes	-1.0	-20	-16	-12	-40	-35	-30	-30	-20	1500
JX30-0005NL[3]	1CT:1	1CT:1	Up	G/Y	Yes	Yes	-1.0	-20	-16	-12	-40	-35	-30	-30	-20	1500

Notes:

1. LEDs Left/Right: **G** = green; **Y** = yellow.
2. Add suffix "**T**" for Tape & Reel option (e.g. J0C-0004**T**).
3. Extended Temperature: -40° to 85° C

RJ45 Durability Test Rating

Part Number	Mating Force (MAX)	Unmating Force (MAX)	Durability	Plug to Jack Retention (MIN)
J0C/JV/J3 Series	5 lbs./2.268 kgs.	5 lbs./2.268 kgs.	750 Insertions	20 lbs./9.072 kgs.

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PulseJack™
Surface Mount 1x1

RJ45 Material Specification								
Part Number	Shield		Contact			Housing		MSL[2] Rating
	Material	Finish	Material	Plating Area[3]	Solder Area[4]	Material	Specification	
J0C/JV/J3 Series	Brass	20-40µ inches thick nickel over Brass	Phosphor Bronze	(X)µ inches gold over 30-80µ inches nickel	Tin matte finish	High Temp. Thermoplastic	UL 94 V-0	1

Notes:

1. Connector dimensions comply with FCC part 68 dimension requirements.

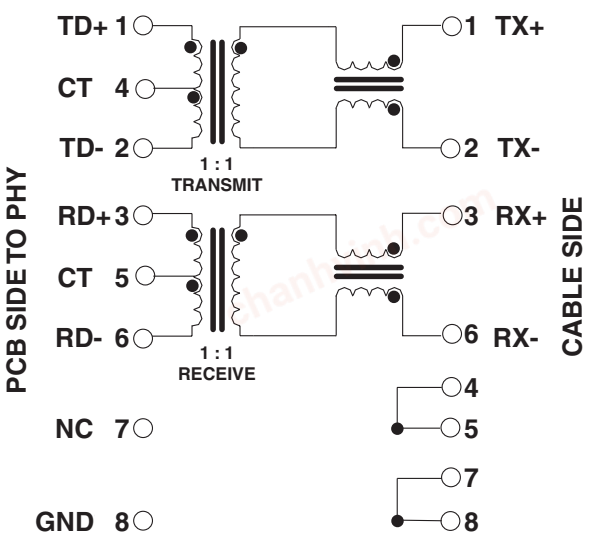
2. MSL = Moisture Sensitivity Level rating: 1-5 (highest rating = 1, lowest rating = 5

3. (X) = 30 inches gold for JV and J30 platforms and 15 inches gold for J0C platform.

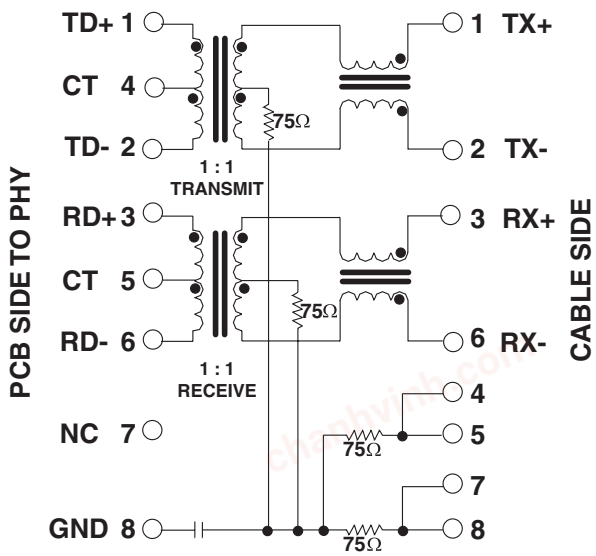
4. NL parts are tin matte finish over nickel.

J0C Platform Schematics

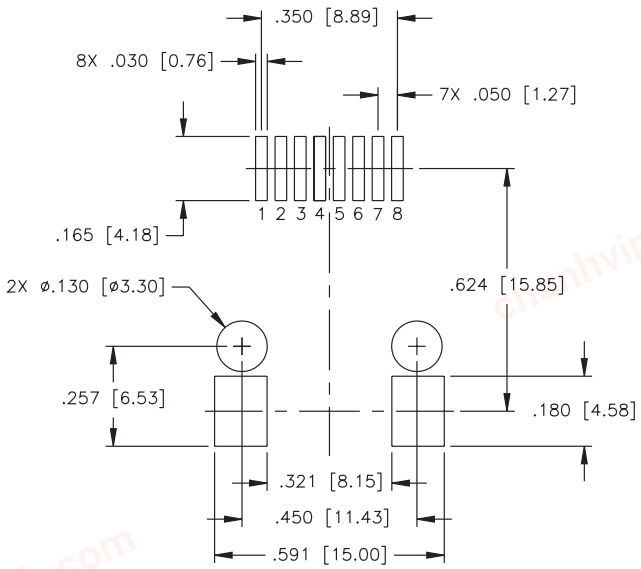
J0C-0003NL/J0C-0004NL



J0C-0005NL/J0C-0006NL



NOTE: Connect GND to PCB ground.



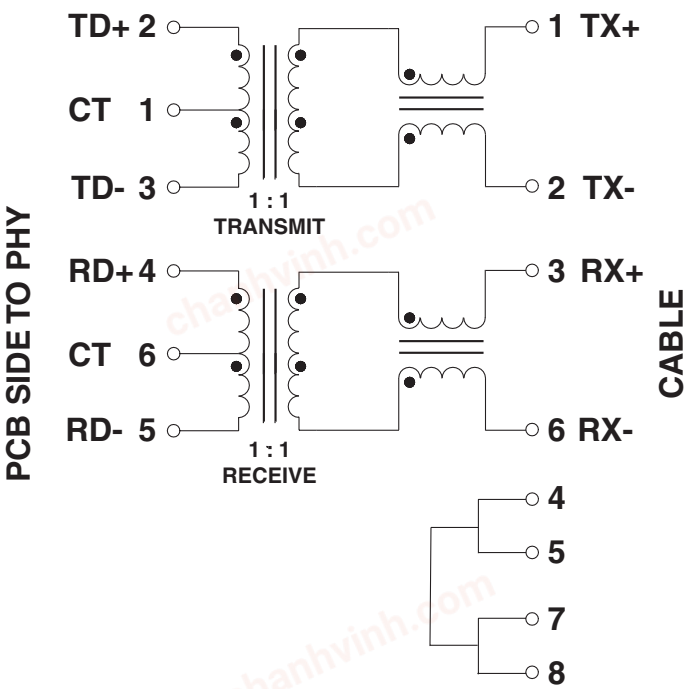
SUGGESTED FOOTPRINT (COMPONENT SIDE SHOWN)
DIMENSIONAL TOLERANCE: (UNLESS OTHERWISE SPECIFIED)
.XXX ±.003 [X.XX ±0.08]

