

PULSEJACK™

Surface Mount 1X1



Description:

10/100Base-TX 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 Cards (NIC).



Features and Benefits:

- Available in Tape & Reel format
- J3 SMT product available with or without LEDs
- J0C SMT product, reduced size and low cost alternative to JV series
- Internal magnetics: 100% electrically tested for HI-POT & continuity

Electrical Performance Summary:

- Internal magnetics options available
- Meets or exceeds IEEE 802.3i/u standard for 10/100Base-T
- High performance for maximum EMI suppression
- Minimum 1500 Vrms isolation per IEEE 802.3 requirement

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

Part Number*	Turns ^{1,2} Ratios		Tab Option Up/Down	LEDs ³ L/R	BST Circuit	EMI Finger	Insertion Loss TX/RX (dB MAX)	Return Loss (dB MIN) 100 Ω (±15 Ω)			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
J0C-0003	1CT:1	1CT:1	Down	No	No	No	-1.0	-18	-14	-10	-35	-35	-30	-20	-20	1500
J0C-0004	1CT:1	1CT:1	Down	No	No	Yes	-1.0	-18	-14	-10	-35	-35	-30	-20	-20	1500
J0C-0005	1CT:1	1CT:1	Down	No	Yes	No	-1.0	-18	-14	-10	-35	-35	-30	-20	-20	1500
J0C-0006	1CT:1	1CT:1	Down	No	Yes	Yes	-1.0	-18	-14	-10	-35	-35	-30	-20	-20	1500
JV006I21	1CT:1	1CT:1	Down	No	No	Yes	-1.0	-20	-16	-12	-40	-35	-30	-30	-20	1500
JV011I21	1CT:1	1CT:1	Down	No	Yes	Yes	-1.0	-20	-16	-12	-40	-35	-30	-30	-20	1500
JV026I21	1CTS:1	1CT:1	Down	No	Yes	Yes	-1.0	-20	-16	-12	-40	-35	-30	-30	-20	1500
J3006G21D	1CT:1	1CT:1	Up	G/Y	No	Yes	-1.0	-20	-16	-12	-40	-35	-30	-30	-20	1500
J3011G21D	1CT:1	1CT:1	Up	G/Y	Yes	Yes	-1.0	-20	-16	-12	-40	-35	-30	-30	-20	1500
J3018G21K	1CTS:1.414	1CT:1	Up	G/G	Yes	Yes	-1.0	-20	-16	-11.5	-40	-35	-30	-30	-20	1500
J3026G01D	1CTS:1	1CT:1	Up	G/Y	Yes	No	-1.0	-20	-16	-12	-40	-35	-30	-30	-20	1500
J3026G21D	1CTS:1	1CT:1	Up	G/Y	Yes	Yes	-1.0	-20	-16	-12	-40	-35	-30	-30	-20	1500

NOTES:

- Both transmit and receive channels meet IEEE 802.3i/u specifications.
- Different electrical and mechanical specifications can be accommodated. Contact Pulse Applications Engineering.
- LEDs Left/Right: G = green; Y = yellow.

- Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the surface mount part numbers (eg: J0C-0003T, JV006I21T or J3006G21DT).

- Add "NL" to the end of the part number for RoHS-compliant product (eg: J0C-0003NL, JV006I21NL or J3006G21DNL —or— J0C-0003NLT, JV006I21NLT or J3006G21DNL).

RJ45 Durability Testing 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.

RJ45 Material Specification

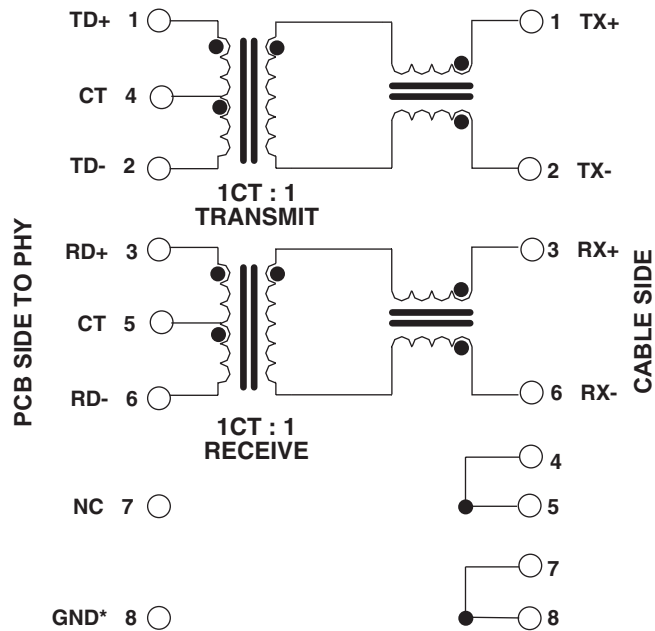
Part Number	Shield		Contact			Housing	
	Material	Finish	Material	Plating Area	Solder Area	Material	Specification
J0C/JV/J3 Series	Brass	20-40μ inches thick nickel over Brass	Phosphor Bronze	15μ inches gold over 30-80μ inches nickel	75-300μ inches tin-lead over 30-80μ inches nickel	High Temp. Thermoplastic	UL 94 V-0

Notes:

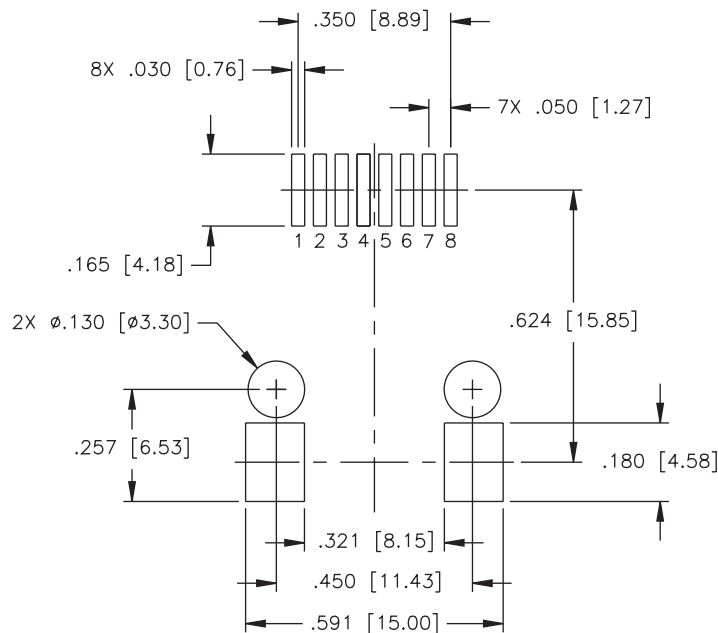
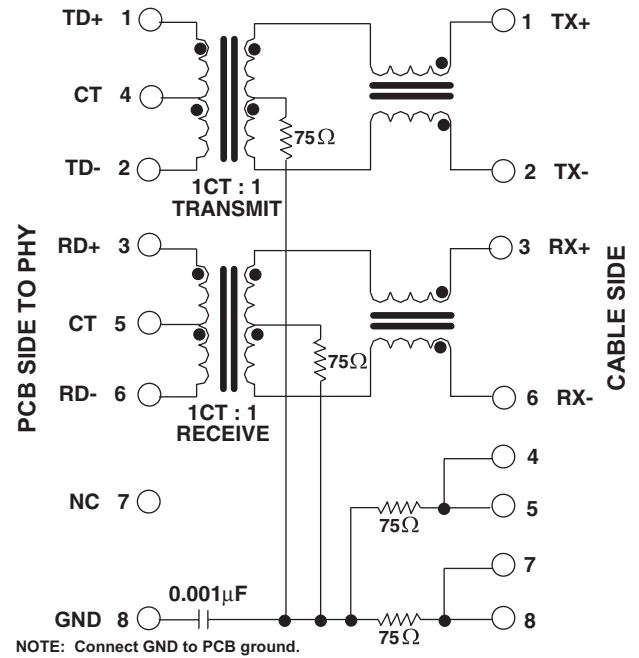
- All connector part numbers starting with the series prefix JV, J3 or J0C comply to the above limits.
- Connector dimensions comply with FCC part 68 dimension requirements.

J0C Platform Schematics

J0C-0003/4



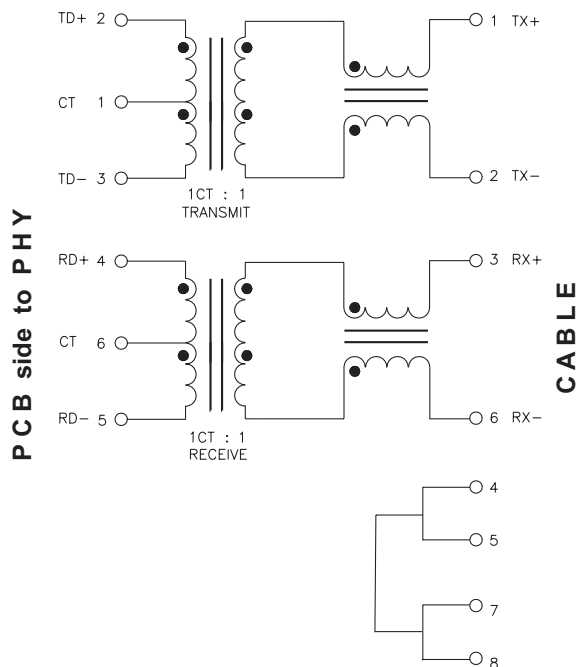
J0C-0005/6



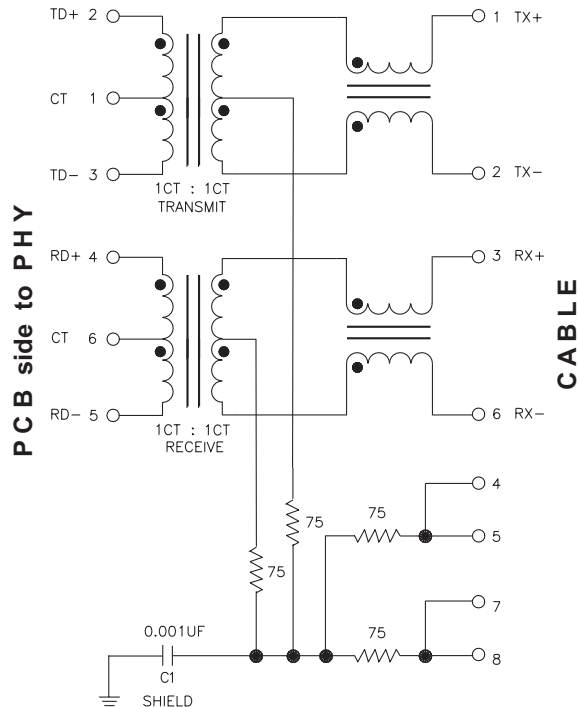
SUGGESTED FOOTPRINT (COMPONENT SIDE SHOWN)
DIMENSIONAL TOLERANCE: (UNLESS OTHERWISE SPECIFIED)
.XXX ±.003 [X.XX ±0.08]

