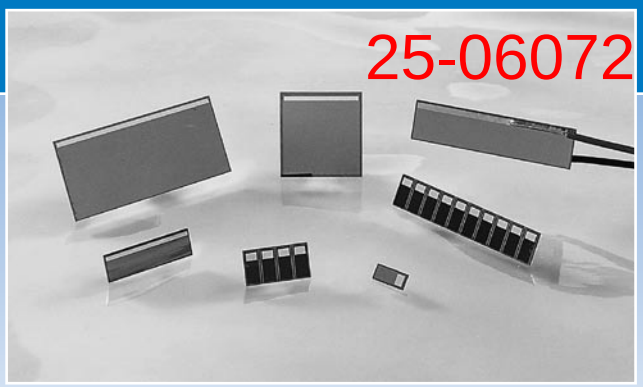
Solderable Chip Series

Planar Diffused Silicon Photodiodes

The Solderable photodiode chip series offer a low cost approach to applications requiring large active area photodetectors with or without flying leads for ease of assembly and / or situations where the detector is considered “disposable”. They have low capacitance, moderate dark currents, wide dynamic ranges and high open circuit voltages. These detectors are available with two 3" long leads soldered to the front (anode) and back (cathode). There are two types of photodiode chips available. “Photoconductive” series, (SXXCL) for low capacitance and fast response and “Photovoltaic” series (SXXVL) for low noise applications.

All of the devices are also available in chip form without any leads. For ordering subtract suffix ‘L’ from the model number, e.g. S-100C.

For large signal outputs, the detectors can be connected directly to a current meter or across a resistor for voltage measurements. Alternately, the output can be measured directly with an oscilloscope or with an amplifier. Please refer to the “Photodiode Characteristics” section for further details.



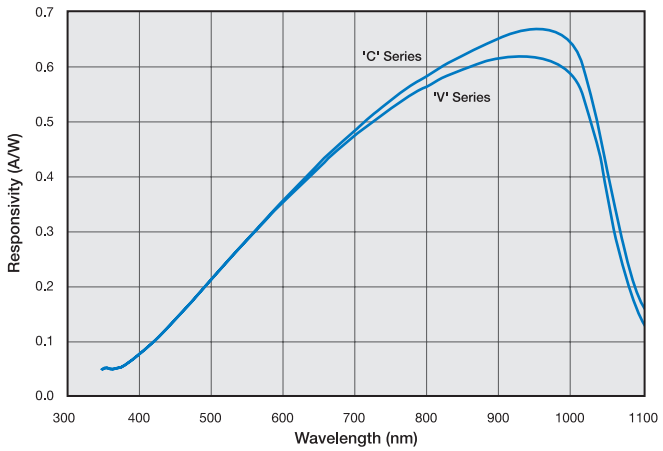
APPLICATIONS

- Solar Cells
- Low Cost Light Monitoring
- Diode Laser Monitoring
- Low Capacitance

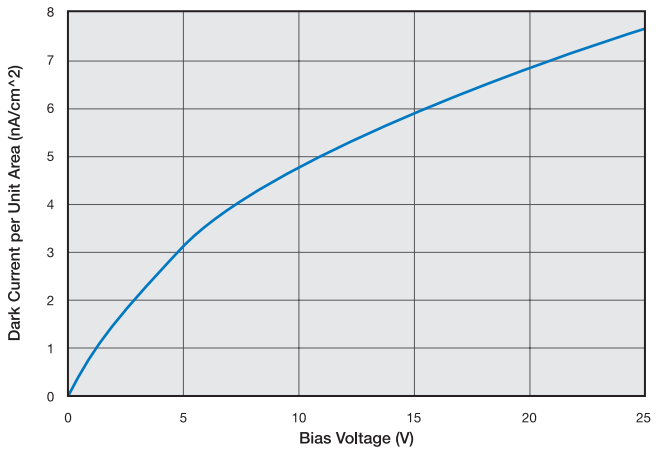
FEATURES

- Large Active Areas
- Various Sizes
- High Shunt Resistance
- With or Without Leads

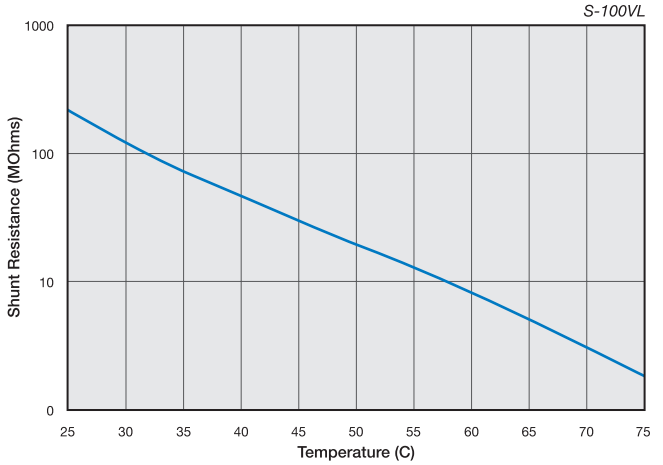
Typical Spectral Response



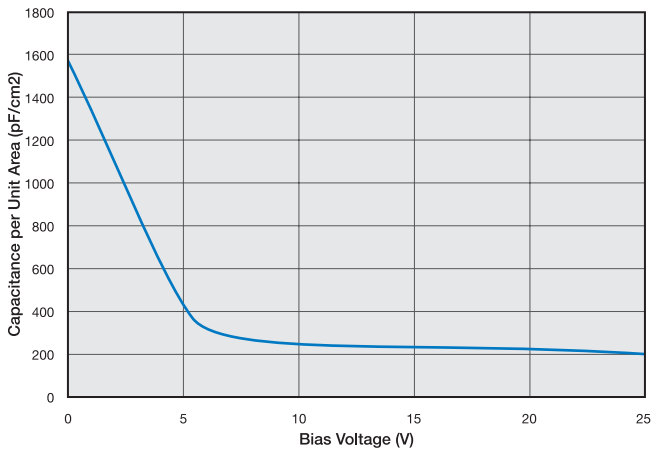
Typical Dark Current per Unit Area vs. Bias Voltage