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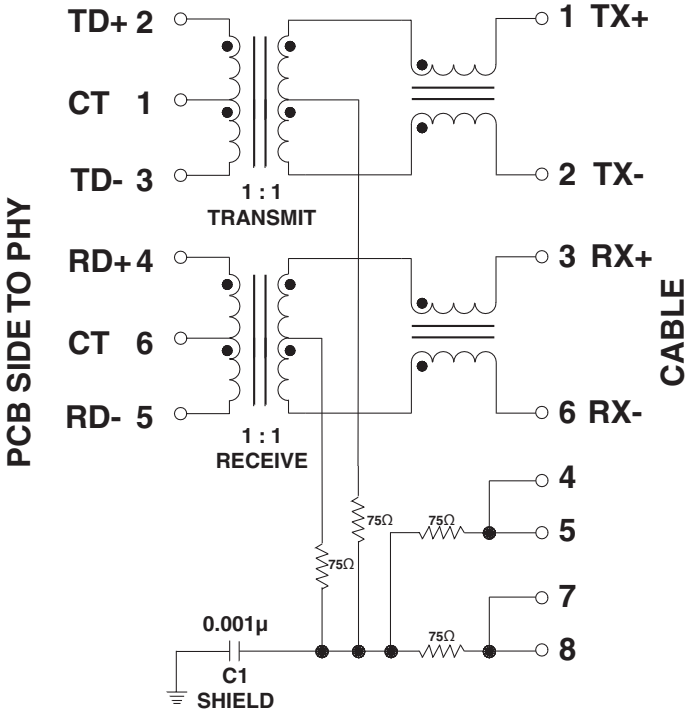
PulseJack™
Surface Mount 1x1