JV Platform Schematics

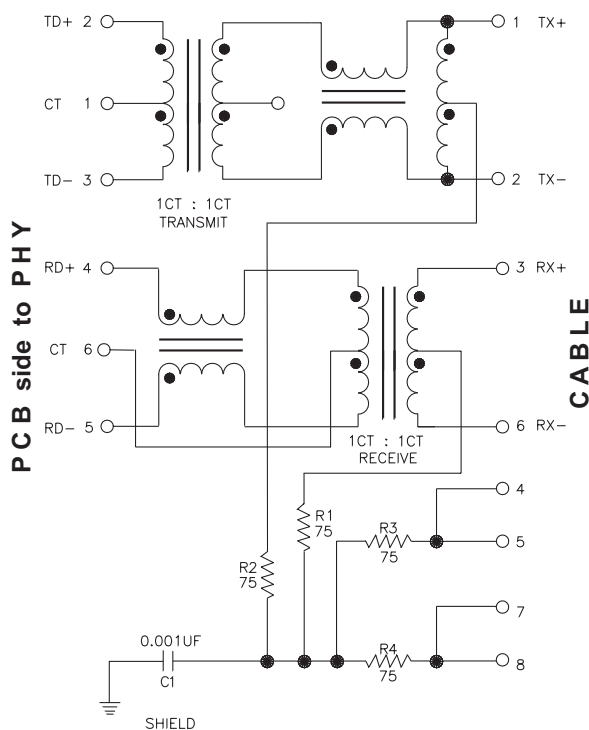
JV006



JV011

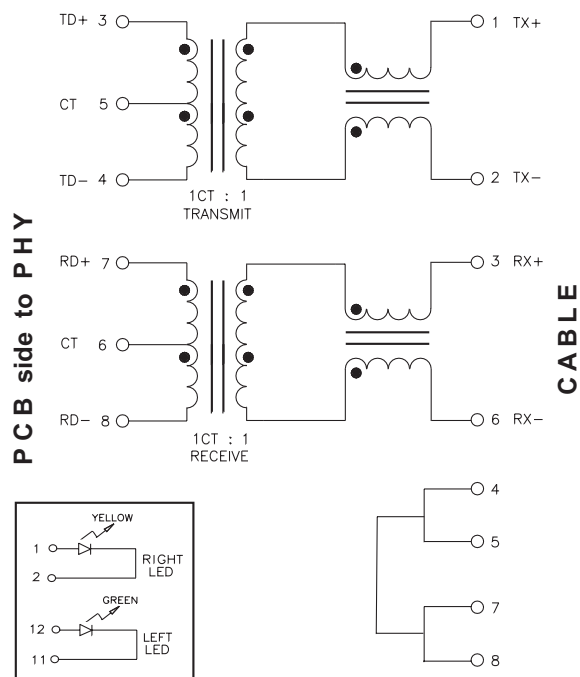


JV026

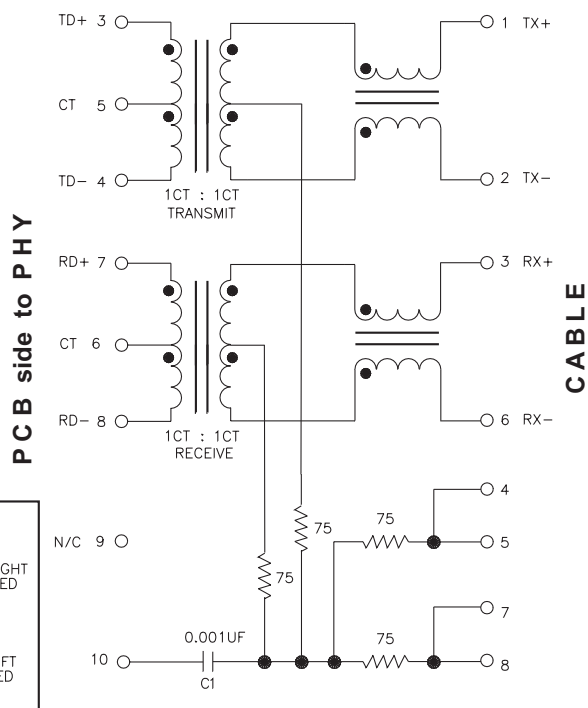


J3 Platform Schematics

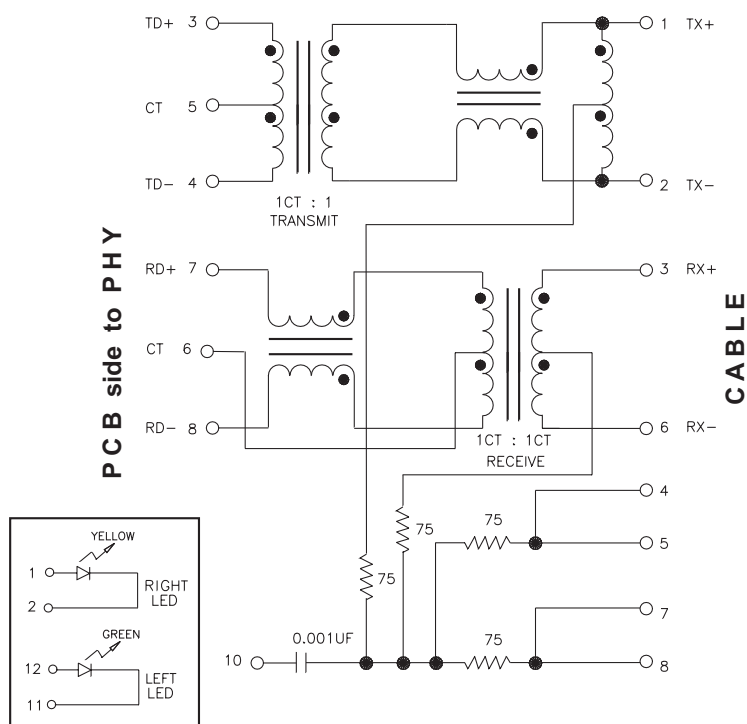
J3006



J3011

