OPTO-ELECTRONICS

SILICON PHOTOVOLTAIC CELLS

For Instrumentation and Terrestrial Power Generators

Type No.	Active Area sq. mm. (approx.)	Active Area sq. in.	Shape	Typical Characteristics (at 25°C) Illumination Intensity* 3000 lumens/sq. ft. V_{OC} mV	I_{SC} mA	Opt. Load ohms	§Min. Current mA	Illumination Intensity* 200 lumens/sq. ft. V_{OC} mV	I_{SC} mA	Opt. Load ohms	§Min. Current mA	Comments
MPS1A	9	0·012	Rect.	500	1·0	450	0·65	350	0·065	4500	0·045	Low leakage planar cells for low light level applications
MPS1AE	9	0·012	Rect.	500	1·0	450	0·65	350	0·065	4500	0·045	
MPS1B	9	0·012	Rect.	500	1·0	450	0·65	350	0·065	4500	0·045	
MPS1BE	9	0·012	Rect.	500	1·0	450	0·65	350	0·065	4500	0·045	
MS1A	9	0·012	Rect.	500	1·0	450	0·65	—	—	—	—	For punched tape or punched card reading systems
MS1AE	9	0·012	Rect.	500	1·0	450	0·65	—	—	—	—	
MS1B	9	0·012	Rect.	500	1·0	450	0·65	350	0·065	4500	0·045	
MS1BE	9	0·012	Rect.	500	1·0	450	0·65	350	0·065	4500	0·045	
MS2A	225	0·34	Rect.	500	27	15	17	—	—	—	—	
MS2AE	225	0·34	Rect.	500	31	15	20	—	—	—	—	
MS2B	225	0·34	Rect.	500	31	15	20	400	2·0	150	1·25	
MS2BE	225	0·34	Rect.	500	34	15	22·5	400	2·3	150	1·35	
MS4A	32	0·05	Rect.	500	4	100	3	—	—	—	—	Photo-voltaic cells for high and low level applications
MS4B	32	0·05	Rect.	500	5	100	4	350	0·33	1000	0·25	
MS5A	66	0·1	Rect.	500	8	50	5·5	—	—	—	—	
MS5B	66	0·1	Rect.	500	10	50	7·5	350	0·66	500	0·425	
MS6A	100	0·15	Rect.	500	12	33	8·25	—	—	—	—	
MS6B	100	0·15	Rect.	500	15	33	11	350	0·99	330	0·625	
MS7A	132	0·2	Rect.	500	16	25	11	—	—	—	—	
MS7B	132	0·2	Rect.	500	20	25	14·5	350	1·32	250	0·95	
MS9AE	2·5	0·003	Rect.	500	0·3	1800	0·2	—	—	—	—	For punched tape or punched card reading systems
MS9A	2·5	0·003	Rect.	500	0·3	1800	0·2	—	—	—	—	
MS9B	2·5	0·003	Rect.	550	0·3	1800	0·2	350	0·02	18000	0·012	
MS9BE	2·5	0·003	Rect.	550	0·3	1800	0·2	350	0·02	18000	0·012	
MS10	23,0	0·036	Rect.	500	2·0	200	1·0	350	0·1	2500	0·07	Photo-voltaic cells for high and low level applications
MS11A	400	0·66	Round	500	48	9	35	—	—	—	—	For Solar Power Supplies
MS11AE	400	0·66	Round	500	54	9	40	—	—	—	—	
MS11B	400	0·66	Round	550	54	9	40	330†	3·6	90	—	
MS11BE	400	0·66	Round	550	60	9	45	330†	4·0	90	—	
MS12‡	400	0·66	Round	550	120	5	75	330†	8·0	50	—	
MS22	400	0·6	Rect.	540	125	4	100	—	—	—	—	High efficiency cell for Detector and Terrestrial Power applications
MS59B	2,25	0·003	Rect.	—	—	—	—	320	0·020	1600	0·013	Instrument and reading applications. Fast rise times
MSA101	6,93¶	0·107¶	Strip Cell 10xMS1	500	1·2	450	0·65	350	0·065	4500	0·045	Monolithic strip cells of 10 cells with 0·100″ pitch
MSA109	2,06¶	0·003¶	Strip Cell 10xMS9	500	0·25	1800	—	350	0·020	18000	—	
MSR1	9·0	0·014	Rect.	500	1·6	450	0·75	—	—	—	—	Wrap around construction giving unimpeded active area
MSR1E	9·0	0·014	Rect.	500	1·6	450	0·75	—	—	—	—	

*Tungsten Light Source at 2850°K – normal incidence. §Into optimum load. †Minimum. ‡Integral lens system.
||Xenon Arc illumination equivalent to A.M.O. intensity of 140 mW/sq. cm. ¶Each cell

Infra-Red Detector Cell

Type No.	Area Active sq. mm. (approx.)	Area Active sq. ins.	Shape	Typical Characteristics at 25°C Min Reverse Resistance V_R—4.5V ohms	Max. c_j V=0 f=1kHz pF	Min. Open Circuit Voltage Source Intensity (foot-candles)* 0·5	1·0	1·5	Comments
MS15	166	0·25	Rect.	75000	8000	28mV	35mV	40mV	For low-level detection in the region 7,500 to 11,000Å. Also suitable for use in the range 4,300 to 9,500Å.†

*This is the illumination intensity of a tungsten source at 2870°K; cells covered with 2mm. thickness of Chance Bros. infra-red filter type OX5; radiation limited to wavelengths beyond 7500Å.

†1 Angstrom $=10^{-1}$ nanometre $=10^{-4}$ Micron