JV Platform Schematics

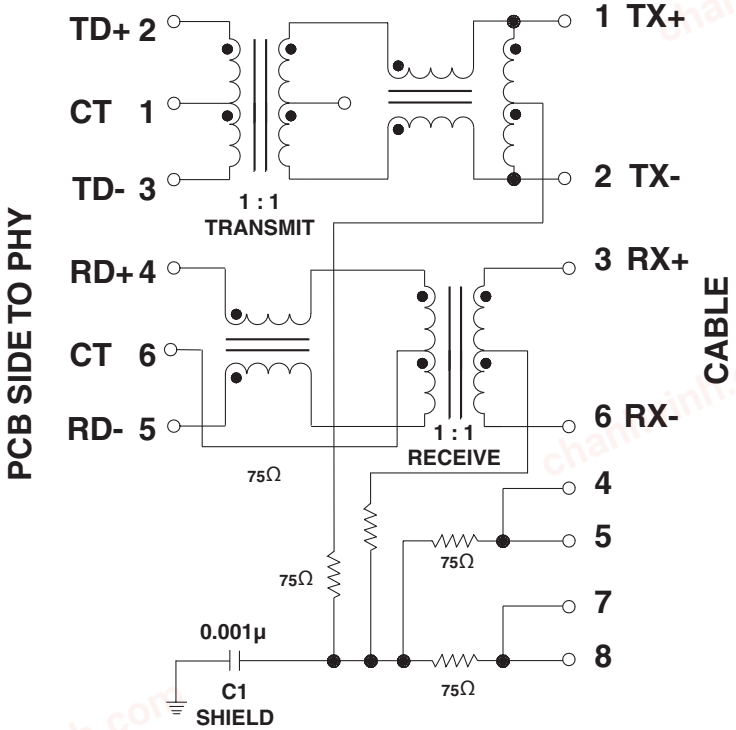
J0C006



JV011



JV026

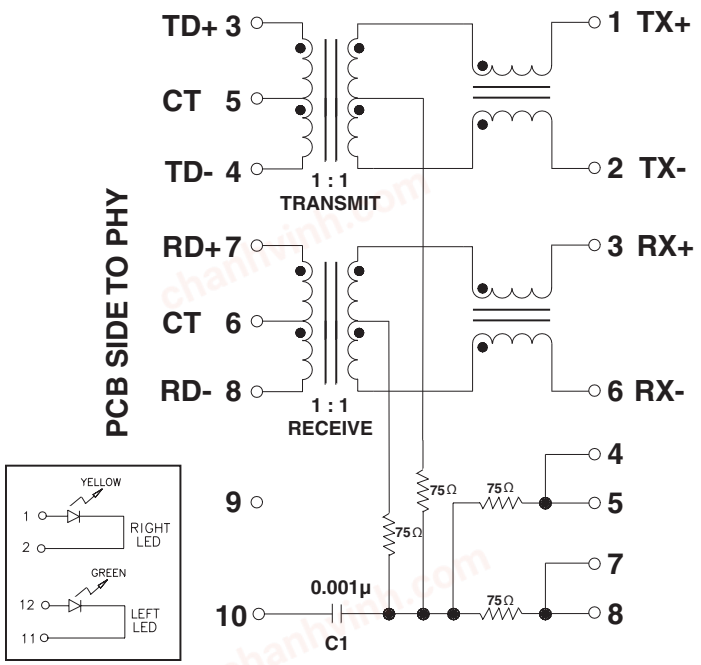


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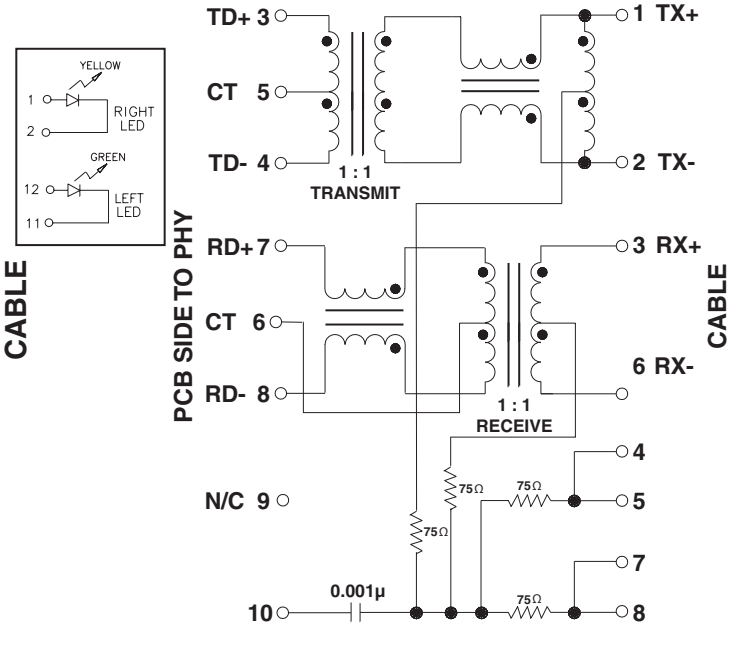
PulseJack™
Surface Mount 1x1

J3 Platform Schematics

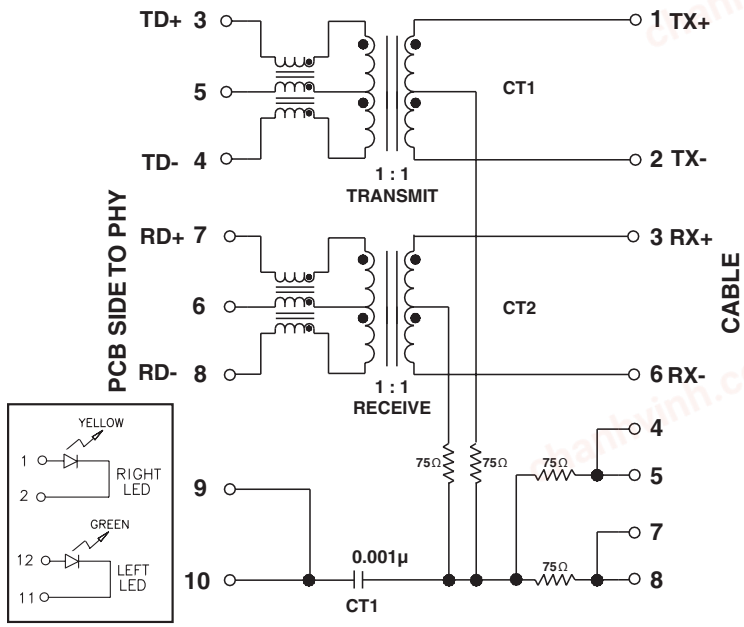
J3011



J3026



JX30-0005NL

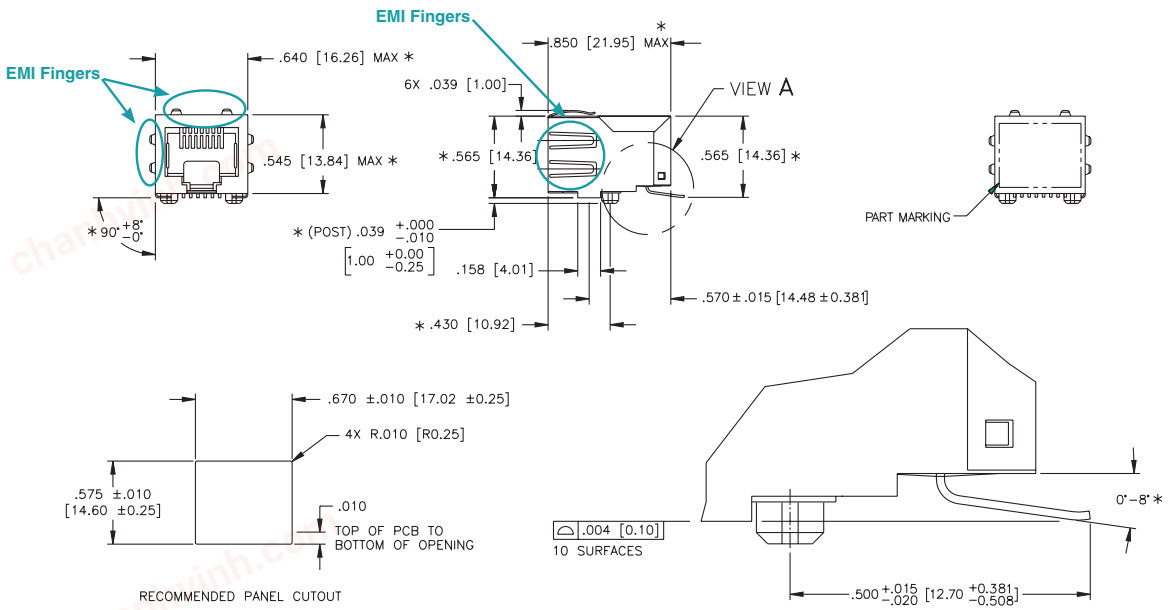


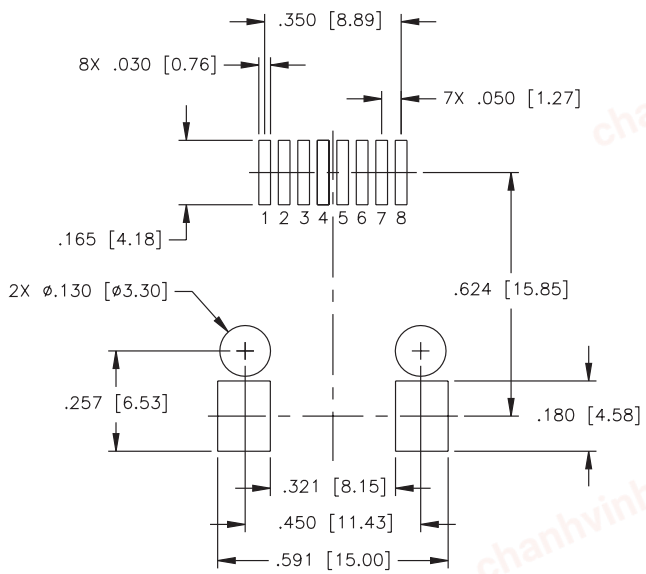
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PulseJack™
Surface Mount 1x1