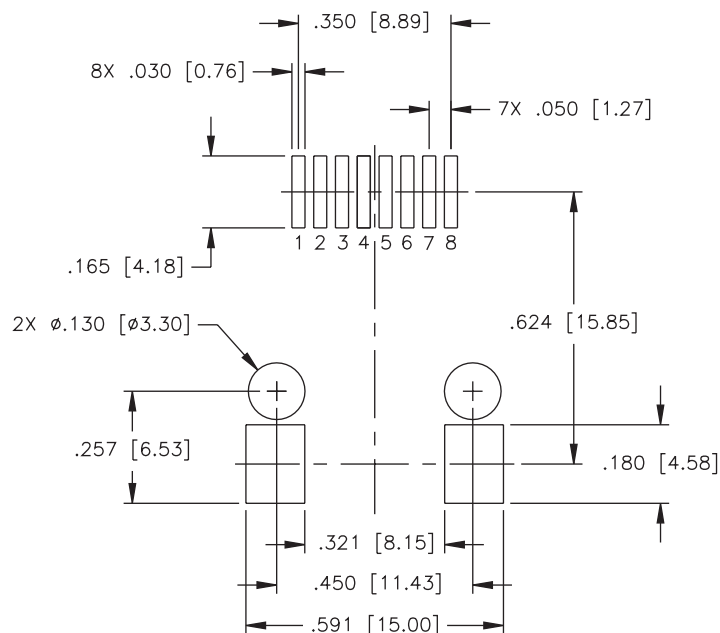
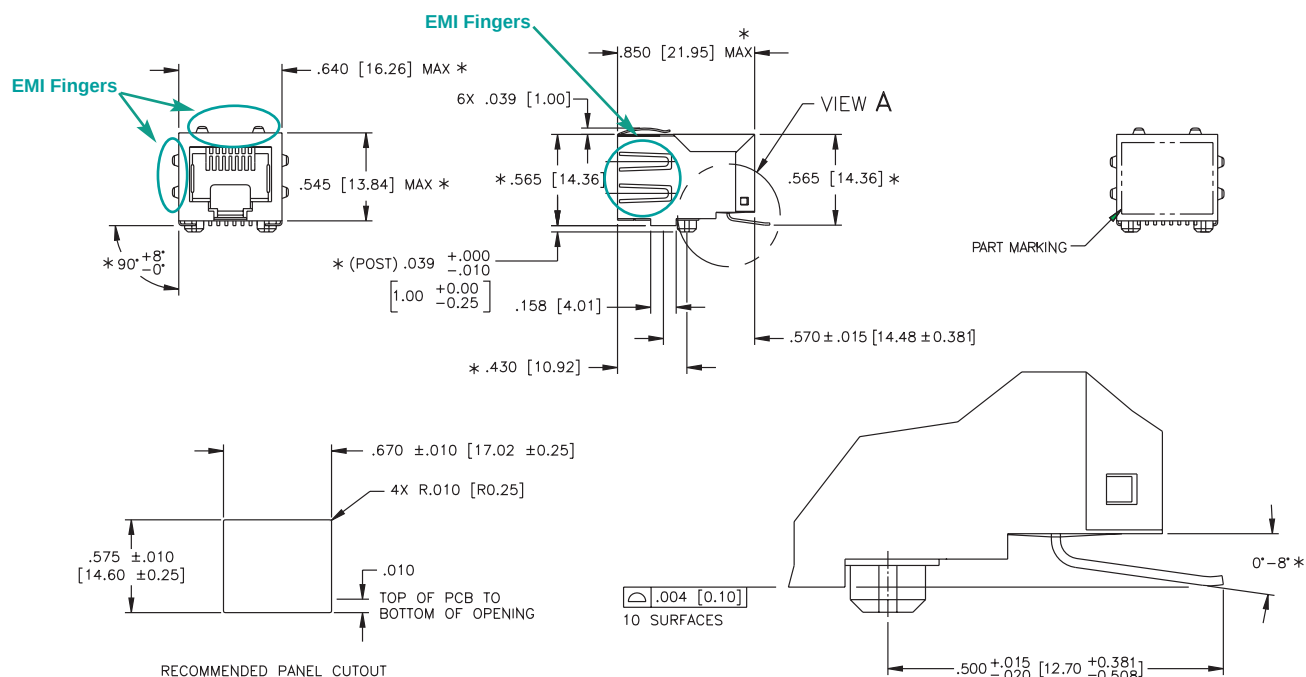


J3018/J3026



J0C Platform Mechanicals

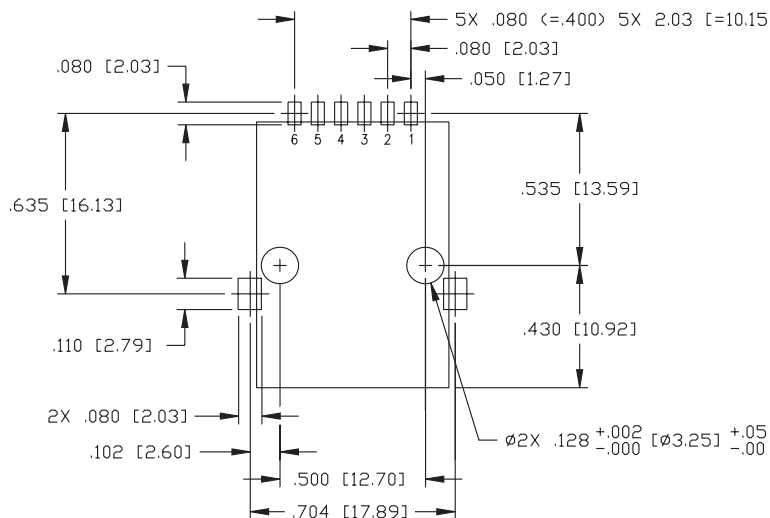
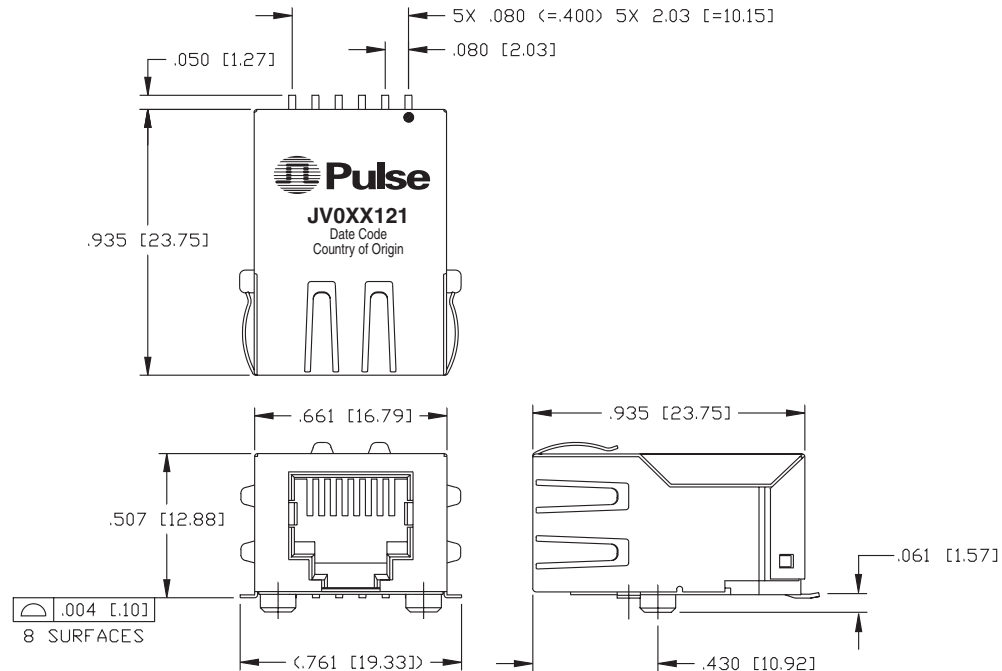
J0C-0004/6 (J0C-0003/5 - Same platform without EMI Fingers)