Typical Shunt Resistance vs. Temperature



Typical Capacitance per Unit Area vs. Bias Voltage

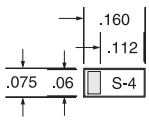


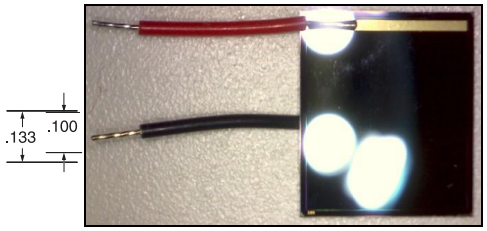
Solderable Chip Series

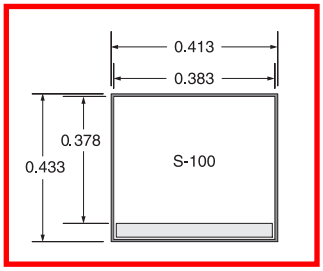
Typical Electro-Optical Specifications at T_A=23°C

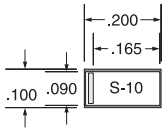
Model Number	Active Area		Chip size mm (inches)	Peak Responsivity Wavelength	Responsivity at λ_P		Shunt Resistance (MΩ)	Dark Current (nA)	Capacitance (pF)	
	Area mm^2 ($inches^2$)	Dimensions mm (inches)		λ_P (nm)	A/W		-10 mV	-5 V	0 V	-5 V
					min.	typ.	min.	max.	typ.	typ.
S-4CL §	4.7 (0.007)	1.7 x 2.8 (0.07 x 0.11)	1.9 x 4.1 (0.08 x 0.16)	970	0.60	0.65	---	20	---	15
S-4VL							10	---	370	---
S-10CL	9.6 (0.015)	2.3 x 4.2 (0.09 x 0.17)	2.5 x 5.1 (0.10 x 0.20)				---	40	---	30
S-10VL							8	---	750	---
S-25CL	25.8 (0.04)	5.1 x 5.1 (0.20 x 0.20)	5.5 x 6.0 (0.22 x 0.24)				---	100	---	95
S-25VL							5	---	2100	---
S-25CRL	25.4 (0.039)	2.5 x 10.1 (0.10 x 0.40)	3.4 x 10.5 (0.13 x 0.41)				---	100	---	95
S-25VRL							5	---	2100	---
S-50CL	51.0 (0.079)	2.5 x 20.3 (0.10 x 0.80)	3.4 x 20.6 (0.13 x 0.81)				---	300	---	200
S-50VL							3	---	4000	---
S-80CL	82.6 (0.128)	4.1 x 20.1 (0.16 x 0.79)	5.2 x 20.4 (0.21 x 0.80)				---	500	---	300
S-80VL							2	---	6000	---
S-100CL	93.4 (0.145)	9.7 x 9.7 (0.38 x 0.38)	10.5 x 11.00 (0.42 x 0.43)				---	600	---	375
S-100VL							1.0	---	8500	---
S-120CL	105.7 (0.164)	4.5 x 23.5 (0.18 x 0.93)	5.5 x 23.9 (0.22 x 0.94)				---	800	---	450
S-120VL							0.5	---	10000	---
S-200CL	189.0 (0.293)	9.2 x 20.7 (0.36 x 0.81)	10.2 x 21.0 (0.40 x 0.83)				---	1200	---	750
S-200VL							0.2	---	17000	---

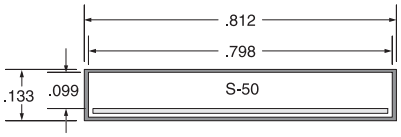
§ All of the above bare chips are provided with two 3" long 29-30 AWG insulated color coded leads attached to the front for anode (RED) and to the back for Cathode (BLACK). They are also available in chip form only (Leadless). For Ordering subtract Suffix 'L' from the Model Number, i.e. S-100C.

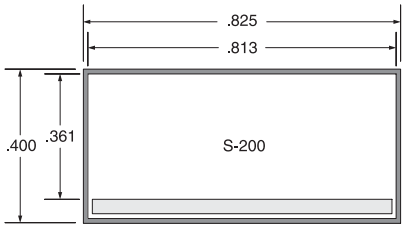


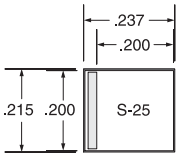


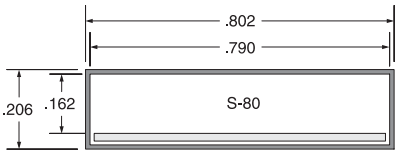


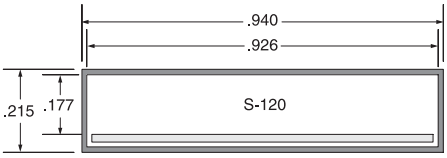












All chip dimensions in inches.