Certificate of Compliance

Certificate: 80187218 **Master Contract:** 304329

Project: 80187218 **Date Issued:** 2023-10-16

Issued to: PT LESSO NEW ENERGY
Kawasan Industri JIPS blok D Jalan Raya Semarang - Demak KM 14.7 Desa / Kelurahan, Batu, Kec. Karangtengah, kab. Demak Demak Regency, Jawa Tengah 59561, Indonesia

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only

Issued by: Qiang (Sean) Jiang
Qiang (Sean) Jiang

PRODUCTS

CLASS 5311 10 - POWER SUPPLIES - Photovoltaic Modules and Panels
CLASS 5311 90 - POWER SUPPLIES - Photovoltaic Modules and Panels - Certified to U.S. Standards

Photovoltaic modules with Fire Performance (USA) Type 1, maximum system voltage of 1500 V dc, model series: xxxD(HPM)72(182) (xxx=520-555 in steps of 5), Fuse rating 25A.
Photovoltaic modules with Fire Performance (USA) Type 1, maximum system voltage of 1500 V dc, model series: xxxD(HPM)66(182) (xxx=480-505 in steps of 5), Fuse rating 25A.
Photovoltaic modules with Fire Performance (USA) Type 1, maximum system voltage of 1500 V dc, model series: xxxD(HPM)60(182) (xxx=435-460 in steps of 5), Fuse rating 25A.
Photovoltaic modules with Fire Performance (USA) Type 1, maximum system voltage of 1500 V dc, model series: xxxD(HPM)54(182) (xxx=390-415 in steps of 5), Fuse rating 25A.
Photovoltaic modules with Fire Performance (USA) Type 1, maximum system voltage of 1500 V dc, model series: xxxD(HPM)66(210) (xxx=640-670 in steps of 5), Fuse rating 30A.
Photovoltaic modules with Fire Performance (USA) Type 1, maximum system voltage of 1500 V dc, model series: xxxD(HPM)60(210) (xxx=580-605 in steps of 5), Fuse rating 30A.
Photovoltaic modules with Fire Performance (USA) Type 1, maximum system voltage of 1500 V dc, model series: xxxD(HPM)54(210) (xxx=520-545 in steps of 5), Fuse rating 30A.
Photovoltaic modules with Fire Performance (USA) Type 1, maximum system voltage of 1500 V dc, model series: xxxD(BPM)72(182) (xxx=520-550 in steps of 5), Fuse rating 25A.
Photovoltaic modules with Fire Performance (USA) Type 1, maximum system voltage of 1500 V dc, model series: xxxD(BPM)66(182) (xxx=480-500 in steps of 5), Fuse rating 25A.
Photovoltaic modules with Fire Performance (USA) Type 1, maximum system voltage of 1500 V dc, model series: xxxD(BPM)60(182) (xxx=435-455 in steps of 5), Fuse rating 25A.

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Photovoltaic modules with Fire Performance (USA) Type 1, maximum system voltage of 1500 V dc, model series: xxxD(BPM)54(182) (xxx=390-410 in steps of 5), Fuse rating 25A.
Photovoltaic modules with Fire Performance (USA) Type 29, maximum system voltage of 1500 V dc, model series: xxxD(HBD)72(182) (xxx=530-555 in steps of 5), Fuse rating 25A.
Photovoltaic modules with Fire Performance (USA) Type 29, maximum system voltage of 1500 V dc, model series: xxxD(HBD)66(182) (xxx=485-510 in steps of 5), Fuse rating 25A.
Photovoltaic modules with Fire Performance (USA) Type 29, maximum system voltage of 1500 V dc, model series: xxxD(HBD)60(182) (xxx=440-465 in steps of 5), Fuse rating 25A.
Photovoltaic modules with Fire Performance (USA) Type 29, maximum system voltage of 1500 V dc, model series: xxxD(HBD)54(182) (xxx=395-420 in steps of 5), Fuse rating 25A.
Photovoltaic modules with Fire Performance (USA) Type 1, maximum system voltage of 1500 V dc, model series: xxxD(HBD)66(210) (xxx=640-670 in steps of 5), Fuse rating 30A.
Photovoltaic modules with Fire Performance (USA) Type 1, maximum system voltage of 1500 V dc, model series: xxxD(HBD)60(210) (xxx=580-610 in steps of 5), Fuse rating 30A.
Photovoltaic modules with Fire Performance (USA) Type 1, maximum system voltage of 1500 V dc, model series: xxxD(HBD)54(210) (xxx=520-550 in steps of 5), Fuse rating 30A.
Photovoltaic modules with Fire Performance (USA) Type 1, maximum system voltage of 1500 V dc, model series: xxxD(BPM)66(210) (xxx=635-660 in steps of 5), Fuse rating 30A.