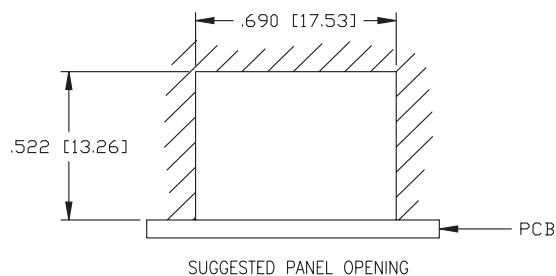
SUGGESTED FOOTPRINT (COMPONENT SIDE SHOWN)
 DIMENSIONAL TOLERANCE: (UNLESS OTHERWISE SPECIFIED)
 .XXX $\pm .003$ [X.XX ± 0.08]

JV Platform Mechanicals

JV Series



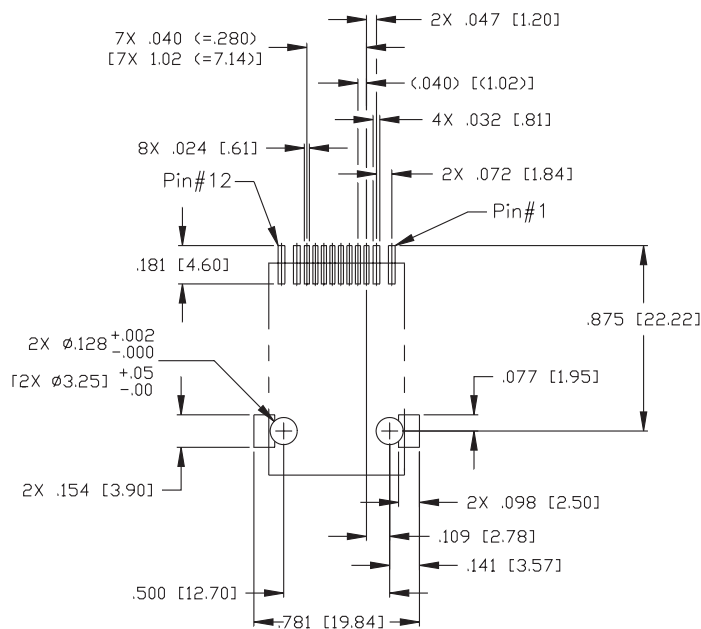
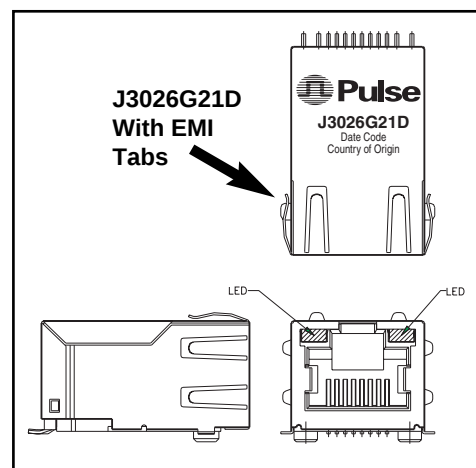
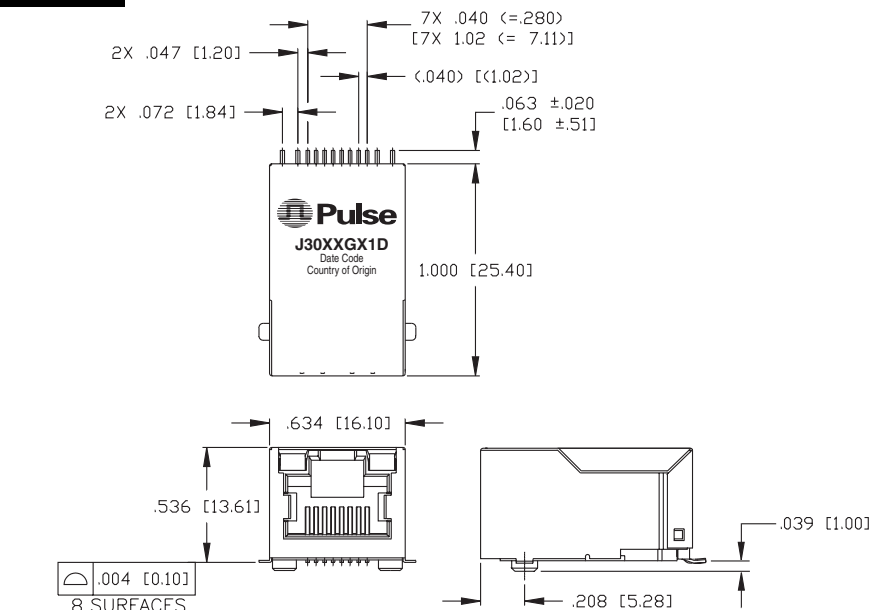
SUGGESTED PC BOARD LAYOUT VIEWED FROM COMPONENT SIDE
PCB LAYOUT DIMENSIONS TO BE $\pm .003$ UNLESS OTHERWISE SPECIFIED



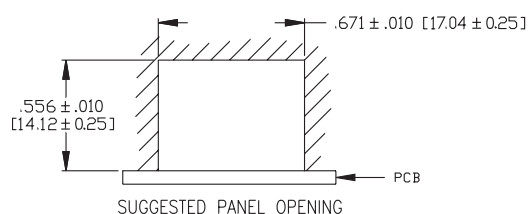
Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified,
all tolerances are $\pm \frac{.010}{0.25}$

J3 Platform Mechanical

J3 Series



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



Dimensions: Inches
 mm
 Unless otherwise specified,
 all tolerances are ± $\frac{.010}{0.25}$

JV 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).