J0C Platform Mechanicals

J0C-0004NL/06NL





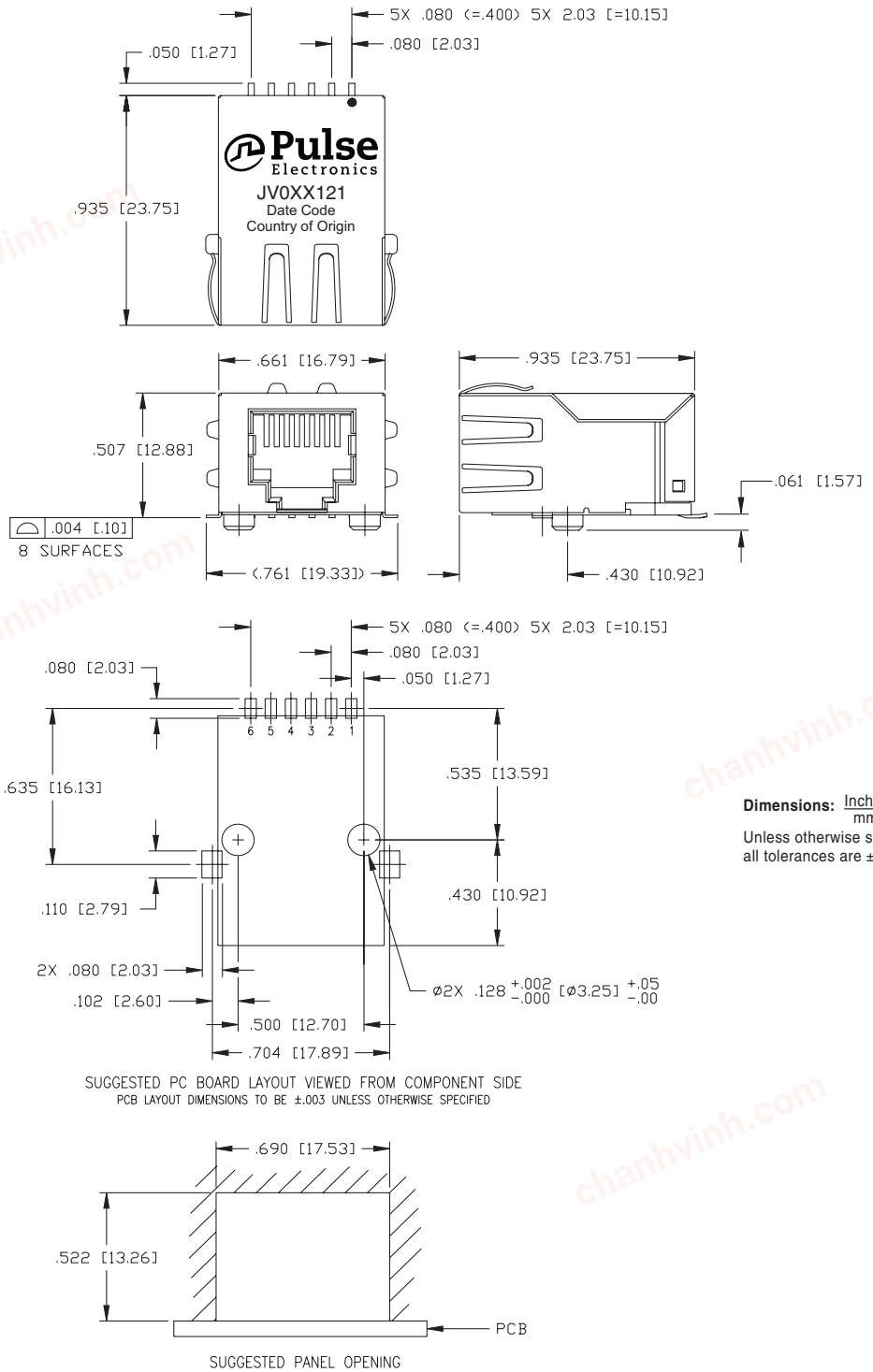
SUGGESTED FOOTPRINT (COMPONENT SIDE SHOWN)
DIMENSIONAL TOLERANCE: (UNLESS OTHERWISE SPECIFIED)
.XXX ±.003 [X.XX ±0.08]

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PulseJack™
Surface Mount 1x1

JV Platform Mechanicals

JV Series



Dimensions: Inches / mm

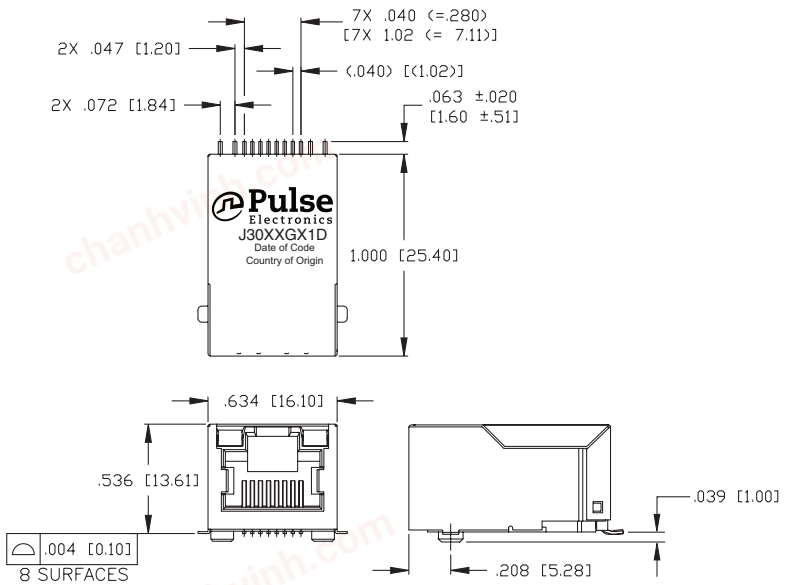
Unless otherwise specified, all tolerances are ± .010 / 0,25

