

INSTRUMENT PHOTO-CELLS

STANDARD RANGE SILICON MESA PHOTO-CELLS

Ferranti's extensive production facility, established over the past eighteen years, for the manufacture of Silicon photo-cells has generated a complete range of devices from micro-miniature to large area each with its own special characteristics. These are mesa construction, N on P, Silicon photo-voltaic cells in either encapsulated or unencapsulated form.

Unencapsulated cells are coated with a layer of varnish to protect the junction structure against contamination and moisture ingress.

Encapsulated cells are set into tough epoxy mouldings or bakelite cases.

For special applications using multiple sensors in arrays, cells may be supplied in sets selected or matched on output current to customer specification.

A wide variation in active area shapes and sizes is provided to ensure that there is a cell to fit the application. However if further variations are required the Ferranti Opto-Electronics Custom facility is always at hand to give advice, help design and produce the specific device required.

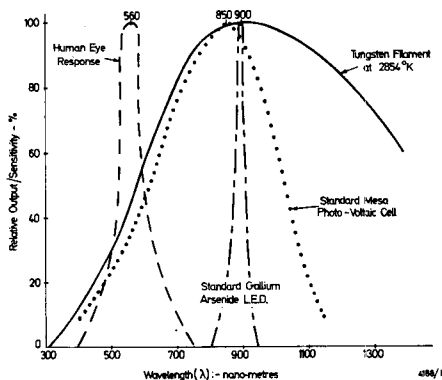
TYPICAL CHARACTERISTICS (at 25°C – Illumination intensity = 3000 lumens/sq. ft. *)

Type	Active Area mm	V _{OC} mV	I _{SC} mA	Opt. Load ohms	†Min. Current mA	Comments
MS1A	3.48 × 1.83	500	1.0	450	0.65	} Miniature for punched punched tape or punched card reading systems
MS1AE	3.48 × 1.83	500	1.0	450	0.65	
MS1B	3.48 × 1.83	500	1.0	450	0.65	
MS1BE	3.48 × 1.83	500	1.0	450	0.65	
MS2A	18.85 × 11.63	500	27	15	17	
MS2AE	18.85 × 11.63	500	31	15	20	
MS2B	18.85 × 11.63	500	31	15	20	
MS2BE	18.85 × 11.63	500	34	15	22.5	
MS3B	10.11 × 1.68	500	2.6	—	—	
MS4A	6.15 × 5.26	500	5	100	3	
MS4B	6.15 × 5.26	500	5	100	4	
MS5A	12.5 × 5.26	500	10	50	5.5	
MS5B	12.5 × 5.26	500	10	50	7.5	
MS6A	18.85 × 5.26	500	15	33	8.25	
MS6B	18.85 × 5.26	500	15	33	11	
MS7A	25.2 × 5.26	500	20	25	11	
MS7B	25.2 × 5.26	500	20	25	14.5	
MS9A	2.13 × 0.99	500	0.3	1800	0.2	
MS9AE	2.13 × 0.99	500	0.3	1800	0.2	
MS9B	2.13 × 0.99	500	0.3	1800	0.2	} Micro-miniature for punched tape or punched card reading systems
MS9BE	2.13 × 0.99	500	0.3	1800	0.2	
MS10	5.0 × 4.6	500	2.0	200	1.0	} Photo-voltaic for high and low light level applications
MS11A	23.4 diameter	500	48	9	35	} Large area photo-voltaic
MS11AE	23.4 diameter	500	54	9	40	
MS11B	23.4 diameter	550	54	9	40	
MS11BE	23.4 diameter	550	60	9	45	

*Tungsten Light Source at 2854°K – normal incidence.
E = Encapsulated.

†Into optimum load.

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Spectral Response Curves

TYPICAL CHARACTERISTICS (continued) Illumination Intensity = 200 lumens/sq. ft.*

Type	Active Area mm	V _{OC} mV	I _{SC} mA	Opt. Load ohms	†Min. Current mA	Comments
MS1A	3.48 × 1.83	—	—	—	—	} Miniature for punched tape or punched card reading systems
MS1AE	3.48 × 1.83	—	—	—	—	
MS1B	3.48 × 1.83	350	0.065	4500	0.045	
MS1BE	3.48 × 1.83	350	0.065	4500	0.045	
MS2A	18.85 × 11.63	—	—	—	—	
MS2AE	18.85 × 11.63	—	—	—	—	
MS2B	18.85 × 11.63	400	2.0	150	1.25	} Photo-voltaic for high and low light level applications
MS2BE	18.85 × 11.63	400	2.3	150	1.35	
MS3B	10.11 × 1.68	350	0.17	—	—	
MS4A	6.15 × 5.26	—	—	—	—	
MS4B	6.15 × 5.26	350	0.33	1000	0.25	
MS5A	12.5 × 5.26	—	—	—	—	
MS5B	12.8 × 5.26	350	0.66	500	0.425	} Photo-voltaic for high and low light level applications
MS6A	18.85 × 5.26	—	—	—	—	
MS6B	18.85 × 5.26	350	0.99	330	0.625	
MS7A	25.2 × 5.26	—	—	—	—	
MS7B	25.2 × 5.26	350	1.32	250	0.95	
MS9A	2.13 × 0.99	—	—	—	—	
MS9AE	2.13 × 0.99	—	—	—	—	
MS9B	2.13 × 0.99	350	0.02	18000	0.012	
MS9BE	2.13 × 0.99	350	0.02	18000	0.012	
MS10	5.0 × 4.6	350	0.1	2500	0.07	} Photo-voltaic for high and low light level applications
MS11A	23.4 diameter	—	—	—	—	} Large area photo-voltaic
MS11AE	23.4 diameter	—	—	—	—	
MS11B	23.4 diameter	330‡	3.6	90	—	
MS11BE	23.4 diameter	330‡	4.0	90	—	

*Tungsten Light Source at 2854°K – normal incidence.

†Into optimum load.

‡Minimum. E = Encapsulated.