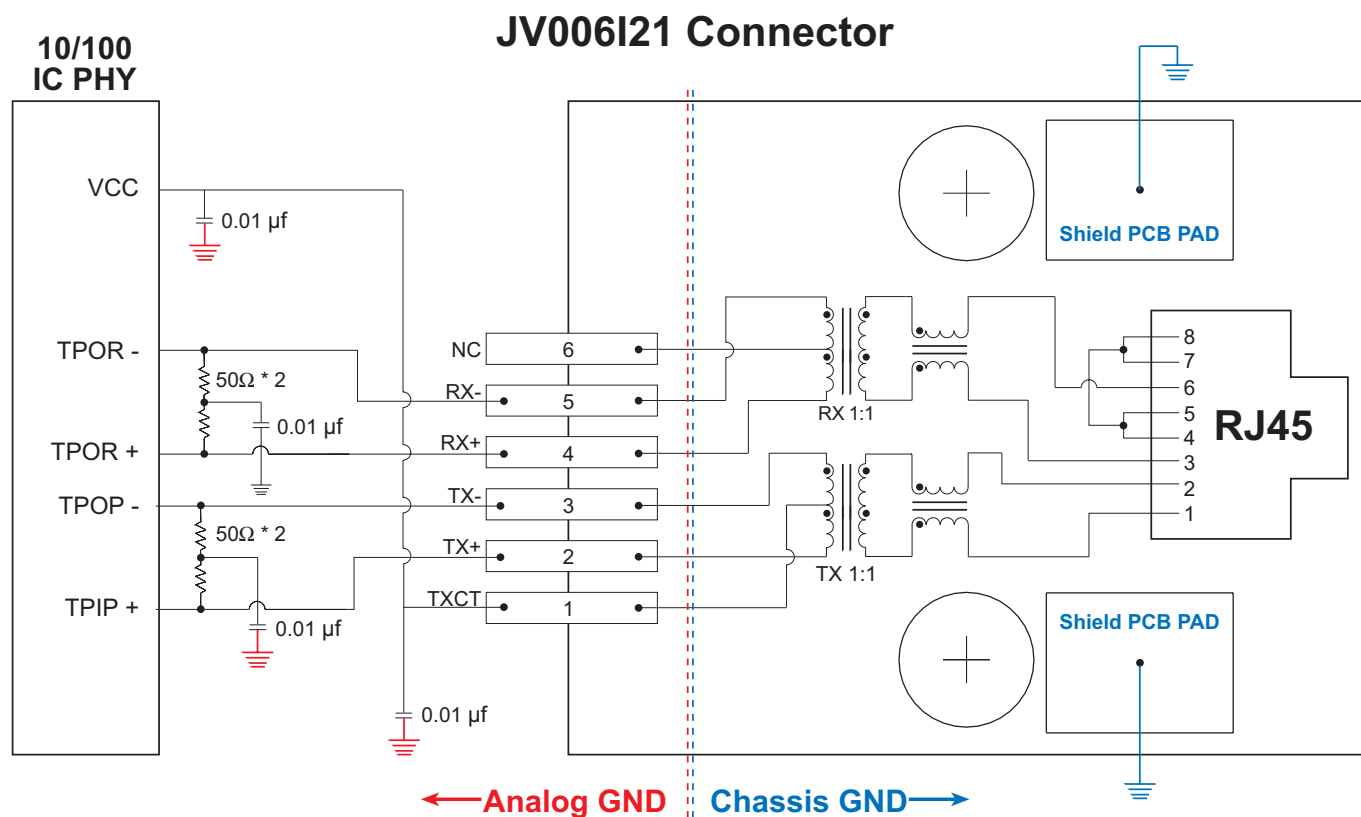
The connectors provide excellent EMI filtering and are suitable for adapter card and multiport applications. Pulse has worked closely with the leading IC manufacturers in providing these 10/100 solutions, thereby assuring compatibility with each transceiver.

The JV 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 attenuation 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 0.10mm (0.004")

NOTE: Modules are packaged in trays, unless Tape & Reel is specified. Please add the suffix "T" for Tape & Reel orders (ex: JV006I21T). Add the suffix "NL" for RoHS compliant parts (ex: JV006I21NL for Trays and JV006I21NLT for Tape & Reel).



NOTE: Connector design not to scale

PCB Layout Recommendations:

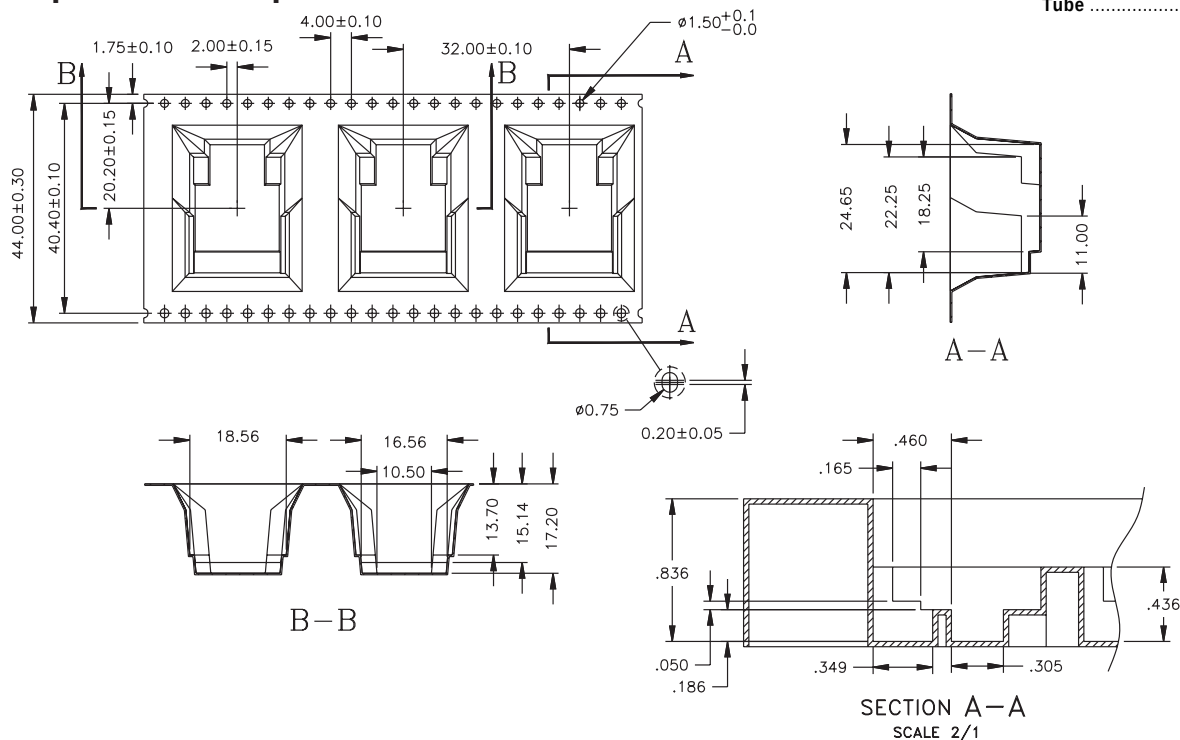
1. For maximum EMI suppression (electromagnetic interference) place the decoupling capacitors adjacent to Vcc and 50Ω connections.
2. Connections to ground should be as short as possible.
3. Connections between the 10/100 IC and the SMT connector should be direct (ideally no change in direction) and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