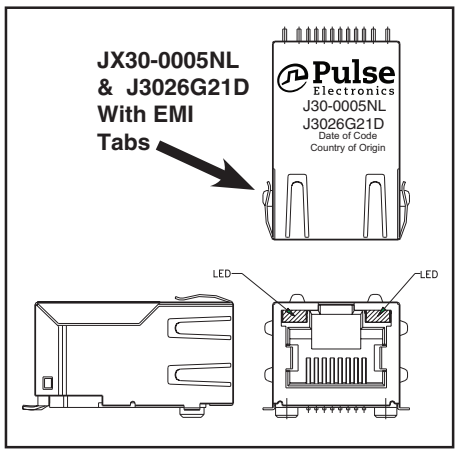
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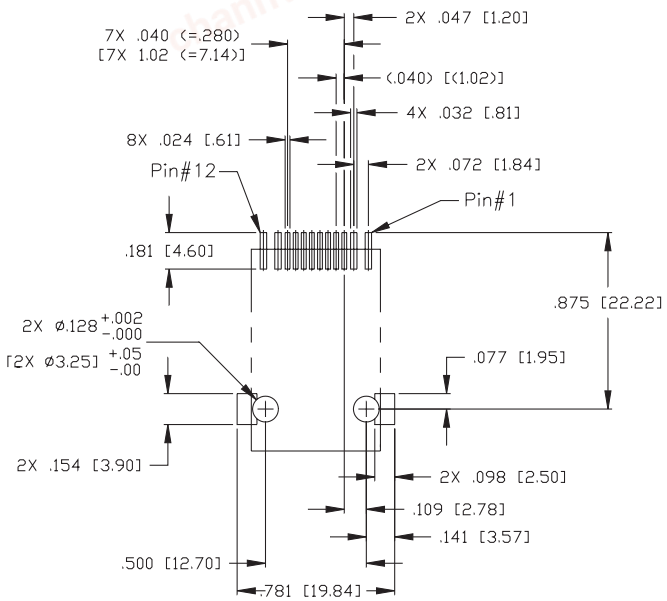
PulseJack™
Surface Mount 1x1

J3 Platform Mechanical

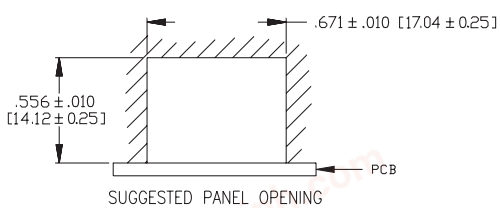
J3 Series







SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE
PCB LAYOUT DIMENSIONS TO BE ±.003 [±0.08] UNLESS OTHERWISE SPECIFIED



SUGGESTED PANEL OPENING

Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

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PulseJack™
Surface Mount 1x1

J0C Application Note

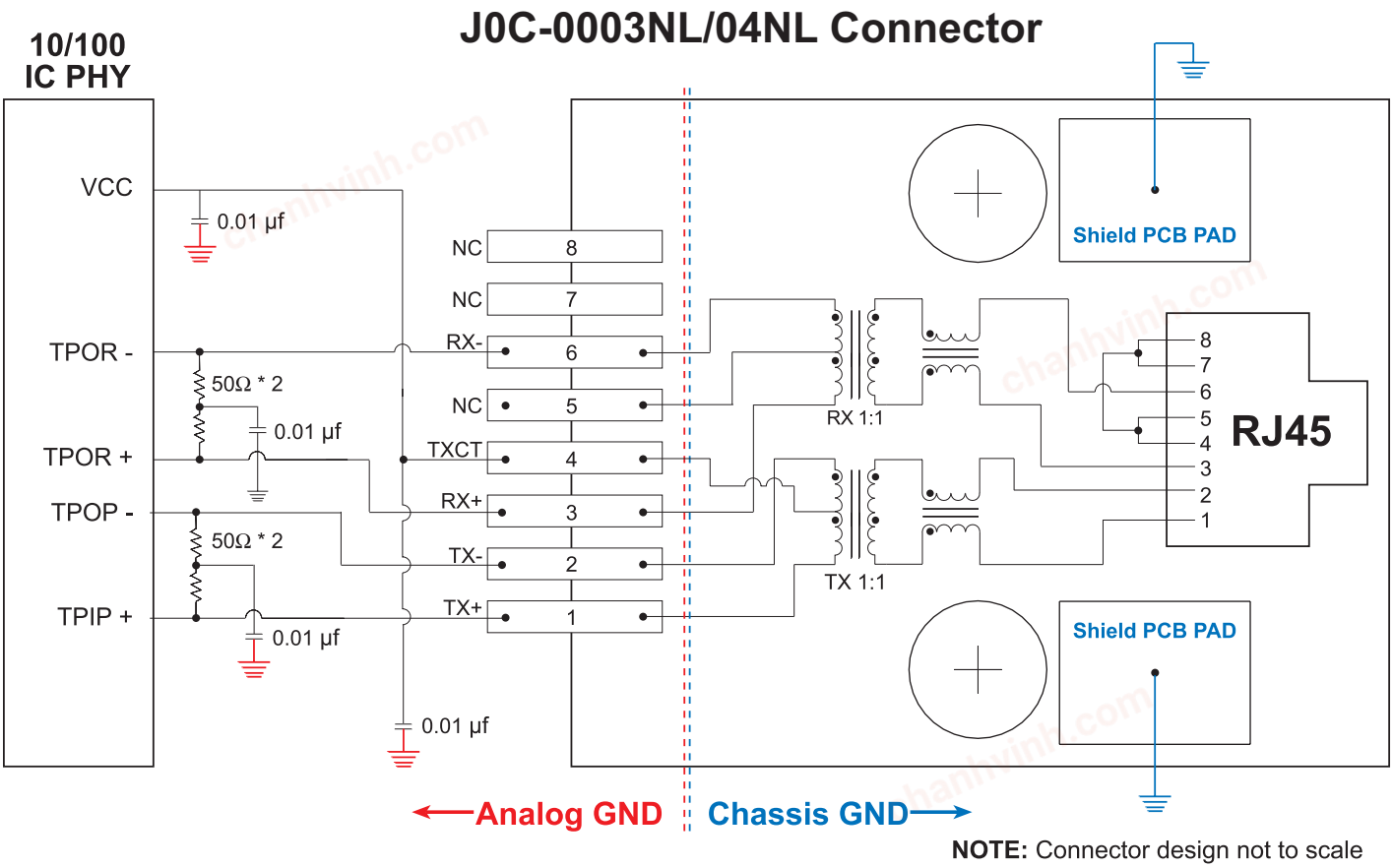
This line of 10/100Base-TX SMT RJ45 1X1 Connector Magnetics Modules has been specifically designed for the implementation of a 10Base-T and 100Base-TX transmission over data-grade unshielded twisted pair cable (UTP-3, 5e and 6).

