

## Description

The Z-330P2J2 is a small, in-line, ANSI T1.421compliant customer premises equipment (CPE) filter designed to expedite the service delivery and improve the performance of digital subscriber line (DSL) and home phoneline network (HPN) services over plain old telephone service (POTS). The Z-330P2J2 filters all telephones, facsimile (fax) machines, answering machines, and other telephone equipment. Its third-order filter design electronically isolates the high-speed DSL and HPN data streams from the voice-band POTS to provide premium voice quality and optimal DSL and HPN data rates.

### Features

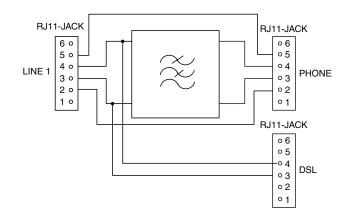
- Isolates telephone equipment impedances from the xDSL and HPN systems
- Blocks xDSL and HPN signals from voice-band equipment up to 10 Megahertz
- Provides a DSL convenience jack for connecting a DSL modem or HPN device
- Meets ANSI T1.421 (2001) North American DSL filter standard
- Compatible with all major xDSL standards including ADSL Full Rate (ITU-T G.992.1), ADSL G.Lite (ITU-T G.992.2), ADSL2 (ITU-T G.992.3 and .4), ADSL2+ (ITU-T G.992.5 in analog mode), ADSL2++, VDSL (ITU-T G.993.1), VDSL2; also V.90 and Metallic Loop Testing compatible
- Compliant with UL / CSA 60950, FCC CFR 47 Part 68



Z-330P2J2 xDSL over POTS CPE In-Line Filter

# Applications

The DSL user installs the Z-330P2J2 in-line filter into each telephone line jack in the subscribers' premises that contains voice-band equipment devices, including corded/cordless telephones, answering machines, fax machines, 56Kb/s and lower rate modems, automatic dialers, recorder connectors and satellite television set-top boxes. The Z-330P2J2 in-line filter is one of many filters and splitters manufactured by Excelsus for subscriber-installed digital services within homes, offices, and hotels. Excelsus is the number one selling brand of DSL filters worldwide.



Z-330P2J2 block schematic

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Z-330P2J2.A (03/19)