J0C Packaging Specifications

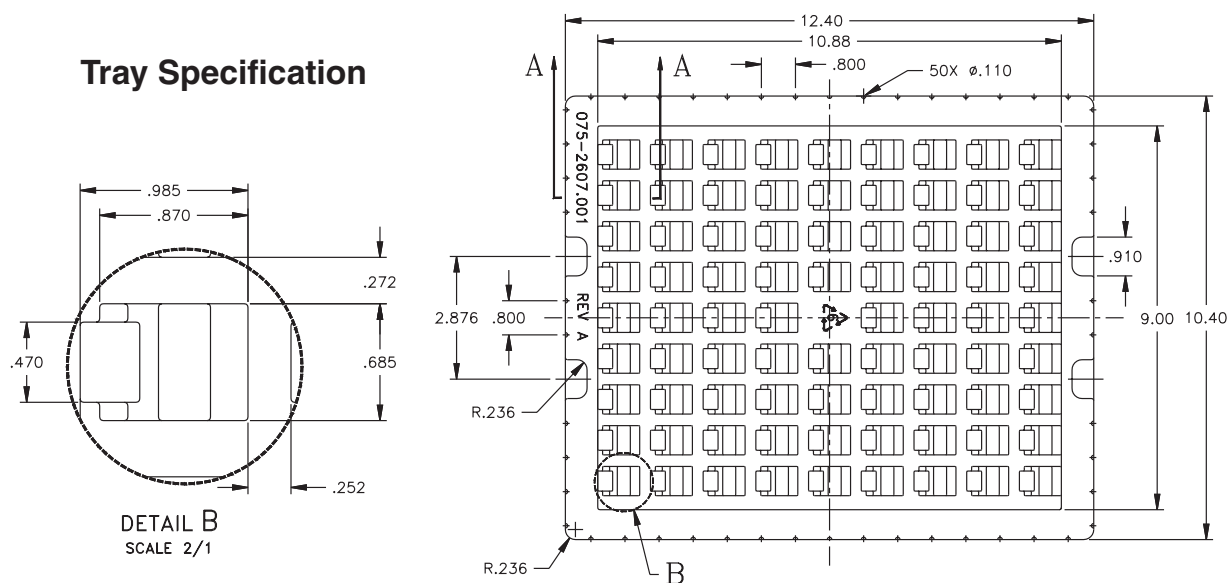
J0C Series

Weight.....7.07 grams
 Tape & Reel90/reel
 Tray80/tray
 Tape44x32mm
 Tube25/tube

Tape and Reel Specification



Tray Specification

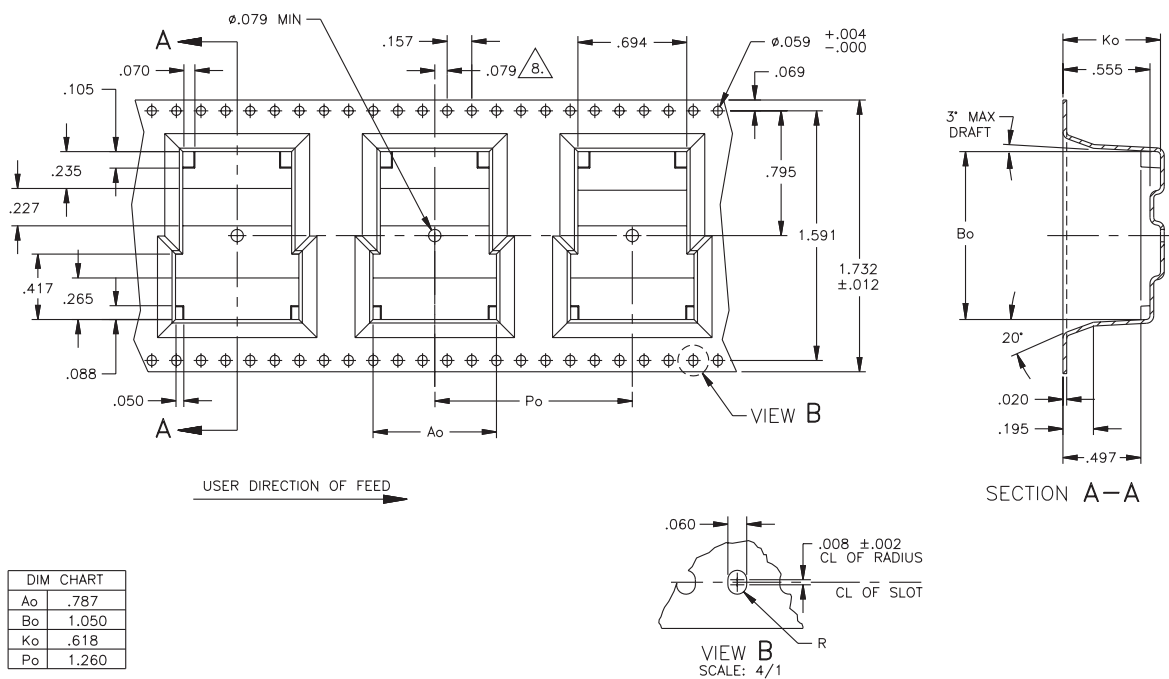


JV Packaging Specifications

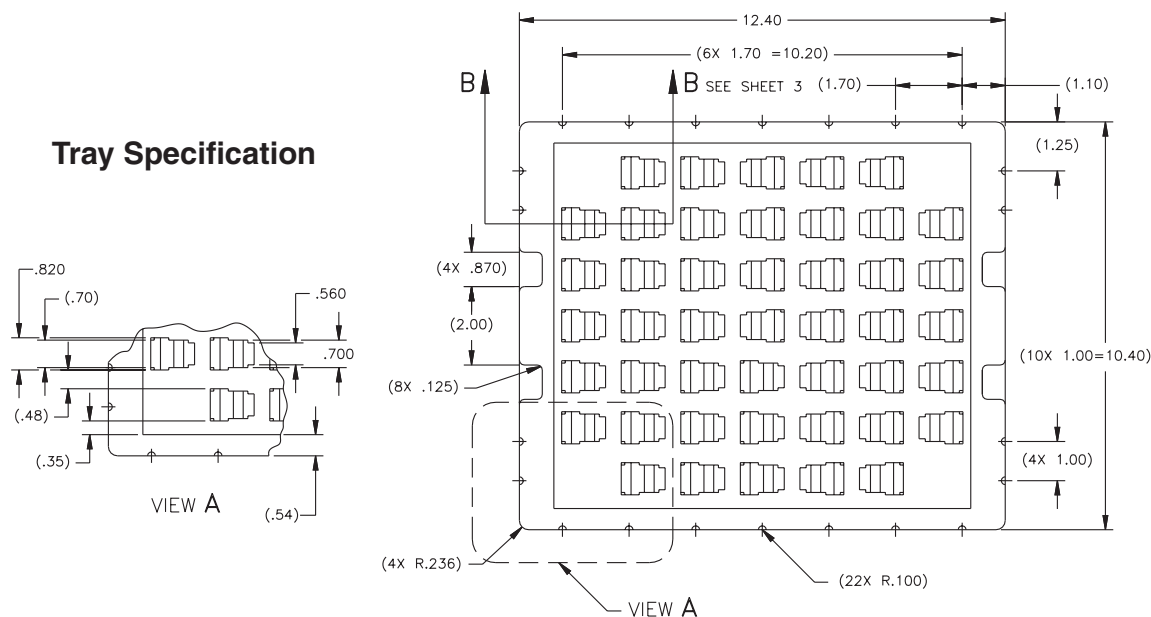
JV Series

Weight6.6 grams
Tape & Reel175/reel
Tray45/tray
Tape44x32mm

Tape and Reel Specification



Tray Specification

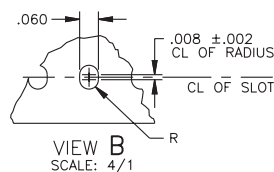


J3 Series

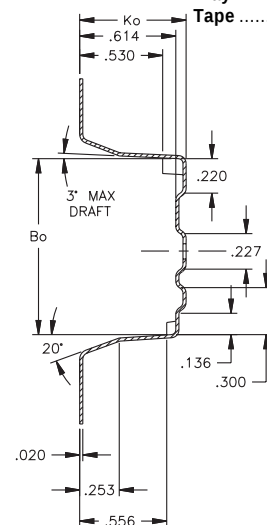
Die and Reel Specification

Technical drawing of a three-chambered die casting mold assembly. The drawing shows a top view of the mold with three rectangular