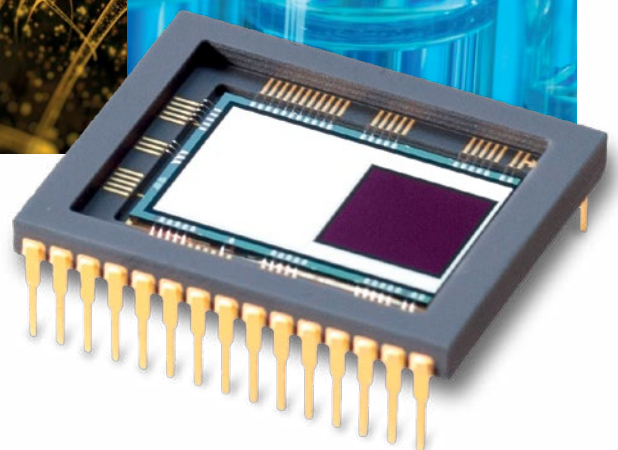




**TELEDYNE e2V**  
Everywhereyoulook™

Part of the Teledyne Imaging Group

# Standard CCD Image Sensors



[teledyne-e2v.com/imaging](http://teledyne-e2v.com/imaging)

# CCD IMAGE SENSORS

Custom products also available

	NUMBER OF ACTIVE PIXELS		STORE SECTION TOTAL PIXELS		PIXEL PITCH (µM)		IMAGE SIZE (MM)		OUTPUT AMPLIFIER TYPE	MAXIMUM READOUT RATE (MHZ)	READOUT NOISE (E-)	PRIMARY PACKAGE TYPE	ALTERNATIVE PACKAGE TYPES	BACK-THINNED	OPERATION MODES	ANTI-BLOOMING	COATINGS LUMOGEN	FIBER OPTIC	HI-RES DEEP DEPLETION SILICON	OPEN ELECTRODE
	V	H	V	H	V	H	V	H												
<b>FULL-FRAME SPECTROSCOPIC AND SCIENTIFIC SENSORS</b>																				
CCD30-11	256	1,024			26	26	6.7	26.7	LS	5	4 (RNB)	20-pin DIL ceramic		(N)/(A)						
CCD40-11	128	1,024			26	26	3.3	26.6	LS	5	4 (RNB)	20-pin DIL ceramic		(N)/(A)						
CCD42-10	512	2,048			13.5	13.5	6.9	27.6	2 x VLN	3	2 (RNB)	20-pin DIL ceramic		(N)/(A)	□	■	■	■	□	
CCD42-40	2,048	2,048			13.5	13.5	27.6	27.6	2 x VLN	3	2 (RNB)	24-pin DIL ceramic		(N)/(A)	□	□	■	■	□	
CCD42-90	4,608	2,048			13.5	13.5	62.2	27.6	2 x VLN	3	2 (RNB)	Invar 3-side buttable + PGA		(N)	□				□	
CCD44-82	4,096	2,048			15	15	61.4	30.7	2 x VLN	3	2 (RNB)	Invar 3-side buttable + PGA		(N)					□	
CCD47-10	1,024	1,024			13	13	13.3	13.3	2 x VLN	5	2 (RNB)	24-pin DIL ceramic		(N)/(A)	□	■	■	■	□	
CCD55-20	1,152	770			22.5	22.5	25.9	17.3	1 VLN + 1 LS	7	3 (RNB)	44-pin PGA ceramic		(A)	□	□	■	■	□	
CCD55-30	1,152	1,252			22.5	22.5	25.9	27.9	1 VLN + 1 LS	7	3 (RNB)	44-pin PGA ceramic		(A)	□	□	■	■	□	
CCD62-06	578	385			22	22	12.7	8.5	HSA	12	4 (RNB)	20-pin DIL ceramic		(A)	□	□	■	■	□	
CCD77-00	512	512			24	24	12.3	12.3	2 x LS	7	3 (RNB)	24-pin DIL ceramic		(N)/(I)		■	■	■	□	
CCD230-42	2,064	2,048			15	15	30.7	30.7	4 x VLN	5	3 (RNB)	78-pin PGA ceramic		(I)		□				
CCD230-84	4,112	4,096			15	15	61.4	61.4	4 x VLN	5	3 (RNB)	80-pin PGA ceramic		(I)						
CCD231-84	4,112	4,096			15	15	61.4	61.4	4 x VLN	3	2 (RNB)	SiC buttable + 2 flex cable	80-pin PGA ceramic		(N)					■
CCD231-C6	6,160	6,144			15	15	92.4	92.2	4 x VLN	3	2 (RNB)	SiC buttable + 2 flex cable		(N)						■
CCD290-99	9,232	9,216			10	10	92.4	92.2	16 x VLN	3	2 (RNB)	SiC buttable + 2 flex cable		(N)						■
<b>FRAME TRANSFER SCIENTIFIC SENSORS</b>																				
CCD39-01	80	80	80	80	24	24	1.9	1.9	4 x VLN	3	3 (RNB)	24-pin DIL ceramic	TE cooled Peltier Package + window		(N)			□		
CCD39-02	80	80	80	80	24	24	1.9	1.9	1 x VLN	3	3 (RNB)	24-pin DIL ceramic	TE cooled Peltier Package + window		(N)			□		
CCD44-82	2,048	2,048	2,052	2,098	15	15	30.7	30.7	2 x VLN	3	2 (RNB)	Invar 3-side buttable + PGA		(N)						■
CCD47-20	1,024	1,024	1,033	1,056	13	13	13.3	13.3	2 x VLN	5	2 (RNB)	32-pin DIL ceramic	TE cooled Peltier Package + window		(N)/(A)	■ (N)	□	□	■	
CCD55-20	576	770	576	804	22.5	22.5	13	17.3	VLN + LS	7	3 (RNB)	44-pin PGA ceramic		(A)	□	□	□	□	□	
CCD55-30	576	1,252	576	1,276	22.5	22.5	13	27.9	VLN + LS	7	3 (RNB)	44-pin PGA ceramic		(A)	□	□	□	□	□	
CCD57-10	512	512	528	536	13	13	6.7	6.7	2 x VLN	3	3 (RNB)	24-pin DIL ceramic	32-pin DIL ceramic		(N)/(A)	■ (N)	■	□	□	□
CCD62-06	288	385	290	395	22	22	6.3	8.5	HSA	12	4 (RNB)	20-pin DIL ceramic		(A)	□	■	□	□	□	
CCD67	256	256	264	268	26	26	6.7	6.7	2 x VLN	5	4 (RNB)	24-pin DIL ceramic		(N)/(A)	□	■	□	□	□	
<b>EMCCD IMAGE SENSORS – L3VISION™</b>																				
CCD60	128	128	130	130	24	24	3	3	1 x VLN	18	< 1 (RNA)	24-pin DIL ceramic	TE cooled Peltier Package + window		(I)			■	□	
CCD65 (525 line)	244	576	250	591	35.5	20	8.6	11.5	1 x VLN	16	< 1 (RNA)	36-pin PGA ceramic	TE cooled 32-pin Peltier Package + window		(I)		■	■	□	
CCD65 (625 line)	288	576	296	591	30	20	8.6	11.5	1 x VLN	16	< 1 (RNA)	36-pin PGA ceramic	TE cooled 32-pin Peltier Package + window		(I)		■	■	□	
CCD97	512	512	528	536	16	16	8.2	8.2	1 VLN + 1 LS	13	< 1 (RNA)	30-pin DIL ceramic	TE cooled 32-pin Peltier Package + window		(I)			■	■	
CCD201	1,024	1,024	1,037	1,056	13	13	13.3	13.3	1 VLN + 1 LS	15	< 1 (RNA)	36-pin ceramic package	TE cooled Peltier Package + window		(I)			■		□
CCD220-00	240	240	240	244	24	24	5.8	5.8	8 x VLN	14	< 1 (RNA)	64-pin Peltier package + window		(I)						■
CCD351-00	1,024	1,024	1,043	1,056	10	10	10.2	10.2	1 x VLN	37	< 1 (RNA)	30-pin DIL ceramic		(I)						