Notes:

1. The electrical characteristics are within ±4 percent of the rated values of Isc, ±3 percent of the rated values of Voc and Pmax under standard test conditions (irradiance of 1000 W/m2, AM 1.5 spectrum, and a cell temperature of 25°C (77°F)).
2. The operating ambient temperature of these devices may exceed 40 °C at full load for all wire sizes if it is determined suitable in the field use application.

Model	Open Circuit Voltage at STC (V dc)	Short Circuit Current at STC (A dc)	Rated Voltage at STC (V dc)	Rated Current at STC (A dc)	Rated Maximum Power at STC (Watts)
xxxD(HPM)72(182) (xxx=520-555 in steps of 5)					
520D(HPM)72(182)	48.62	13.63	40.80	12.76	520
525D(HPM)72(182)	48.82	13.68	41.00	12.81	525
530D(HPM)72(182)	49.02	13.74	41.20	12.87	530
535D(HPM)72(182)	49.22	13.79	41.40	12.92	535
540D(HPM)72(182)	49.42	13.85	41.60	12.98	540
545D(HPM)72(182)	49.62	13.91	41.80	13.04	545
550D(HPM)72(182)	49.82	13.97	42.00	13.10	550
555D(HPM)72(182)	50.02	14.03	42.20	13.16	555
xxxD(HPM)66(182) (xxx=480-505 in steps of 5)					
480D(HPM)66(182)	44.67	13.64	37.60	12.77	480
485D(HPM)66(182)	44.87	13.70	37.80	12.84	485
490D(HPM)66(182)	45.07	13.77	38.00	12.90	490
495D(HPM)66(182)	45.27	13.83	38.20	12.96	495
500D(HPM)66(182)	45.47	13.89	38.40	13.03	500
505D(HPM)66(182)	45.67	13.95	38.60	13.09	505

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Model	Open Circuit Voltage at STC (V dc)	Short Circuit Current at STC (A dc)	Rated Voltage at STC (V dc)	Rated Current at STC (A dc)	Rated Maximum Power at STC (Watts)
xxxD(HPM)60(182) (xxx=435-460 in steps of 5)					
435D(HPM)60(182)	40.72	13.69	33.93	12.83	435
440D(HPM)60(182)	40.92	13.76	34.13	12.90	440
445D(HPM)60(182)	41.12	13.83	34.33	12.97	445
450D(HPM)60(182)	41.32	13.90	34.53	13.04	450
455D(HPM)60(182)	41.52	13.97	34.73	13.11	455
460D(HPM)60(182)	41.72	14.04	34.93	13.18	460
xxxD(HPM)54(182) (xxx=390-415 in steps of 5)					
390D(HPM)54(182)	36.57	13.64	30.55	12.77	390
395D(HPM)54(182)	36.77	13.71	30.75	12.85	395
400D(HPM)54(182)	36.97	13.79	30.95	12.93	400
405D(HPM)54(182)	37.17	13.87	31.15	13.01	405
410D(HPM)54(182)	37.37	13.95	31.35	13.09	410
415D(HPM)54(182)	37.57	14.03	31.55	13.16	415
xxxD(HPM)66(210) (xxx=640-670 in steps of 5)					
640D(HPM)66(210)	44.80	18.34	37.10	17.26	640
645D(HPM)66(210)	45.00	18.38	37.30	17.30	645
650D(HPM)66(210)	45.20	18.42	37.50	17.34	650
655D(HPM)66(210)	45.40	18.46	37.70	17.38	655
660D(HPM)66(210)	45.60	18.50	37.90	17.42	660
665D(HPM)66(210)	45.80	18.54	38.10	17.46	665
670D(HPM)66(210)	46.00	18.60	38.30	17.50	670
xxxD(HPM)60(210) (xxx=580-605 in steps of 5)					
580D(HPM)60(210)	40.60	18.32	33.50	17.32	580
585D(HPM)60(210)	40.80	18.36	33.70	17.36	585
590D(HPM)60(210)	41.00	18.40	33.90	17.41	590
595D(HPM)60(210)	41.20	18.44	34.10	17.45	595
600D(HPM)60(210)	41.40	18.48	34.30	17.50	600
605D(HPM)60(210)	41.60	18.56	34.50	17.54	605
xxxD(HPM)54(210) (xxx=520-545 in steps of 5)					
520D(HPM)54(210)	36.40	18.30	29.90	17.40	520
525D(HPM)54(210)	36.80	18.34	30.10	17.45	525
530D(HPM)54(210)	37.20	18.38	30.30	17.50	530
535D(HPM)54(210)	37.60	18.42	30.50	17.55	535
540D(HPM)54(210)	37.80	18.46	30.70	17.60	540
545D(HPM)54(210)	38.00	18.50	30.90	17.65	545
xxxD(BPM)72(182) (xxx=520-550 in steps of 5)					
520D(BPM)72(182)	49.78	13.49	40.62	12.81	520
525D(BPM)72(182)	49.98	13.54	40.82	12.87	525
530D(BPM)72(182)	50.18	13.59	41.04	12.92	530
535D(BPM)72(182)	50.38	13.64	41.24	12.98	535
540D(BPM)72(182)	50.58	13.69	41.44	13.04	540
545D(BPM)72(182)	50.78	13.74	41.64	13.09	545
550D(BPM)72(182)	50.98	13.79	41.84	13.14	550