chambers. Key dimensions include: chamber width .157, chamber spacing .079, total width .590, chamber depth .100, and overall height 2.063. A circular feature on the right is labeled 'VIEW B'. A section line 'A-A' is shown on the left. The drawing is titled 'Die and Reel Specification'.

DIM CHART	
Ao	.805
Bo	1.123
Ko	.680
Po	1.260

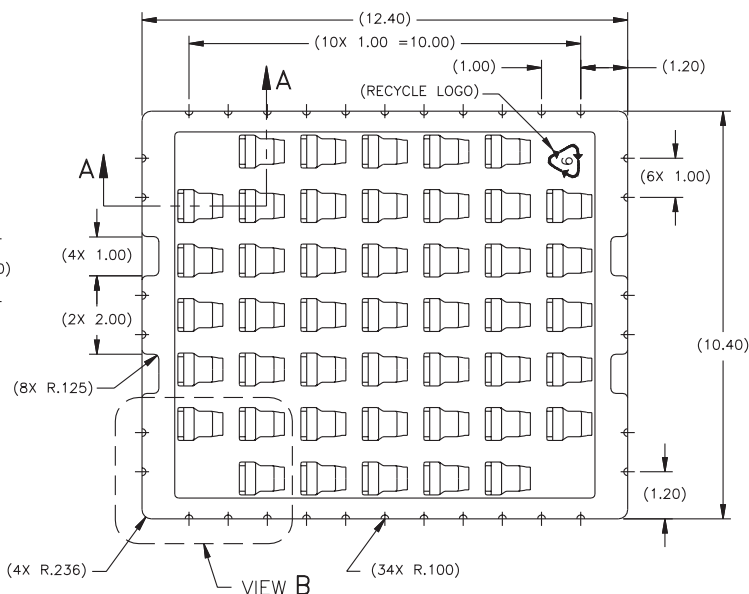
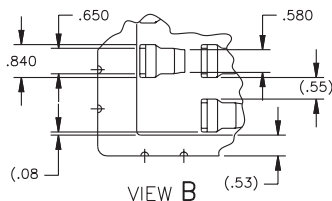


Weight8.1 grams
Tape & Reel75/reel
Tray45/tray
Tape56x32mm



SECTION A-A

SECTION A-A
SCALE: 1/1



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(Northern Europe)

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(Northern Asia)

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