The connectors provide excellent EMI filtering and are suitable for adapter card and multiport applications. Pulse has worked closely with the leading IC manufacturers in providing these 10/100 solutions, thereby assuring compatibility with each transceiver.

The JC0 series meets the stringent open circuit inductance requirements imposed by IEEE. When an 8mA DC current is applied across the transformer windings, the transformer will provide at least 350µH. The transformers used in each module also provide 1500Vrms minimum isolation, wide bandwidth with minimal attentuation and fast rise times to minimize system level jitter.

The 1X1 SMT RJ45 connectors manufactured by Pulse are designed to meet all published specifications after exposure to surface mount soldering temperatures. The SMT are robust enough to withstand convection and infrared reflow solder temperatures. Additionally, compliant leads provide excellent solder-joint reliability with a coplanarity of 0.10 (0.004").

Note: Modules are packaged in trays, unless Tape & Reel is specified (ex: J0C-0003**NL** for Trays and J0C-0003NL**T** for Tape & Reel).



NOTE: Connector design not to scale

PCB Layout Recommendations:

1. For maximum EMI suppression (electromagnetic interference) place the decoupling capacitors adjacent to VCC and 50Ω connections.
2. Connections to ground should be as short as possible.
3. Connections between the 10/100 IC and the SMT connector should be direct (ideally no change in direction) and of minimum length.

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Surface Mount 1x1

JV Application Note

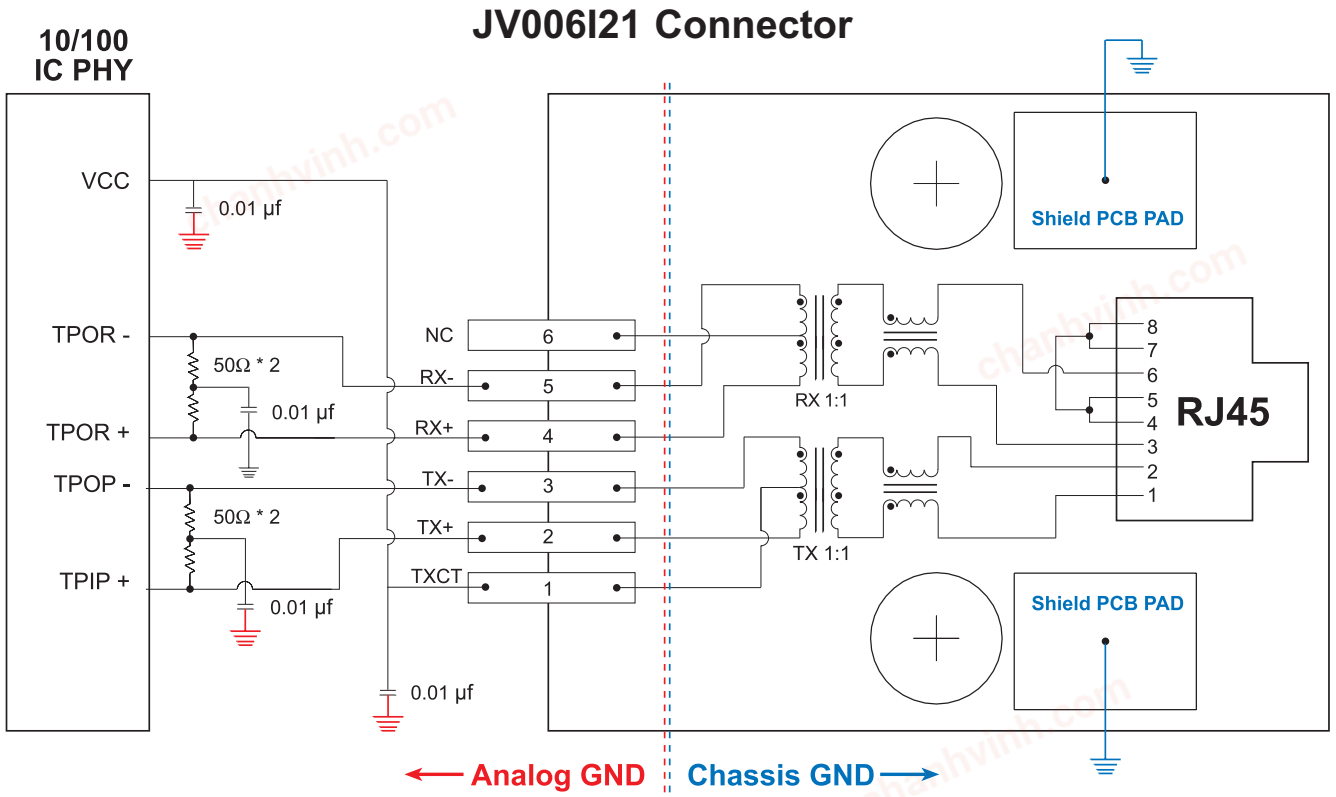
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Note: Modules are packaged in trays, unless Tape & Reel is specified. Please add the suffix "**T**" for Tape & Reel orders (ex: JVO006121**T**). Add the suffix "**NL**" for RoHS compliant parts (ex: JV006I21NL**T** for Trays and JV006I21NLT for Tape & Reel).



PCB Layout Recommendations:

1. For maximum EMI suppression (electromagnetic interference) place the decoupling capacitors adjacent to VCC and 50Ω connections.
2. Connections to ground should be as short as possible.
3. Connections between the 10/100 IC and the SMT connector should be direct (ideally no change in direction) and of minimum length.

