

J14 SERIES LEAD SELENIDE DETECTORS

Product Bulletin

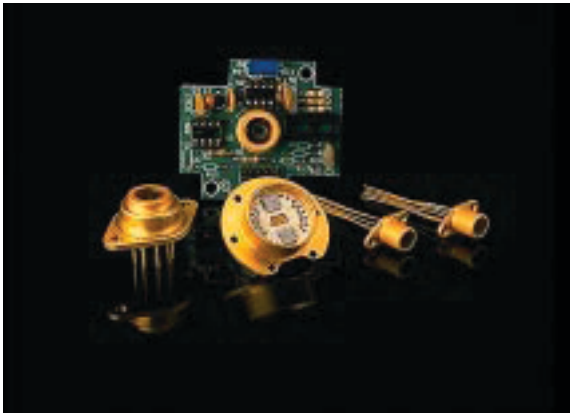


**TELEDYNE
JUDSON TECHNOLOGIES**

A Teledyne Technologies Company

PB 3326

October 2000



Applications:

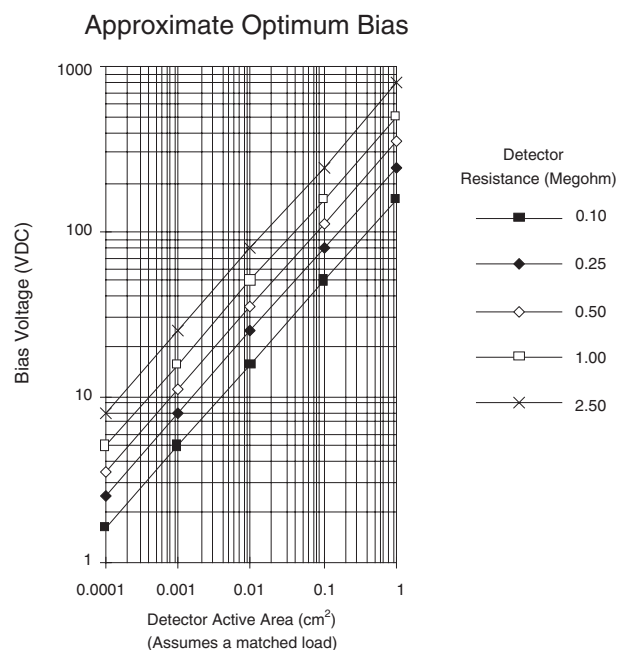
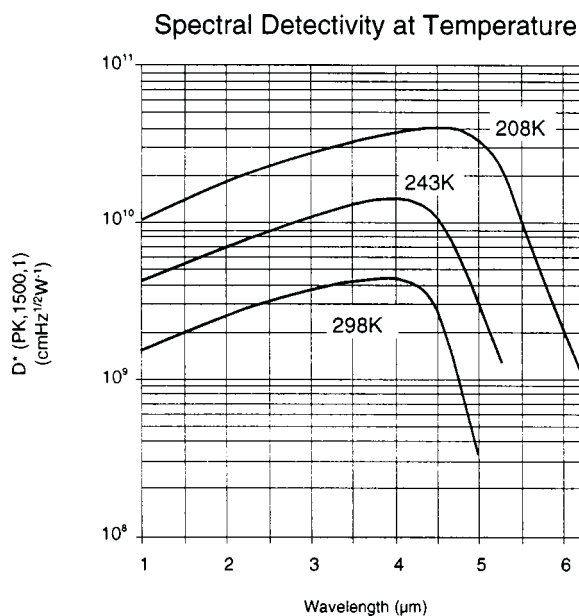
- NDIR Spectroscopy
- Medical Gas Analysis
- Optical Pyrometry
- Laser Definition
- Environmental Analysis
- Flame Spectroscopy

General

Teledyne Judson Technologies J14 Series Lead Selenide detectors are thin film photoconductors which are deposited onto a quartz substrate. Photolithographic techniques are employed to define the active areas and gold electrodes provide noise-free contact between the lead-out wires and the PbSe film.

The Lead Selenide detectors convert incident infrared energy into an electrical signal which can then be utilized for many functions. They are particularly suited for use in the 1 μ m to 6 μ m spectral region and provide an economical means of obtaining high performance in a rugged and compact package.

These detectors are offered in single and multi element custom configurations and are available in flat plate cells, TO packages and dewars. Cooling is provided by thermoelectric coolers or liquid nitrogen. Package designs are provided which can incorporate standard and custom apertures, filters and windows. Low cost, high performance Lead Selenide detectors are routinely supplied from stock.