# Z-BLOCKER® Z-330P2J2 xDSL over POTS CPE In-Line Filter

DC Resistance   <25 Ω     Tip and Ring to Ground at ≤ 100 Vdc   >10 MΩ     Tip and Ring to Ground at ≥ 100 Vdc and ≤ 200 Vdc   >30 kΩ     Operating Current   5 to 90 mA     Operating Current   0 to -80 Vdc     Network tip to ring   0 to -80 Vdc     Network tip to ring   0 to -80 Vdc     Single filter   -0.5dB to 1.5dB     With 5 filters   -0.5dB to 1.5dB     Single filter, 100 to 100 Hz   -1.5dB to 1.5dB     Single filter, 100 to 1000 Hz   -5.5dB to 2.5dB     Single filter, 200 to 1000 Hz   -5.5dB to 2.0dB     Single filter, 10 z 8 kHz   -1.5dB to 1.5dB     With 5 filters, 10 z 8 kHz   -2.0dB     Off-hook Envelope Delay 300 Hz - 2800 Hz   -220µs     Off-hook Noice Band Insertion Loss   -5     Single filter, 200 to 3400 Hz - 2800 Hz   -2.0dB to 0.5dB     Off-hook Fivelope Delay 300 Hz - 2800 Hz   -2.0dB to 0.5dB     Off-hook Fivelope Delay 300 Hz - 2800 Hz   -2.0dB to 0.5dB     Off-hook Fivelope Delay 300 Hz   -1.0dB to 1.0dB     Off-hook Koice Band Insertion Loss Distortion   -1.0dB to 0.5dB     With 5 filters, 3.4 to 4 kHz   -1.5dB to 1.0dB     Offf	Z-BLOCKER Z-330P2J2 Filter Specifications	
Tip and Ring to Ground at $\geq 100$ Vdc $\geq 100$ MGTip and Ring to Ground at $\geq 100$ Vdc and $\leq 200$ Vdc $\geq 30$ kGOperating Current5 to 90 mAOperating Voltages0 to $\geq 80$ VdcNetwork tip to ring0 to $\geq 80$ VdcNetwork tip to ring level with ringing signal of 17 to 23Hz and 40 to 106 Vrms $\geq 20$ to $\geq 80$ VdcOn-hook Voice Band Insertion Loss $= 0.5dB$ to $1.5dB$ With 5 filters $= 1.0dB$ to $6.5dB$ On-hook Voice Band Insertion Loss Distortion $= 1.5dB$ to $1.5dB$ With 5 filters, 200 to 1000 Hz $= 1.5dB$ to $1.5dB$ With 5 filters, 200 to 1000 Hz $= 1.5dB$ to $1.5dB$ Single filter, 100 to 1000 Hz $= 2.5dB$ to $2.0dB$ Single filter, 1 to $2.8$ kHz $= 1.5dB$ to $1.5dB$ Off-hook Kvice Band Insertion Loss $= 2.50gB$ Off-hook Voice Band Insertion Loss $= 2.50gB$ Off-hook Voice Band Insertion Loss $= 0.5dB$ Single filter $= 0.5dB$ to $0.5dB$ Off-hook Voice Band Insertion Loss Distortion $= 0.5dB$ Single filter, 200 to 3400 Hz $= 1.6dB to 0.5dBWith 5 filters, 200 to 3400 Hz= 1.6dB to 0.5dBWith 5 filters, 200 to 3400 Hz= 1.6dB to 2.5dBOff-hook inpedance distortion= 0.5dB to 2.5dBOff-hook inpedance distortion= 0.5dB to 2.5dBOff-hook inpedance distortion= 1.6dB to 2.5dBWith 5 filters, 3.4 to 4 Hz= 2.0dB to 3.2dBOff-hook inpedance distortion= 1.6dB to 3.2dBWith 5 filters, 3.4 to 4 Hz= 2.0dB to 3.2dB$	DC Resistance	
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Tip and Ring to Ground at ≥ 100 Vdc and ≤ 200 Vdc>30 kΩOperating Voltages5 to 90 mANetwork tip to ring0 to -80 VdcNetwork tip to ring level with ringing signal of 17 to 23Hz and 40 to 106 Vrms-20 to -80 VdcOn-hook Voice Band Insertion Loss-00 hook Voice Band Insertion LossSingle filter-0.5dB to 1.5dBOn-hook Voice Band Insertion Loss Distortion-10 dB to 6.5dBOn-hook Voice Band Insertion Loss Distortion-1.5dB to 1.5dBSingle filter, 200 to 1000 Hz-1.5dB to 1.5dBSingle filter, 1 to 2.8 kHz-1.5dB to 1.5dBOn-ook Knice Band Insertion Loss Distortion-2.5dB to 2.0dBSingle filter, 1 to 2.8 kHz-1.5dB to 1.5dBOn- or Of-hook Envelope Delay 300 Hz - 2800 Hz-2.5dB to 0.2dBOff-hook Knice Band Insertion Loss-2.5dB to 0.5dBSingle filter-0.5dB to 0.5dBSingle filter-1.0dB to 0.5dBWith 5 filters, 1 to 2.4 kHz-1.0dB to 0.5dBOff-hook Voice Band Insertion Loss-1.0dB to 0.5dBSingle filter, 200 to 3400 Hz-1.5dB to 1.5dBSingle filter, 200 to 3400 Hz-1.5dB to 2.5dBOff-hook Voice Band Insertion Loss Distortion-1.5dB to 1.2dB to 3.2dBOff-hook Noice Band Insertion Loss Distortion-1.5dB to 1.0dBOff-hook Type Adv & 2M Hz-1.0dB to 0.5dBOff-hook Noice Band Insertion Loss Distortion-1.0dB to 0.5dBOff-hook Hype Adv & 2M Hz-1.5dB to 1.0dBOff-hook Hype Adv & 2M Hz-1.5dB to 1.0dBOff-hook Hype Adv & 4M Hz-1.0dB to 0.5dB <t< td=""><td></td><td>&gt;10 MΩ</td></t<>		>10 MΩ
Operating Voltages     0       Network tip to ring     0 to -80 Vdc       On-hook Voice Band Insertion Loss     -20 to -80 Vdc       On-hook Voice Band Insertion Loss     -20 to -80 Vdc       With 5 filters     -1.0dB to 6.5dB       On-hook Voice Band Insertion Loss Distortion     -1.0dB to 6.5dB       On-hook Voice Band Insertion Loss Distortion     -1.0dB to 6.5dB       On-hook Voice Band Insertion Loss Distortion     -1.5dB to 1.5dB       Single filter, 100 to 1000 Hz     -5.5dB to 2.0dB       Single filter, 10 2.8 kHz     -1.5dB to 1.5dB       On- or Off-hook Envelope Delay 300 Hz - 2800 Hz     <250µs		>30 kΩ
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On-hook Voice Band Insertion Loss Distortion   -1.5dB to 1.5dB     Single filter, 200 to 1000 Hz   -5.5dB to 2.0dB     Single filter, 1 to 2.8 kHz   -1.5dB to 1.5dB     With 5 filters, 1 to 2.8 kHz   -2.0dB to 2.0dB     Off-hook Voice Band Insertion Loss   -250gus     Off-hook Voice Band Insertion Loss		-1.0dB to 6.5dB
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Off-hook Voice Band Insertion Loss DistortionImage: Construction of the system of the sys		
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From 50 k to 12 M Hz, between 7 and 20 mA >22 dB   Bridging Loss		>13 dB
Bridging Loss	From 50 k to 12 M Hz, between 20 and 90 mA	>25 dB
	From 50 k to 12 M Hz, between 7 and 20 mA	>22 dB
Single filter 25 kHz to 1.2 MHz	Bridging Loss	
	Single filter, 25 kHz to 1.2 MHz	<0.5 dB
With 5 filters, 25 kHz to 1.2 MHz <1.25 dB	With 5 filters, 25 kHz to 1.2 MHz	<1.25 dB
Single filter, 25 kHz to 12 MHz <3.0 dB		<3.0 dB
With 5 filters, 25 kHz to 12 MHz <4.0 dB	With 5 filters, 25 kHz to 12 MHz	<4.0 dB
Connectors: RJ-11 Jacks and RJ11 Plug; $\geq$ 50 micro-inches of gold plating		
Dimensions: Length = 2.04in (51.9mm), Width = 1.21in (30.8mm), Height = 0.710in (18.0mm)		
Compliant and listed with UL / CSA 60950, FCC CFR 47 Part 68		

#### For More Information:

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

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