Burr-Brown Products
from Texas Instruments

VSP3200
VSP3210



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CCD SIGNAL PROCESSOR FOR SCANNER APPLICATIONS

FEATURES

- **INTEGRATED TRIPLE-CORRELATED DOUBLE SAMPLER**
- **OPERATION MODE SELECTABLE: 1-Channel, 3-Channel CCD Mode, 8Msps**
- **PROGRAMMABLE GAIN AMPLIFIER: 0dB to +13dB**
- **SELECTABLE OUTPUT MODES: Normal/Demultiplexed**
- **OFFSET CONTROL RANGE: ±500mV**
- **+3V, +5V Digital Output**
- **LOW POWER: 300mW (typ)**
- **LQFP-48 SURFACE-MOUNT PACKAGE**

DESCRIPTION

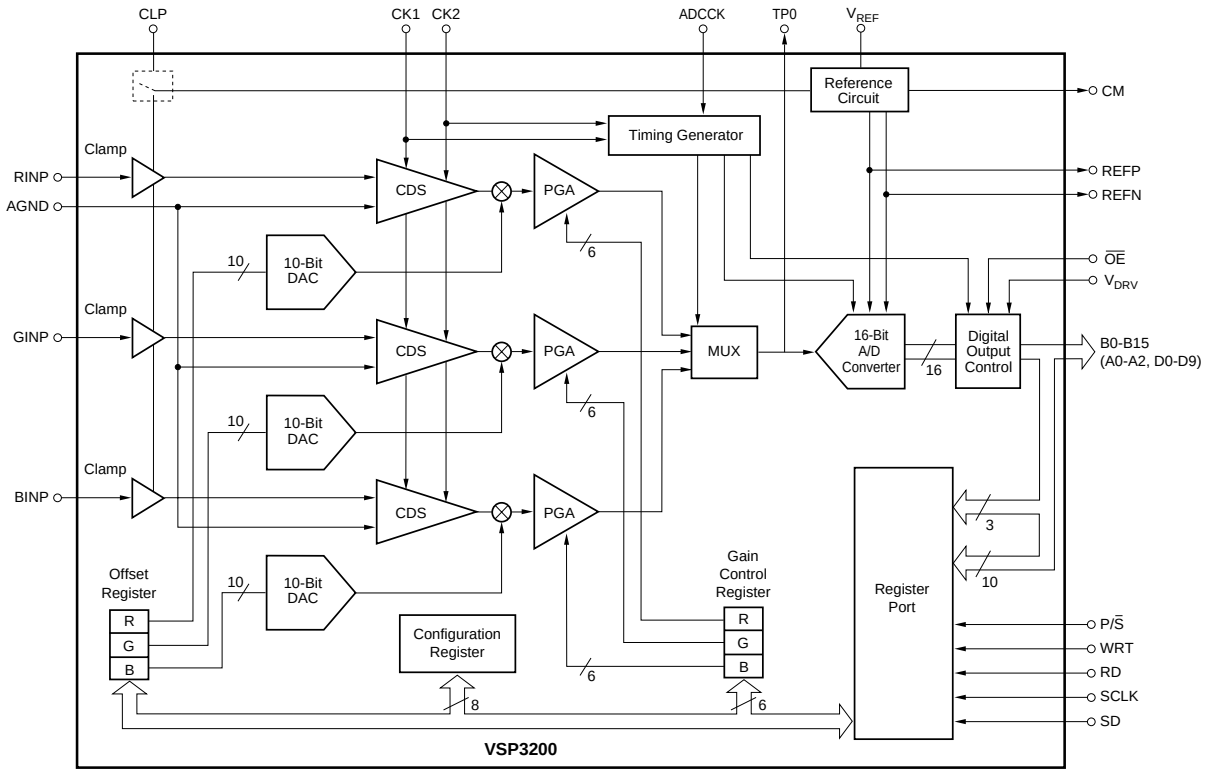
The VSP3200 and VSP3210 are complete CCD image processors that operate from single +5V supplies.

This complete image processor includes three Correlated Double Samplers (CDSs) and Programmable Gain Amplifiers (PGAs) to process CCD signals.

The VSP3200 is interface compatible with the VSP3210, which is a 16-bit, one-chip product.

The VSP3210 is pin-to-pin compatible with VSP3100, when in demultiplexed output mode.

The VSP3200 and VSP3210 can be operated from 0°C to +85°C, and are available in LQFP-48 packages.



