



12-Port 10/100/1000BASE-T PHY with SGMII and QSGMII MAC Interface

The VSC8512 is the industry's first 12-port Gigabit Ethernet copper PHY solution in a single package. The VSC8512 leverages Vitesse's new 65 nm SimpliPHY™ technology, resulting in the one of the most cost-effective and lowest power consumption devices in the industry. The single chip solution includes the most advanced Ethernet energy efficiency features for bringing green technology solutions to market. The VSC8512 employs the latest QSGMII MAC interface to reduce PCB routing to a MAC, switch, or ASIC chip. The VSC8512 is ideal for high-density switch and router applications, enabling Ethernet multiport systems to achieve very low system Bill of Material (BOM) costs, reducing overall production costs for more cost-effective deployments. SimpliPHY devices use field-proven, fully adaptive equalization and innovative timing recovery algorithms for unparalleled noise tolerance performance. SimpliPHY devices are based on patented, fully balanced voltage-mode line driver technology, which allows lower cost magnetics to be used.

Product Variants	Description
VSC8512XJG-02	Latest generation 672-pin 27 x 27 mm BGAlead-free second-level interconnect, 0 °C to 125 °C
VSC8512XJG-03	Latest generation 672-pin 27 x 27 mm BGAlead-free second-level interconnect, -40 °C to 125 °C
VSC8512XJG-01	[Obsolete] Second generation 672-pin 27 x 27 mm BGAlead-free second-level interconnect, 0 °C to 125 °C
VSC8512XJG	[Obsolete] First generation 672-pin 27 x 27 mm BGAlead-free second-level interconnect, 0 °C to 125 °C

Add to Cart	Category	Title	Access	Revision	Posted	Type	Size
☐	Product Brief	Energy Efficient Solutions for Ethernet Electronics		1.2	04/26/2010		1 MB
☐	Product Brief	VSC8512 Product Brief		1.1	04/22/2010		762 KB
☐	Datasheet	VSC8512 Datasheet		4.1	12/21/2012		982 KB
☐	Datasheet	VSC8512-01 Datasheet		4.1	12/21/2012		1 MB
☐	Datasheet	VSC8512-02 Datasheet		4.2	05/16/2014		1 MB
☐	Application Note	Magnetics Guide		2.0	02/06/2014		626 KB
☐	Application Note	SimpliPHY Fast Link Fail Indication		2.0	02/06/2014		82 KB
☐	Application Note	Using VSC8512 Energy Efficient Ethernet (EEE) Features		1.0	04/22/2010		112 KB
☐	Application Note	VSC8512 Design Guide		1.0	06/02/2010		238 KB
☐	User Guide	SparX-III PoE/PoE+ Reference Design		1.0	08/02/2010		204 KB
☐	Model	QSGMII IBIS-AMI Model		1.0	02/06/2013		1 MB
☐	Model	VSC8512 BSDL Model		1.3	10/05/2012		11 KB
☐	Reference Design	Reference Design 24 Cu ports + 2 SFP Managed Switch and PHY		2.3	10/01/2012		61 MB
☐	Software	API Release Notes		4.48	05/12/2014		35 KB
☐	Reports	VSC7423XJG-02, VSC7424XJG-02, VSC7425XJG-02, VSC7426XJG-02, VSC7427XJG-02, VSC7428XJG-02, VSC7428XJG-12, VSC7429XJG-02, VSC8512XJG-02 and VSC8512XJG-03 Material Composition Declaration - (Pd/Au Coated Cu Wire)		3.0	06/25/2014		21 KB
☐	Reports	VSC7423XJG-02, VSC7424XJG-02, VSC7425XJG-02, VSC7426XJG-02, VSC7427XJG-02, VSC7428XJG-02, VSC7429XJG-02, VSC8512XJG-02 and VSC8512XJG-03 Material Composition Declaration - Cu Wire		4.0	08/20/2013		22 KB
☐	Reports	VSC7424XJG, VSC7425XJG, VSC7426XJG, VSC7427XJG, VSC7428XJG, VSC7429XJG and VSC8512XJG Material Composition Declaration - (A109160 Substrate)		2.0	10/10/2011		22 KB
☐	Reports	VSC7424XJG-01, VSC7425XJG-01, VSC7426XJG-01, VSC7427XJG-01, VSC7428XJG-01, VSC7429XJG-01, VSC8512XJG-01 Material Composition Declaration - Au Wire		1.0	04/13/2012		22 KB
☐	Reports	First Level Product Qualification Report for VSC8512XJG-02 - ASE (Pd/Au Coated Cu Wire)		1.0	04/10/2014		85 KB
☐	Reports	First Level Product Qualification Report for VSC8512XJG-03 - ASE (Pd/Au Coated Cu Wire)		1.0	04/10/2014		85 KB
☐	Reports	First Level Product Qualification Report for VSC8512XJG-03 - Cu Wire		2.0	06/24/2013		88 KB
☐	Reports	VSC8512 Latency Report		1.0	05/28/2010		107 KB



Quick Links

[Knowledge Base](#)
[Sales & Support](#)

Key Features

- 12 GbE PHYs in a single package
- Four dual media copper/fiber ports
- Lowest BOM solution requires only two voltage planes

Applications

- Ethernet switches and routers
- Edge and Access platforms
- Blade servers

Feedback on this product?

[Click here to comment](#)

EcoEthernet

Ethernet Energy Savings Ahead

Watch the Video ▶