**Key**

- Available
- Subject to tooling and/or order quantity
- (A) Advanced IMO
- (N) Non-IMO
- (I) Inverted Mode Operation
- VLN Very Low Noise scientific amplifier

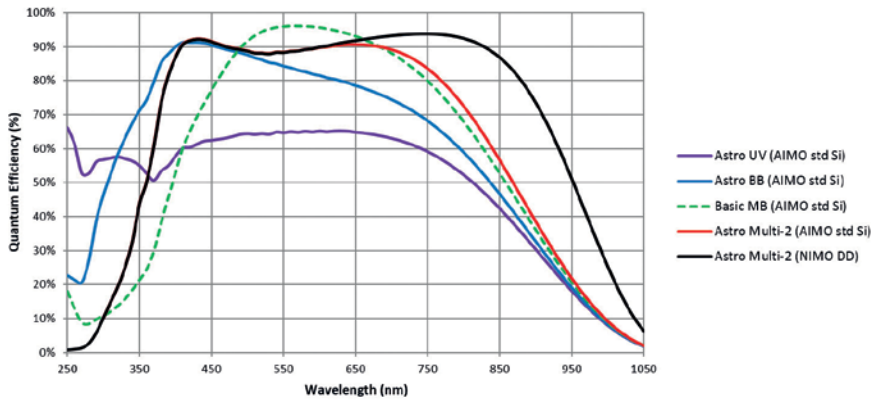
- LS Large Signal scientific amplifier
- S+H Sample & Hold integral to output
- HSA High Speed Output Amplifier
- DIL Dual In Line
- PGA Pin Grid Array
- V Vertical

- H Horizontal
- TE Thermo-Electric
- RNA At maximum readout rate, FI device
- RNB At 20kHz readout rate, FI device

Non-exhaustive list, limited to standard version of **Teledyne e2v** sensors. Other sensors are potentially available under restricted conditions. Note: Whilst **Teledyne e2v** has taken care to ensure the accuracy of the information contained herein, it accepts no responsibility for the consequences of any use thereof and also reserves the right to change specification of goods without notice. **Teledyne e2v** accepts no liability beyond that set out in its standard conditions of sale in respect of infringement of third party patents arising from the use of devices in accordance with the information contained herein. Not all combinations of variants are available for a single device. Users are advised to contact **Teledyne e2v** to confirm if their particular requirements are available with a standard device before designing their system.

# QUANTUM EFFICIENCY (QE) CURVES – BACK-THINNED

## BACK-ILLUMINATED CCD AND EMCCD: TYPICAL QUANTUM EFFICIENCY AT -20°C



## BACK-ILLUMINATED CCD AND EMCCD: TYPICAL QUANTUM EFFICIENCY AT -100°C