TEXAS INSTRUMENTS

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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
VSP3200Y	ACTIVE	LQFP	PT	48	250	Green (RoHS & no Sb/Br)	NIPDAU	Level-1-260C-UNLIM		VSP3200Y	Samples
VSP3200YG4	ACTIVE	LQFP	PT	48	250	Green (RoHS & no Sb/Br)	NIPDAU	Level-1-260C-UNLIM		VSP3200Y	Samples
VSP3210Y/2K	NRND	LQFP	PT	48	2000	Green (RoHS & no Sb/Br)	NIPDAU	Level-1-260C-UNLIM	0 to 85	VSP3210Y	

(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.

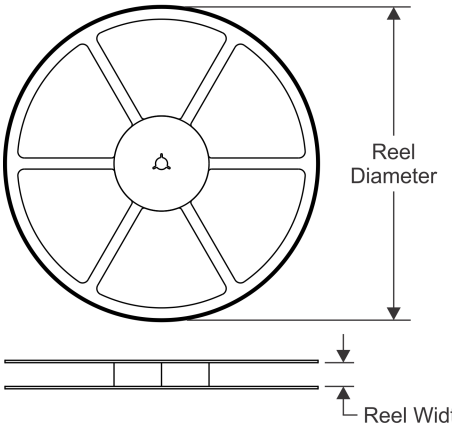
(6) Lead/Ball Finish - Orderable Devices may have multiple material finish options. Finish options are separated by a vertical ruled line. Lead/Ball Finish values may wrap to two lines if the finish value exceeds the maximum column width.

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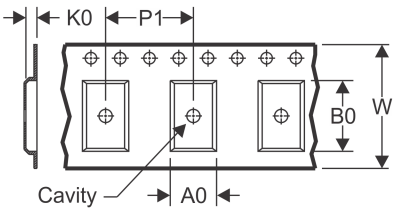
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TAPE AND REEL INFORMATION

REEL DIMENSIONS

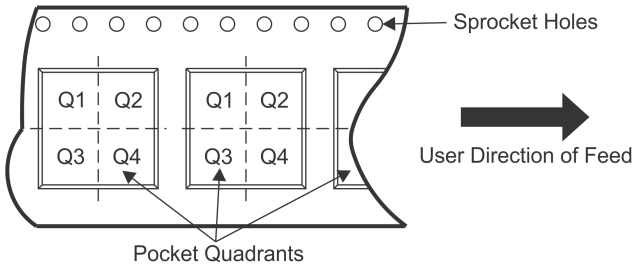


TAPE DIMENSIONS



A0	Dimension designed to accommodate the component width
B0	Dimension designed to accommodate the component length
K0	Dimension designed to accommodate the component thickness
W	Overall width of the carrier tape
P1	Pitch between successive cavity centers

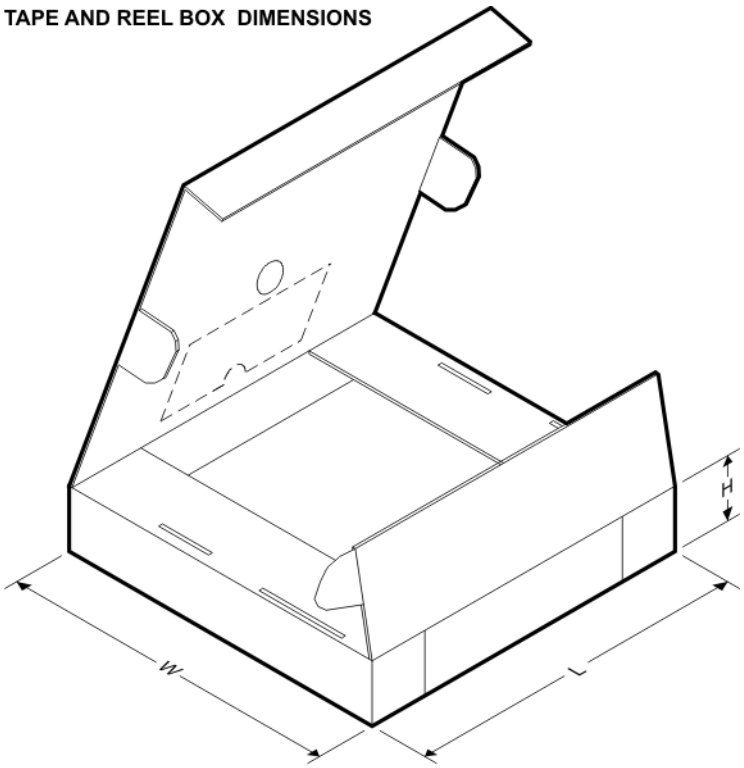
QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
VSP3210Y/2K	LQFP	PT	48	2000	330.0	17.4	9.5	9.5	2.0	12.0	16.0	Q1

TAPE AND REEL BOX DIMENSIONS



*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Length (mm)	Width (mm)	Height (mm)
VSP3210Y/2K	LQFP	PT	48	2000	367.0	367.0	38.0

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