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Model	Open Circuit Voltage at STC (V dc)	Short Circuit Current at STC (A dc)	Rated Voltage at STC (V dc)	Rated Current at STC (A dc)	Rated Maximum Power at STC (Watts)
xxxD(BPM)66(182) (xxx=480-500 in steps of 5)					
480D(BPM)66(182)	45.38	13.52	37.42	12.83	480
485D(BPM)66(182)	45.58	13.57	37.62	12.90	485
490D(BPM)66(182)	45.78	13.62	37.82	12.96	490
495D(BPM)66(182)	45.98	13.67	38.02	13.02	495
500D(BPM)66(182)	46.18	13.72	38.22	13.09	500
xxxD(BPM)60(182) (xxx=435-455 in steps of 5)					
435D(BPM)60(182)	40.78	13.54	34.02	12.79	435
440D(BPM60(182)	40.98	13.60	34.22	12.86	440
445D(BPM)60(182)	41.18	13.66	34.42	12.93	445
450D(BPM)60(182)	41.38	13.72	34.62	13.00	450
455D(BPM)60(182)	41.58	13.78	34.82	13.07	455
xxxD(BPM)54(182) (xxx=390-410 in steps of 5)					
390D(BPM)54(182)	36.50	13.55	30.62	12.74	390
395D(BPM)54(182)	36.70	13.60	30.82	12.82	395
400D(BPM)54(182)	36.90	13.65	31.02	12.90	400
405D(BPM)54(182)	37.10	13.70	31.22	12.98	405
410D(BPM)54(182)	37.30	13.75	31.42	13.05	410
xxxD(HBD)72(182) (xxx=530-555 in steps of 5)					
530D(HBD)72(182)	49.30	13.73	41.29	12.84	530
535D(HBD)72(182)	49.40	13.80	41.45	12.91	535
540D(HBD)72(182)	49.52	13.87	41.61	12.98	540
545D(HBD)72(182)	49.64	13.94	41.77	13.05	545
550D(HBD)72(182)	49.78	14.01	41.93	13.12	550
555D(HBD)72(182)	49.93	14.07	42.08	13.19	555
xxxD(HBD)66(182) (xxx=485-510 in steps of 5)					
485D(HBD)66(182)	45.14	13.71	37.84	12.82	485
490D(HBD)66(182)	45.24	13.78	38.02	12.89	490
495D(HBD)66(182)	45.36	13.85	38.20	12.96	495
500D(HBD)66(182)	45.48	13.92	38.38	13.03	500
505D(HBD)66(182)	45.62	13.99	38.56	13.10	505
510D(HBD)66(182)	45.77	14.06	38.74	13.17	510
xxxD(HBD)60(182) (xxx=440-465 in steps of 5)					
440D(HBD)60(182)	40.98	13.69	34.38	12.80	440
445D(HBD)60(182)	41.08	13.76	34.58	12.87	445
450D(HBD)60(182)	41.20	13.83	34.78	12.94	450
455D(HBD)60(182)	41.32	13.90	34.98	13.01	455
460D(HBD)60(182)	41.46	13.97	35.18	13.08	460
465D(HBD)60(182)	41.61	14.04	35.38	13.15	465
xxxD(HBD)54(182) (xxx=395-420 in steps of 5)					
395D(HBD)54(182)	36.86	13.67	30.92	12.78	395
400D(HBD)54(182)	36.96	13.74	31.13	12.85	400
405D(HBD)54(182)	37.08	13.81	31.35	12.92	405
410D(HBD)54(182)	37.20	13.88	31.57	12.99	410

