



Jelight Company Inc.  
2 Mason  
Irvine, CA 92618  
Tel (949)380-8774 Fax (949)768-9457

**30th Anniversary  
1978-2008**

**ISO 9001  
CERTIFIED**

## CHIPERASER ® - EPROM Erasers And Wafer Cleaners

Jelight Co.Inc.established in 1978, is a recognized producer of quality ultraviolet light sources and related equipment. The expertise gained throughout the years has assisted us in designing UV wafer and EPROM erasers with superior performance and productivity. High Intensity UV Lamp Design Operating intensity is at least 25% greater than competitive systems for increased throughput. Excellent uniformity insures fast and complete erasure.

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### How Do EPROMs Work?

The basic memory element was developed by Frohman-Bentchkowsky at Intel Corporation and was known as the Floating-Gate-Avalanche-Injection MOS (FAMOS) transistor. It was essentially a silicon gate MOS field effect transistor in which no connection was made to the gate. The gate was in fact electrically "floating" in an insulating layer of silicon dioxide. The devices have been fabricated in two structures: p-channel and n-channel. The p-channel devices were the first EPROMs available commercially, but many devices are now using n-channel technology. N-channel MOS devices have the advantage of being able to function with a single power supply.

By application of sufficiently large potential difference between the source and drain, charge can be injected into the "floating" gate which induces a charge in the substrate. The source-to-drain impedance changes and a "p-channel" or "n-channel" is created, depending upon the type of substrate. The presence or absence of conduction is the principle of data storage. Application of short wave (254 nm) ultraviolet radiation causes the gate charge to leak away and restores the device to its original unprogrammed state. EPROM manufacturers provide "nominal erasing energies" to their devices; the amount of UV energy required to erase a chip's memory. Erasing time can be calculated using following formula:

$$\text{Time(seconds)} = \frac{\text{Nominal erasing energy (W-sec / cm}^2\text{) X 1,000,000}}{\text{UV Irradiance (\mu W / cm}^2\text{)}}$$

Most EPROMs have a nominal erasing energy of 15W-sec/cm<sup>2</sup>. Some chips, however, require as little as 6 or 10W-sec/cm<sup>2</sup>, or as much as 25W-sec/cm<sup>2</sup>, for complete erasure.



### Features

- ▶ Quick load/unload trays for wafers and EPROM

- ▶ All-metal housing.
- ▶ Heavy duty construction for ruggedness.
- ▶ Units may be stacked to save space.
- ▶ Safety interlock to prevent accidental UV exposure.

Model	Capacity						Erasing area			Typical intensity $\mu\text{W}/\text{cm}^2$	Erasing time (minutes)			Power requirements			Housing dimension			Timer
	Individual EPROMS	3" Wafers	4" Wafers	5" Wafers	6" Wafers	8" Wafers	Width	Depth	Height		Nominal erasing energy			V	Hz	Amp	W	D	H	
											6	10	15							
											W-sec/cm <sup>2</sup>									
2442	1071	112	60	32	28	15	42.00	24.00	2.50	50.000	2.0	3.3	5.0	200-240	50	35	48	40	17	D
2436	918	96	54	0	24	12	36.00	24.00	2.50	50.000	2.0	3.3	5.0	100-120	60	25	42	40	17	D
2436-220	918	96	54	28	24	12	36.00	24.00	2.50	50.000	2.0	3.3	5.0	200-240	50	25	42	40	17	D
1630	510	50	28	18	10	6	30.50	16.50	5.50	50.000	2.0	3.3	5.0	200-240	60	S	36	32	17	D
1630-220	510	50	28	18	10	6	30.50	16.50	5.50	50.000	2.0	3.3	5.0	200-240	50	S	36	32	17	D
1224	306	32	18	8	8	3	24.00	12.00	2.40	50.000	2.0	3.3	5.0	100-120	60	S	28	26	12	D
1224-220	306	32	18	8	8	3	24.00	12.00	2.40	50.000	2.0	3.3	5.0	200-240	50	S	28	26	12	D
9290	153	16	9	4	4	1	12.00	12.00	2.21	50.000	2.0	3.3	5.0	100-120	60	17	17	26	12	D
9290-220	153	16	9	4	4	1	12.00	12.00	2.21	50.000	2.0	3.3	5.0	200-240	50	S	17	26	12	D
356	75	6	2	1	1	0	6.78	10.50	1.25	50.000	2.0	3.3	5.0	100-120	60	S	11	20	11	D
356-220	75	6	2	2	1	0	6.78	10.50	1.25	50.000	2.0	3.3	5.0	200-240	50	S	11	20	11	D
20	20	0	0	0	0	0	3.75	3.75	0.00	15.000	6.7	11.1	16.7	100-120	60	S	5	10	2	Dial
10	12	0	0	0	0	0	2.00	5.00	0.00	15.000	6.7	11.1	16.7	100-120	60	S	3	10	2	None



Nominal Erasing Energy	Erasing Capability: Chips/Hour
6W-sec/cm <sup>2</sup>	11,250 to 45,000
10W-sec/cm <sup>2</sup>	5,985 to 23,940
15W-sec/cm <sup>2</sup>	4,500

ALSO AVAILABLE :

CUSTOM CONVEYOR BELT SYSTEMS UTILIZING UV GRID LAMPS FOR EPROM ERASING.

CUSTOM CHIPERASERS OF LARGER DIMENSIONS AND CAPACITIES.

REPLACEMENT GRID LAMPS FOR OTHER EPROM ERASING AND UVO- Cleaning SYSTEMS.

CASSETTE TO CASSETTE WAFER ERASING SYSTEMS.

RADIOMETERS/PHOTOMETERS FOR MEASURING INTENSITY.

TRAYS FOR WAFER ERASING.

**Made in U.S.A.**

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