INTELLIGENT SOLUTIONS

- LAN
- RF & Wireless
- Telecom
- Power Conversion
- Automotive
- Connectors
- Military/Aerospace
- Hearing
- xDSL
- Advanced Acoustics
- CO & CPE
- Microacoustics

Pulse Product Catalog 2012
About Pulse

Pulse Electronics is the electronic components partner that helps customers build the next great product by providing the needed technical solutions. Pulse has a long operating history of innovation in magnetics, antennas and connectors, as well as the ability to ramp quickly into high-quality, high-volume production.

The Company serves manufacturers in the wireless and wireline communications, power management, military/aerospace and automotive industries. Previously, the holding and operating companies were known as Technitrol, Inc. and Pulse Engineering, Inc., respectively. For more information, visit the Company’s web site at: www.pulseelectronics.com.

The Company has multiple product lines, ranging from passive components that cover power and signal products used in computing, networking and communications, power conversion, defense, aerospace, automotive, and consumer electronics to baluns, diplexers, splitters, and filters for xDSL, home networking; and, antennas for wireless electronic devices, automobiles, and security equipment. Included in the portfolio are antennas for wireless applications. Pulse has antennas for just about any mobile or wireless platform.

In addition, a large inventory of catalog connectors, both filtered and unfiltered, makes “design-in” painless and easily managed.

Product diversity and individual product line growth positions Pulse as one of the largest resources for catalog and custom components, subassembly design, and manufacturing for electronic OEMs, contract manufacturers, and ODMs.

Passive components and modules are typically mounted on a printed circuit board near integrated circuits or within connector modules. These components manage and regulate electronic signals and power by filtering out electromagnetic interference (EMI) and ensure proper current and voltage. Without them, today’s computers, networks, wireless phones, automobiles, TVs, and other electronic devices simply would not operate. These products include inductors, transformers, chokes, splitters, and filters.

Other products include antennas for mobile devices, discrete connectors, couplers, delay lines, power transformers and inductors for automobiles, as well as for value-added custom assemblies. These products support an array of technical applications and platforms such as Ethernet to 10GBase-T, DSL/HPN/Cable, PoE, VoIP, RF, MIL-STD-1553, AC/DC and DC/DC Power Conversion, wireless telecommunications, Fibre Channel, T1, T3, ISDN, IPTV, CCTV and mobile TV.

Pulse supports a multinational customer base with local customer service and design centers in North America, Europe and Asia. Strategically located support centers enable Pulse’s design, marketing, and sales teams to better understand and more readily serve customers’ requirements.

Pulse collaborates with customers to leverage its design and manufacturing expertise of innovative products to ensure products are delivered on time and on budget. Working closely with third-party manufacturers around the world, Pulse ensures the quality and performance of the latest technology used in its products.

Pulse markets products through component distributors, regional sales representatives and direct sales managers. Pulse actively participates in industry standards organizations such as IEEE, IFF, OIF, CommNexus, and MoCA. Through ongoing research and development, Pulse also continues to receive patents for new and innovative products as well as unique manufacturing processes.

This publication contains an extensive collection of various catalog products. Pulse also offers custom and semi-custom designs for all product lines. To help you easily find the parts you need, Pulse has a new Parts Index Search connected to a googlized “Attribute and Product Finder,” and “Application Based Product Selection” on the home page. Access the new product search by clicking on a “tile” that shows the name of the product group that interests you on the new Pulse Electronics home page at http://www.pulseelectronics.com/home.

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Table of Contents

Antennas
For Mobile Phones ................................. 2

Solutions for Mobile Phone Antennas ........ 2

For Wireless Devices ............................ 2-7

Wireless Access Point Solutions .............. 2-3

Internal and Surface Mount Antenna
Solutions .................................... 3-5

Alternative Wireless Solutions ............... 6

Infrastructure Solutions ....................... 6-7

For Automotive Applications .................. 7

Vehicular Mount, Single- and Multi-band
Solutions, NMO Mounting ............ 7-8

LAN Products
Discrete Transformer Modules ............. 9

PulseJack Filtered Connectors .......... 10

LAN IC Cross Reference
10GBase-T Discrete Components ......... 11

Gigabit Discrete Components ............. 11-13

10/100Base-TX Discrete Components ..... 14-18

10Base-T Discrete Components .......... 19-20

ATM Network Components ............ 21

Common Mode Chokes for LAN & Telecom
Applications ................................ 21