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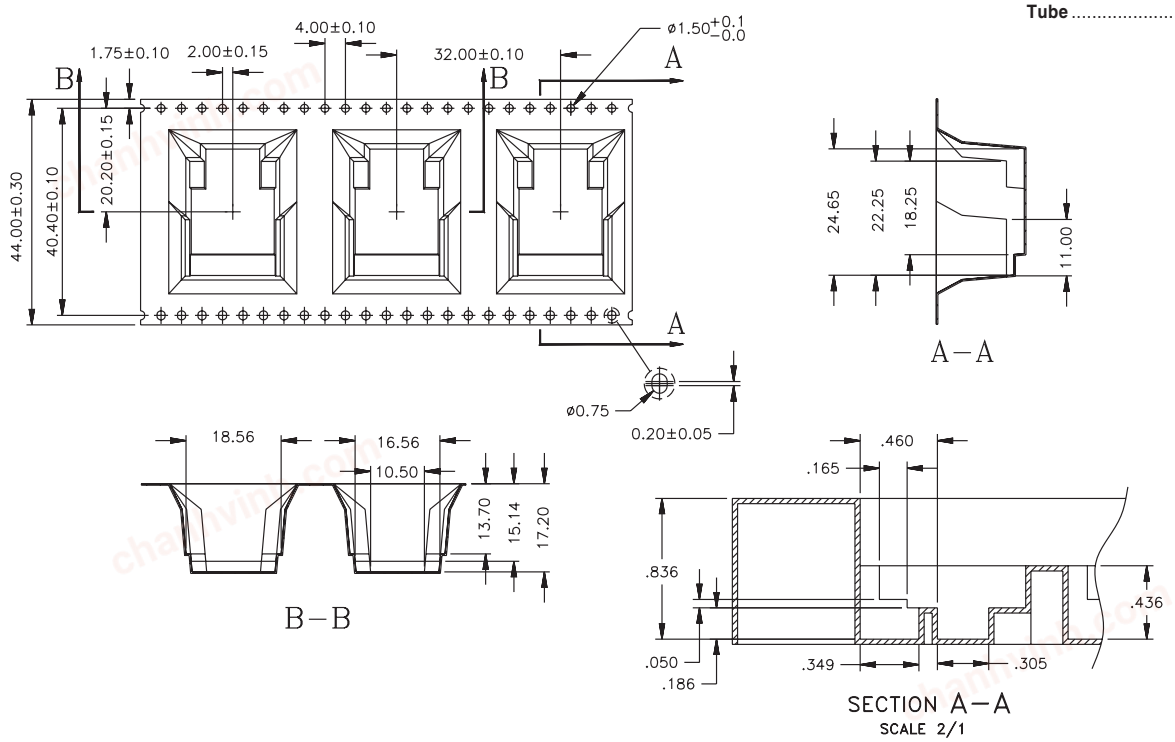
PulseJack™
Surface Mount 1x1

JOC Packaging Specifications

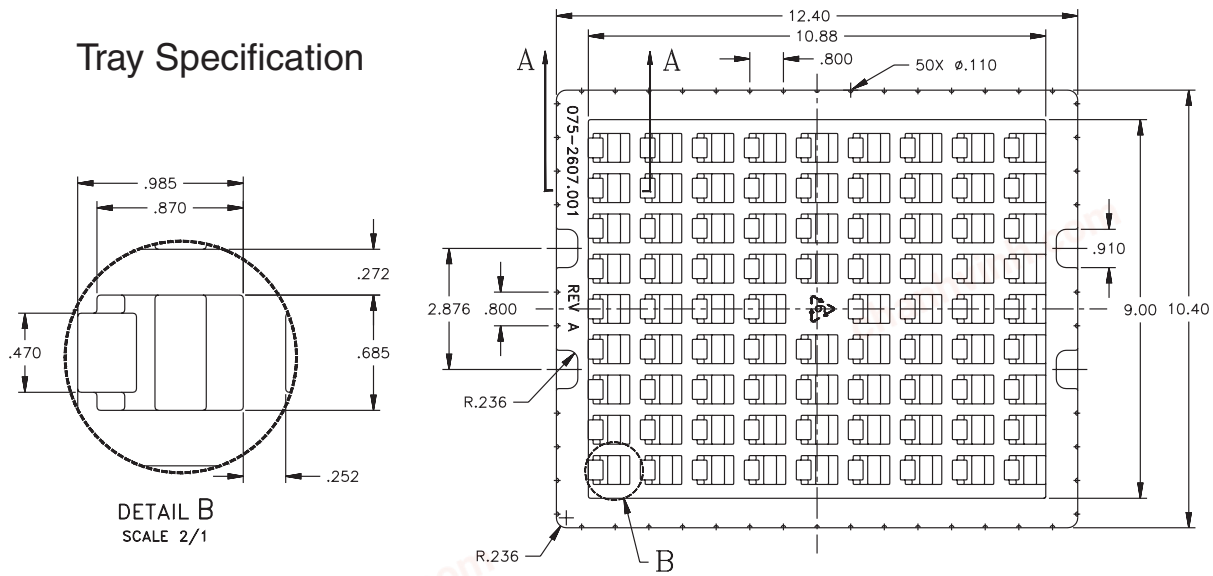
JOC Series

Weight.....7.07 grams
Tape & Reel..... 90/reel
Tray..... 80/tray
Tape..... 44x32mm
Tube..... 25/tube

Tape and Reel Specification



Tray Specification



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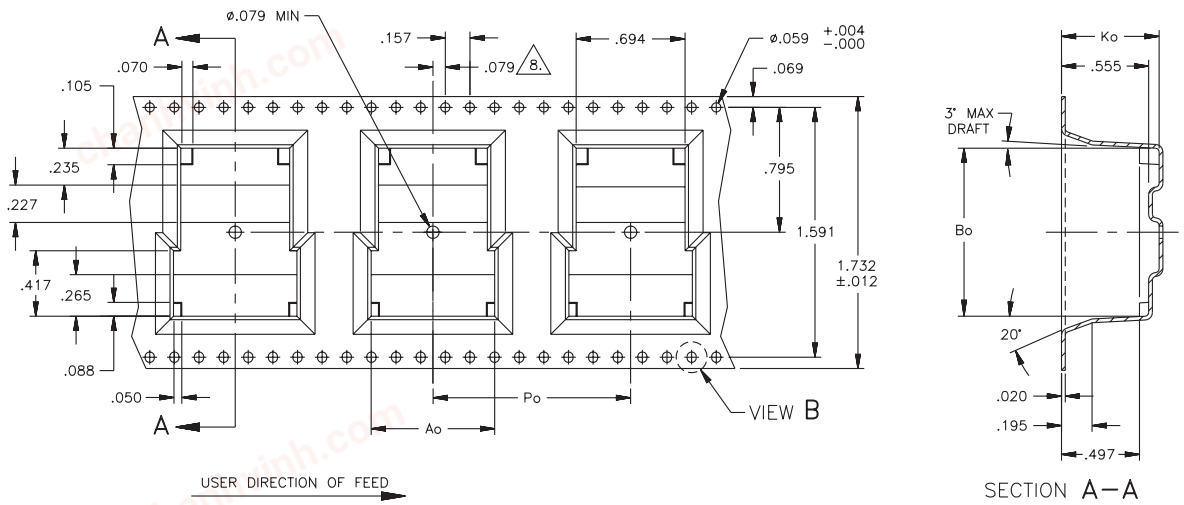
PulseJack™
Surface Mount 1x1