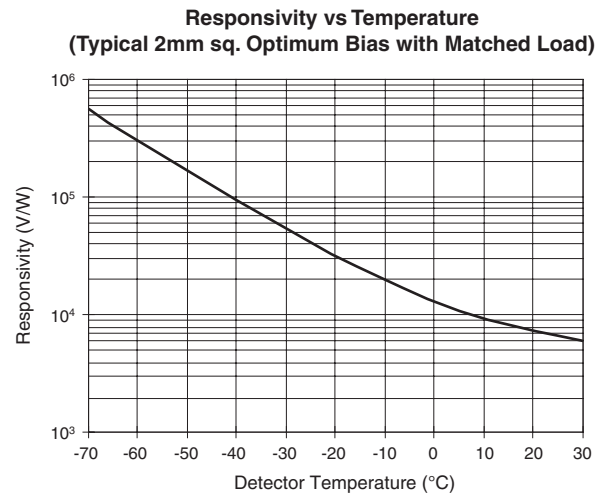
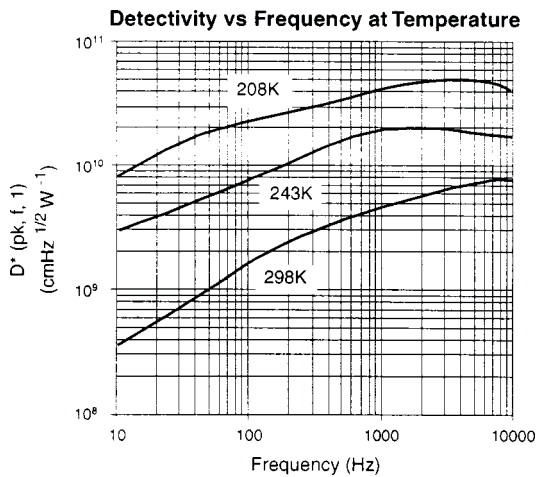


**TELEDYNE
JUDSON TECHNOLOGIES**
A Teledyne Technologies Company

221 COMMERCE DRIVE
MONTGOMERYVILLE, PA 18936-9641
PHONE: 215-368-6901
FAX: 215-362-6107
www.teledynejudson.com



Model Number	Part Number	Active Size (mm)	Wavelength λ_p (μm)	D* ($\lambda_p, 750, 1$) (min.) ($\text{cmHz}^{1/2}\text{W}^{-1}$)	Blackbody D* (500K, 750, 1) (min.) ($\text{cmHz}^{1/2}\text{W}^{-1}$)	Responsivity @ λ_p (min.) (V/W)	Resistance ($M\Omega$)	Time Constant (μsec)	Operating Temperature (K)	Standard Package	Cooler Power (W)
J14P Series Room Temperature PbSe											
PE-0-01	1500501	1 x 1	3.8 - 4.0	5×10^9	5.5×10^8	1.5×10^4	0.1 - 2.0	0.5 - 1.5	298	Plate Cell	N/A
PE-0-02	1500502	2 x 2				7.5×10^3					
PE-0-03	1500503	3 x 3				5×10^3					
J14TO Series Room Temperature TO Package PbSe											
PE-0-51	1500526	1 x 1	3.8 - 4.0	5×10^9	5.5×10^8	1.5×10^4	0.1 - 2.0	0.5 - 1.5	298	TO-5	N/A
PE-0-52	1500527	2 x 2				7.5×10^3					
PE-0-53	1500528	3 x 3				5×10^3					
J14TE Series Thermoelectrically Cooled PbSe											
PE-1-71	1500529	1 x 1	4.3 - 4.5	7×10^9	9.3×10^8	2.5×10^4	0.2 - 5.0	3 - 10	253	Single-Stage TO-37	1.3
PE-1-72	1500530	2 x 2				1×10^4					
PE-1-73	1500531	3 x 3				6×10^3					
PE-1-81	1500532	1 x 1	4.3 - 4.5	7×10^9	9.3×10^8	2.5×10^4	0.2 - 5.0	3 - 10	253	Single-Stage TO-8	1.3
PE-1-82	1500533	2 x 2				1×10^4					
PE-1-83	1500534	3 x 3				6×10^3					
PE-2-71	1500535	1 x 1	4.4 - 4.6	1×10^{10}	1.3×10^9	5×10^4	0.4 - 10	5 - 25	233-243	Two-Stage TO-37	2.5
PE-2-72	1500536	2 x 2				3×10^4					
PE-2-73	1500537	3 x 3				1×10^4					
PE-2-81	1500538	1 x 1	4.4 - 4.6	1×10^{10}	1.3×10^9	5×10^4	0.4 - 10	5 - 25	233-243	Two-Stage TO-8	2.5
PE-2-82	1500539	2 x 2				3×10^4					
PE-2-83	1500540	3 x 3				1×10^4					
PE-3-31	1500544	1 x 1	4.6 - 4.8	2×10^{10}	3.2×10^9	1×10^5	1.0 - 35	10 - 50	208	Three-Stage TO-3	4.0
PE-3-32	1500545	2 x 2				5×10^4					
PE-3-33	1500546	3 x 3				2.5×10^4					



Information in this document is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice.