



VSP3010

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SpeedPLUS™ 12-Bit, 12MHz CCD/CIS SIGNAL PROCESSOR

FEATURES

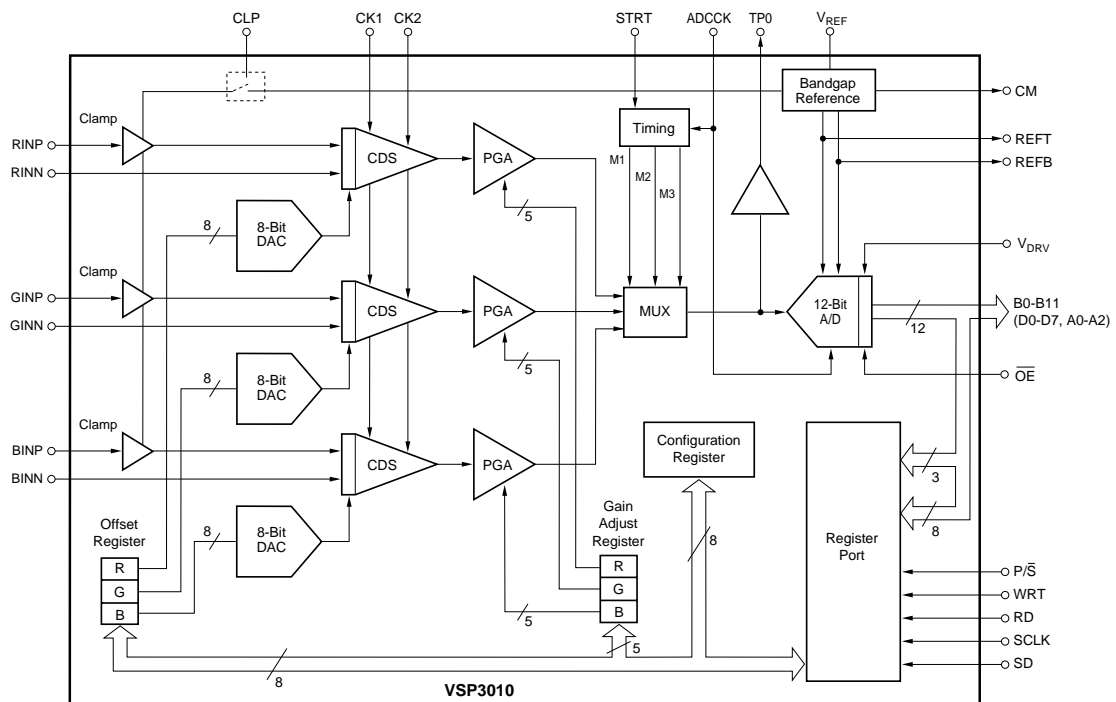
- 12-BIT, 12MHz A/D CONVERTER
- GUARANTEED NO MISSING CODES
- 3-CHANNEL, 4MHz COLOR SCAN MODE:
Correlated Double Samplers
8-Bit Offset Adjustment DACs
0dB to +13dB PGAs
- A/D INPUT MONITOR
- INTERNAL VOLTAGE REFERENCE
- SINGLE +5V SUPPLY
- 3V OR 5V DIGITAL OUTPUT
- LOW POWER: 500mW typ (CCD Mode)

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.



International Airport Industrial Park • Mailing Address: PO Box 11400, Tucson, AZ 85734 • Street Address: 6730 S. Tucson Blvd., Tucson, AZ 85706 • Tel: (520) 746-1111
 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 finish/ Ball material (6)	MSL Peak Temp (3)	Op Temp (°C)	Device Marking (4/5)	Samples
VSP3010Y	ACTIVE	LQFP	PT	48	250	RoHS & Green	NIPDAU	Level-1-260C-UNLIM	0 to 85	VSP3010Y	Samples

(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) **RoHS:** TI defines "RoHS" to mean semiconductor products that are compliant with the current EU RoHS requirements for all 10 RoHS substances, including the requirement that RoHS substance do not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, "RoHS" products are suitable for use in specified lead-free processes. TI may reference these types of products as "Pb-Free".

