



VSP3010

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## *Speed+us*™ 12-Bit, 12MHz CCD/CIS SIGNAL PROCESSOR

### FEATURES

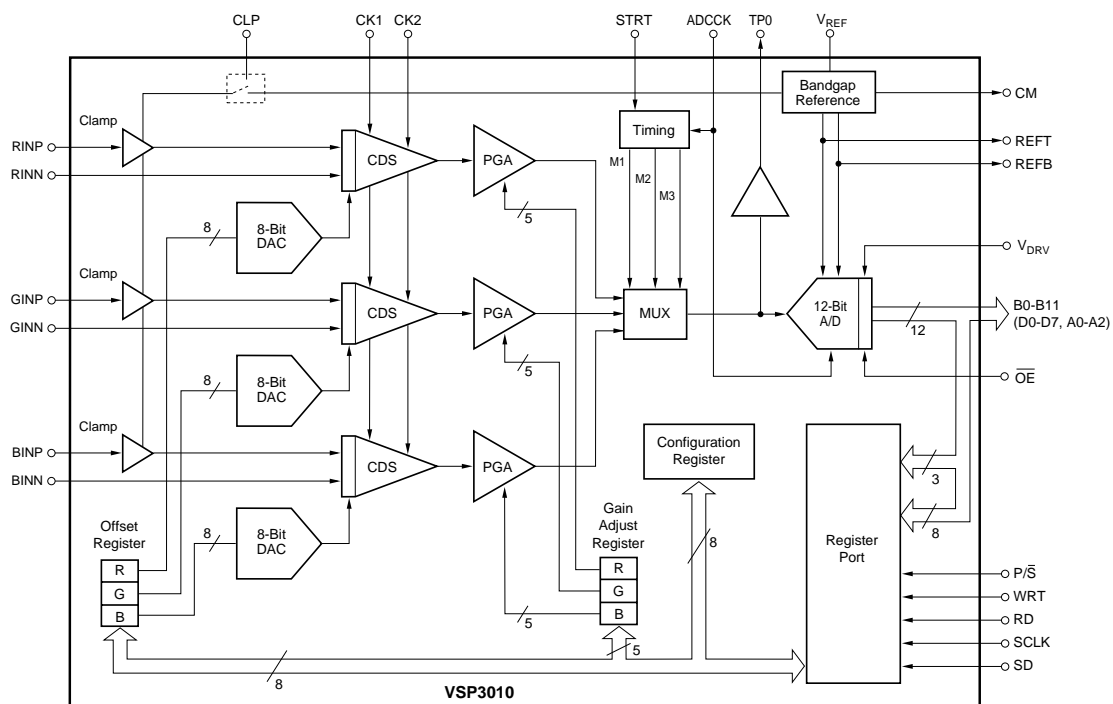
- 12-BIT, 12MHz A/D CONVERTER
- GUARANTEED NO MISSING CODES
- 3-CHANNEL, 4MHz COLOR SCAN MODE:  
Correlated Double Samplers  
8-Bit Offset Adjustment DACs  
0dB to +13dB PGAs
- A/D INPUT MONITOR
- INTERNAL VOLTAGE REFERENCE
- SINGLE +5V SUPPLY
- 3V OR 5V DIGITAL OUTPUT
- LOW POWER: 500mW typ (CCD Mode)

### APPLICATIONS

- CCD AND CIS COLOR SCANNERS
- FAX AND MULTI-FUNCTION MACHINES
- INDUSTRIAL/MEDICAL IMAGING SYSTEMS

### DESCRIPTION

The VSP3010 is a complete, three-channel image signal processor for Charge Coupled Device (CCD) or Contact Image Sensor (CIS) systems. Each channel contains sensor signal sampling, Black Level adjustment and a programmable gain amplifier. The three inputs are multiplexed into a high speed, 12-bit analog-to-digital converter. Input circuitry can be configured, by digital command, for CCD or CIS sensors. A Black Clamp and Correlated Double Samplers (CDS) are provided for CCD sensors. For CIS devices, the VSP3010 provides a single-ended sampler and a reference input. The VSP3010 is available in a 48-lead LQFP package and operates from 0°C to +85°C with a single +5V supply.



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Twx: 910-952-1111 • Internet: <http://www.burr-brown.com/> • Cable: BBRCORP • Telex: 066-6491 • FAX: (520) 889-1510 • Immediate Product Info: (800) 548-6132

## PACKAGING INFORMATION

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/Ball Finish (6)	MSL Peak Temp (3)	Op Temp (°C)	Device Marking (4/5)	Samples
VSP3010Y	NRND	LQFP	PT	48	250	Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	0 to 85	VSP3010Y	

(1) The marketing status values are defined as follows:

**ACTIVE:** Product device recommended for new designs.

**LIFEBUY:** TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.

**NRND:** Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.

**PREVIEW:** Device has been announced but is not in production. Samples may or may not be available.

**OBSOLETE:** TI has discontinued the production of the device.

(2) Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS), Pb-Free (RoHS Exempt), or Green (RoHS & no Sb/Br) - please check <http://www.ti.com/productcontent> for the latest availability information and additional product content details.

**TBD:** The Pb-Free/Green conversion plan has not been defined.

**Pb-Free (RoHS):** TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.

**Pb-Free (RoHS Exempt):** This component has a RoHS exemption for either 1) lead-based flip-chip solder bumps used between the die and package, or 2) lead-based die adhesive used between the die and leadframe. The component is otherwise considered Pb-Free (RoHS compatible) as defined above.

**Green (RoHS & no Sb/Br):** TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

(3) MSL, Peak Temp. - The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

(4) There may be additional marking, which relates to the logo, the lot trace code information, or the environmental category on the device.

(5) Multiple Device Markings will be inside parentheses. Only one Device Marking contained in parentheses and separated by a "~" will appear on a device. If a line is indented then it is a continuation of the previous line and the two combined represent the entire Device Marking for that device.

(6) Lead/Ball Finish - Orderable Devices may have multiple material finish options. Finish options are separated by a vertical ruled line. Lead/Ball Finish values may wrap to two lines if the finish value exceeds the maximum column width.

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DSP	<a href="http://dsp.ti.com">dsp.ti.com</a>
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OMAP Applications Processors	<a href="http://www.ti.com/omap">www.ti.com/omap</a>
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Industrial	<a href="http://www.ti.com/industrial">www.ti.com/industrial</a>
Medical	<a href="http://www.ti.com/medical">www.ti.com/medical</a>
Security	<a href="http://www.ti.com/security">www.ti.com/security</a>
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