Connector Products
SFP & SFP Cages+, XFP Cages, RJ, USB,
Keystone Jack, Patch Panel .......... 22-26

Telecommunications
Media Network Architecture Page Guide .... 26

RF Components ............................ 28

RF, Broadband, CATV TELCO,
TV Applications .......................... 28-29

RF Chip Inductors
Competitive Cross Reference, Ordering Guide,
General Information & Sample Kits,
RF Amplifier ............................ 30

Ultra Small, Ultra Low Profile ............. 31

Industry Standard Performance .......... 32-37

Alternative Inductance & Q vs. Frequency,
High Side Metallization ............... 38

Ferrite Core ............................ 39

ChipChoke™ CCMC Series
for USB and LVDS ..................... 41-44

xDLS & HPN Products
Home Networking, Common Mode Chokes . 44

VDSL Transformers ....................... 44-45

ADSL Transformers, Inductors ........ 45-46

HDSL2/G.SHDSL ........................ 46

Customer Premise Equipment ............. 46

CO & CPE Products
Central Office (CO) DSL Splitter Circuits for
Telecom Applications, CO and CPE Splitter

Filter

Power Magnetics
Overview: Pulse Power Magnetics ........... 59

SMT, THT Selection Charts ............... 60

Shielded/Unshielded Drum Core Inductor
.................................................. 61-62

SMT/THT Power Bead, Flat Coil Inductors ...
.................................................. 63-66

SMT Planar & Wirewound Inductors,
Toroid Inductors ......................... 67-69

THT/SMT Transformers ..................... 70-74

Current Sense Magnetics (For Switching
Supplies) ..................................... 75-77

Current Sense Magnetics (Sidewinder) .... 78

50/60 Hz Laminated Transformers
(open-frame, encapsulated) ............. 79

Automotive Products
Overview: Pulse Automotive Products .... 80

Coils, Automotive Coils, Coil Assemblies ... 81

Military/Aerospace Products
High Speed Data Bus, Copperhead Series ... 84

Military/Aerospace Ethernet AFDX:
10/100 & Gigabit (Military Grade) ...... 73

MIL-STD 1553: QPL, Non-QPL, COTS,
Low Profile Miniature .................... 85-86

Off-the-Shelf Power Inductors & Transformers
(Military Grade) ......................... 87-90

Excelsus CPE Products
ADSL & ADSL2+ Micro Filters, ADSL2+ &
VDSL2 Video Grade Splitters, Excelsus MDU &
HPNA Products ......................... 48-49

Transformers & Transformer Modules:
T1/E1/CEPT/ISDN-Pri, T1/E1 Protection
U-Interface, Digital Audio, DDS/Switched 56,
Audio/Voice Band, Sonet/SDH
(STM-1/E4/CMI) ......................... 50-54

IC Cross References: ISDN S- & U-Interface, Digital
Audio/Single, DDS/Switched 56, Sonet/SDH
(STM-1/E4/CMI) ......................... 55-58

Infrastructure Solutions
........................................ 6-7

CO & CPE Products
Central Office (CO) DSL Splitter Circuits for
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Filter
Pulse Monopole Antennas Enable Multiple M2M Applications

A new set of monopole antennas delivers Zigbee 2.4 GHz and ISM bands 868 MHz and 915 MHz, and 2.4GHz. These antennas are excellent alternatives to trace antennas. They occupy minimal board space while maintaining their key properties regardless of changes to the board, providing a high-quality radio interface for multi-purpose M2M devices and applications — data loggers, remote controls, tracking, monitoring, Smart Grid, AMR tags, remote keyless entry, industrial, metering, security, automation, and POS. The monopole family of ceramic antennas consists of part numbers W3000, W3014, W3016, and W3043.

With so many emerging applications in the M2M sector, designers need an antenna solution which accommodates different ground plane sizes and product dimensions,” said Elaine Baxter, marketing manager, Pulse Wireless Devices Antenna Division. “Pulse’s new range of ZigBee and ISM band ceramic monopole antennas offer a comprehensive and flexible portfolio which can be matched to the majority of M2M applications. They provide more reliability and higher performance than traditional trace antennas used on the PCB.

Pulse Power Bead Inductor Products are Halogen-Free

A full line of power bead products, used in voltage regulators for computing applications and point-of-load (PoL) products, are now halogen-free. Halogen elimination is part of Pulse’s on-going initiative to comply with the Registration, Evaluation, Authorization and Restriction of Chemical (REACH) regulation under EC 1907/2006.