RoHS Exempt: TI defines "RoHS Exempt" to mean products that contain lead but are compliant with EU RoHS pursuant to a specific EU RoHS exemption.

Green: TI defines "Green" to mean the content of Chlorine (Cl) and Bromine (Br) based flame retardants meet JS709B low halogen requirements of <=1000ppm threshold. Antimony trioxide based flame retardants must also meet the <=1000ppm threshold requirement.

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

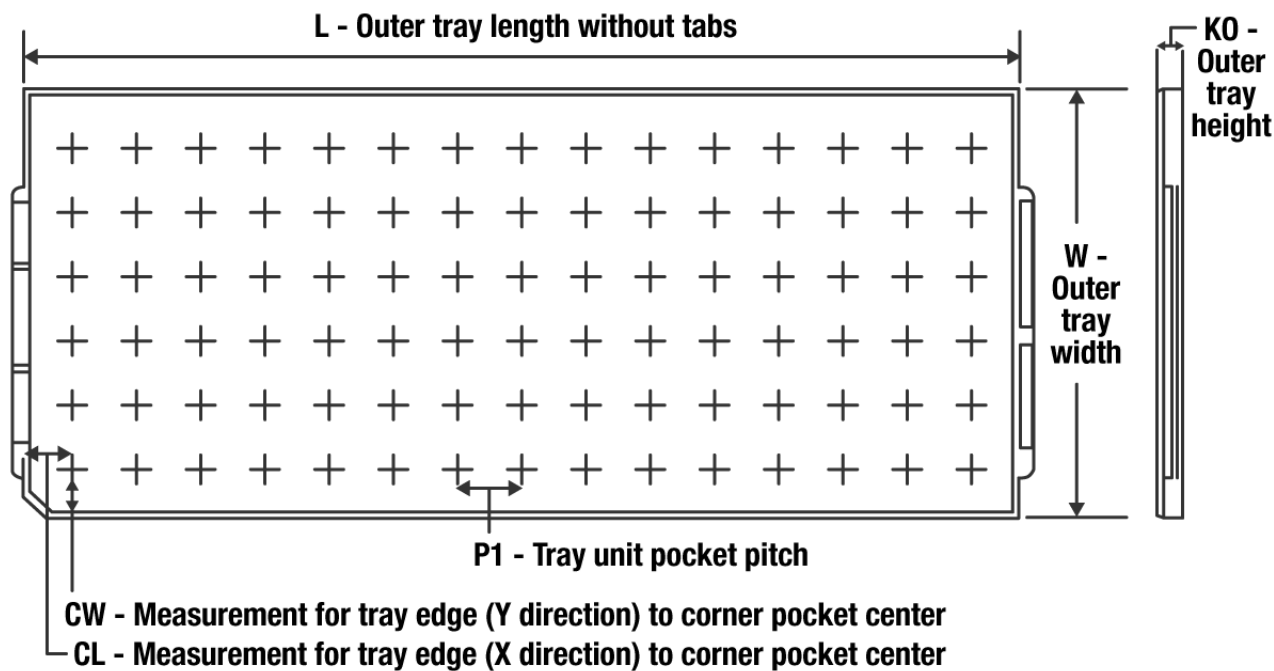
(4) There may be additional marking, which relates to the logo, the lot trace code information, or the environmental category on the device.

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

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TRAY


Chamfer on Tray corner indicates Pin 1 orientation of packed units.

*All dimensions are nominal

Device	Package Name	Package Type	Pins	SPQ	Unit array matrix	Max temperature (°C)	L (mm)	W (mm)	K0 (µm)	P1 (mm)	CL (mm)	CW (mm)
VSP3010Y	PT	LQFP	48	250	10x25	150	315	135.9	7.62	12.2	11.1	11.25

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