JV Packaging Specifications

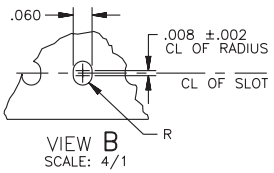
JV Series

Weight.....6.6 grams
Tape & Reel..... 150/reel
Tray..... 45/tray
Tape..... 44x32mm

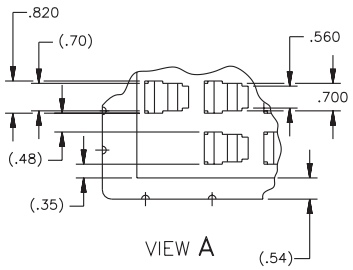
Tape and Reel Specification

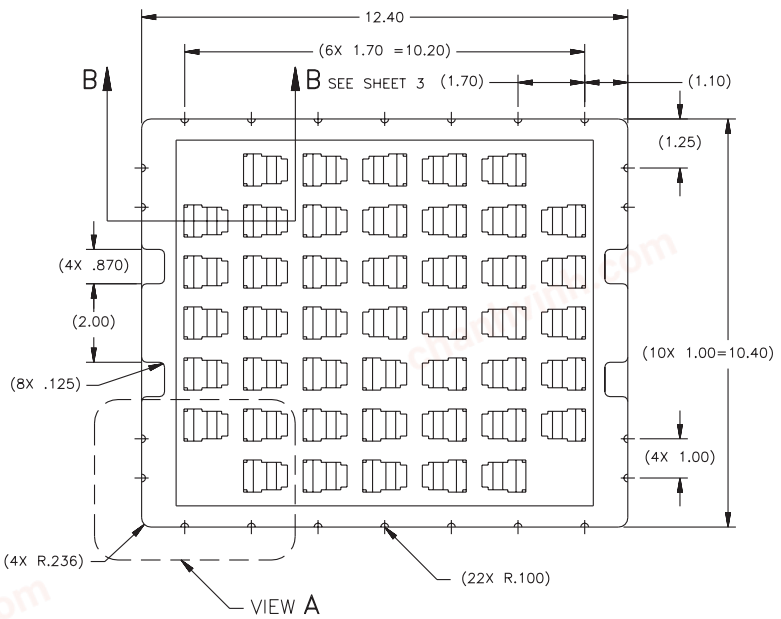


DIM CHART	
Ao	.787
Bo	1.050
Ko	.618
Po	1.260



Tray Specification





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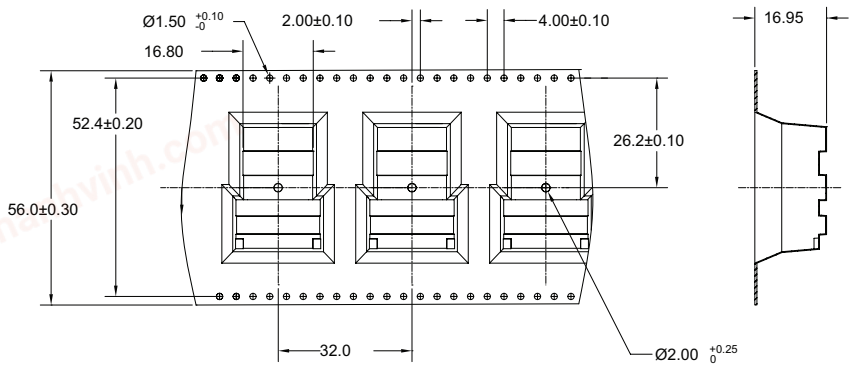
PulseJack™
Surface Mount 1x1

J3 Packaging Specifications

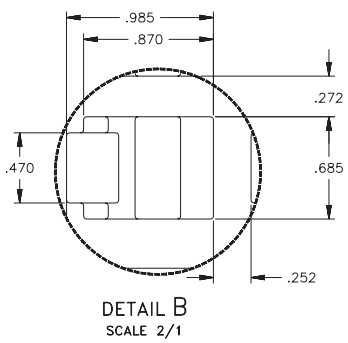
J3 Series

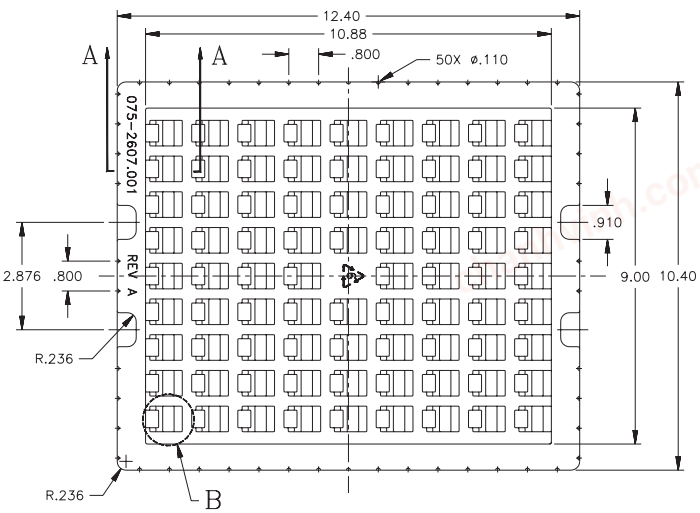
Tape and Reel Specification

Weight.....8.1 grams
Tape & Reel..... 75/reel
Tray..... 45/tray
Tape.....56x32mm



Tray Specification





For More Information:

Americas - prodinfonetworkamericas@pulseelectronics.com | **Europe -** comms-Apps-Europe@pulseelectronics.com | **Asia -** prodinfonetworkapac@pulseelectronics.com

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Pulse A YAGEO Company