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Model	Open Circuit Voltage at STC (V dc)	Short Circuit Current at STC (A dc)	Rated Voltage at STC (V dc)	Rated Current at STC (A dc)	Rated Maximum Power at STC (Watts)
415D(HBD)54(182)	37.34	13.95	31.79	13.06	415
420D(HBD)54(182)	37.49	14.02	31.99	13.13	420
xxxD(HBD)66(210) (xxx=645-670 in steps of 5)					
640D(HBD)66(210)	45.20	18.26	37.23	17.20	640
645D(HBD)66(210)	45.40	18.30	37.43	17.24	645
650D(HBD)66(210)	45.60	18.34	37.63	17.28	650
655D(HBD)66(210)	45.80	18.38	37.83	17.32	655
660D(HBD)66(210)	46.00	18.42	38.03	17.36	660
665D(HBD)66(210)	46.20	18.46	38.23	17.40	665
670D(HBD)66(210)	46.40	18.50	38.43	17.44	670
xxxD(HBD)60(210) (xxx=580-610 in steps of 5)					
580D(HBD)60(210)	41.00	18.21	33.73	17.20	580
585D(HBD)60(210)	41.20	18.25	33.93	17.25	585
590D(HBD)60(210)	41.40	18.29	34.13	17.29	590
595D(HBD)60(210)	41.60	18.33	34.33	17.34	595
600D(HBD)60(210)	41.80	18.37	34.53	17.38	600
605D(HBD)60(210)	42.00	18.41	34.73	17.43	605
610D(HBD)60(210)	42.20	18.45	34.93	17.47	610
xxxD(HBD)54(210) (xxx=520-550 in steps of 5)					
520D(HBD)54(210)	36.80	18.16	30.23	17.21	520
525D(HBD)54(210)	37.00	18.20	30.43	17.26	525
530D(HBD)54(210)	37.20	18.24	30.63	17.31	530
535D(HBD)54(210)	37.40	18.28	30.83	17.36	535
540D(HBD)54(210)	37.60	18.32	31.03	17.41	540
545D(HBD)54(210)	37.80	18.36	31.23	17.46	545
550D(HBD)54(210)	38.00	18.40	31.43	17.50	550
xxxD(BPM)66(210) (xxx=635-660 in steps of 5)					
635D(BPM)66(210)	45.12	18.18	36.85	17.24	635
640D(BPM)66(210)	45.32	18.22	37.05	17.28	640
645D(BPM)66(210)	45.52	18.26	37.25	17.32	645
650D(BPM)66(210)	45.72	18.30	37.45	17.36	650
655D(BPM)66(210)	45.92	18.34	37.65	17.40	655
660D(BPM)66(210)	46.12	18.40	37.85	17.44	660

APPLICABLE REQUIREMENTS

CSA C22.2 No. 61730-1:19 Photovoltaic (PV) module safety qualification — Part 1: Requirements for construction, 2019-12.
CSA C22.2 No. 61730-2:19 Photovoltaic (PV) module safety qualification — Part 2: Requirements for testing, 2019-12.
UL 61730-1 1st: Photovoltaic (PV) Module Safety Qualification – Part 1: Requirements for Construction, 2017-12-04, revision date 2020-04-30.
UL 61730-2 1st: Photovoltaic (PV) Module Safety Qualification – Part 2: Requirements for Testing, 2017-12-04, revision date 2020-04-30.

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Notes:

Products certified under Class C531110 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca

Supplement to Certificate of Compliance

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The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
80187218	2023-10-16	File copy from Guangdong Lesso Banhao New Energy Technology Group Co., Ltd (Original certificate for (HPM)72(182), (HPM)66(182), (HPM)60(182), (HPM)54(182), (HPM)66(210), (HPM)60(210), (HPM)54(210), (BPM)72(182), (BPM)66(182), (BPM)60(182), (BPM)54(182), (HBD)72(182), (HBD)66(182), (HBD)60(182), (HBD)54(182), (HBD)66(210), (HBD)60(210), (HBD)54(210) and (BPM)66(210) series PV module.).