Pulse’s halogen-free parts are identified by the suffix HL, indicating compliance with both halogen-free and lead-free standards. The first halogen-free series to be released was the PA0511, the most widely used power bead inductor series. To request halogen-free parts, customers simply enter HL in place of NL as the part number suffix.

Pulse’s highly efficient, off-the-shelf power beads offer high performance for multi-phase buck regulator applications. Their low direct current resistance (DCR) minimizes inductor conduction losses while their low-loss ferrite cores minimize inductor switching losses. Plus, their small footprint enables flexibility in board layout. Power bead inductors come in through-hole and surface mount configurations for use in power supplies for desktop and notebook computers, servers, graphics cards, and PoL applications.
**Featured Products**

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**The First DSL NanoFilter**

The first digital subscriber line (DSL) NanoFilter. Pulse’s Z-321NF is the world’s smallest in-line DSL customer premises equipment (CPE) MicroFilter. It offers both voice and data protection by isolating DSL-band frequencies from voice-band equipment and telephone impedance changes from DSL equipment, and provides DSL band attenuation that prevents inter-modulation distortion. The result is excellent voice band quality and optimal DSL data rates. The Z-321NF was designed specifically for the Southeast Asian, Indian, and Eastern European markets where 600 Ω telephones are used.

Each parameter of this quality product was carefully measured and tuned to provide functional performance that can be offered at price points that support high-volume DSL deployments in the Asian and Indian markets.

Pulse’s Z-321NF NanoFilter is just 36mm deep x 16.6mm long x 18mm high, works with any single-line phone, fax machine, or dial-up modem, and plugs into any standard phone jack. It is compatible with all major DSL standards including ADSL, ADSL2+, and VDSL2, meets CE standards, and is RoHS compliant. Detailed specifications are available on data sheet EX143 on the Pulse website.

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**LTE Antenna**

This first long-term evolution (LTE) antenna can adjust to 7 bands: LTE 700, 850, 900, 1800, 1900, 2100, and 2600 MHz. Built on the smallest LTE antenna platform available, the antenna is for use in small portable LTE devices such as mobile phones, wireless routers, and wireless modems. The antenna was designed to meet future demands for world phones with truly global roaming that also work seamlessly in LTE multiple-input, multiple-output (MIMO) networks while providing normal WCDMA, CDMA, and GSM access. The adjustable single-element antenna comes in a very compact size, 50.2mm x 18.0mm x 6.9mm which includes volume for speakers and other accessories within the antenna frame structure.

The fine-tuned LTE antennas provide the ability to deliver high data rates to a variety of consumer devices, including Mobile Internet Devices (MIDs) and smart phones. Until now, almost all MIMO solutions have been demonstrated only on a single band. The Pulse 7-band LTE antennas are a natural evolution of Pulse’s switchable antenna family—available since 2003. Based on Pulse’s well-known and proven antenna technology, they are readily available, are of high-quality, and come with Pulse support.

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**RF Transformers & Diplex Filters Support CATV DOCSIS 3.0 Applications**

A new family of cable television (CATV) RF transformers and RF diplex filters that meet Data Over Cable Service Interface Specification (DOCSIS) 3.0 design requirements for applications such as set-top boxes, cable modems, and gateways. These components support frequency bands 5-65/85-1002 MHz, 5-42/54-1002MHz, and 5-85/108-1002 MHz, and are tuned and tested by Pulse to exacting specifications.

Pulse’s initial offerings for this new family are two RF balun transformers, part CX2240NL, a transmission line transformer, and part CX2244NL, a flux coupled transformer. Also included is a new, small-package, surface mount RF diplex filter, part C6164NL. All parts have been designed for new CATV technology products to exacting electrical specifications and come in industry-standard mechanical packages. The diplex filters provide exacting electrical RF signal management with very low RF emissions and are fully enclosed in a metal shield or enclosure. DOCSIS 3.0 is a CATV industry standard, developed to enable service providers to deliver more services by adding bandwidth to CATV’s existing hybrid fiber-coaxial infrastructure.

Pulse RF Docsis 3.0 products are tuned and tested to exacting specifications in the factory. Pulse provides competitive market pricing and high-volume production capability. These products are immediately available, or Pulse can provide custom designs on request. Both the transformers and diplexers are RoHS compliant and meet open cable, cable labs, and data-over-cable service interface specifications. For more information view the transformer and filter data sheets C258 and C251 on the Pulse web site.