

IPMs

Applications Include:

- Alternative Fuel Vehicles (EV)
- Motor Drives
- Photovoltaic (PV) Inverters
- Power Supplies
- Servo Drives
- Traction Inverters
- UPS

Circuit Configurations:

- Dual
- H-Bridge
- H-Bridge + Chopper
- H-Bridge + 2 Choppers
- 6-Pac
- 7-Pac

Features:

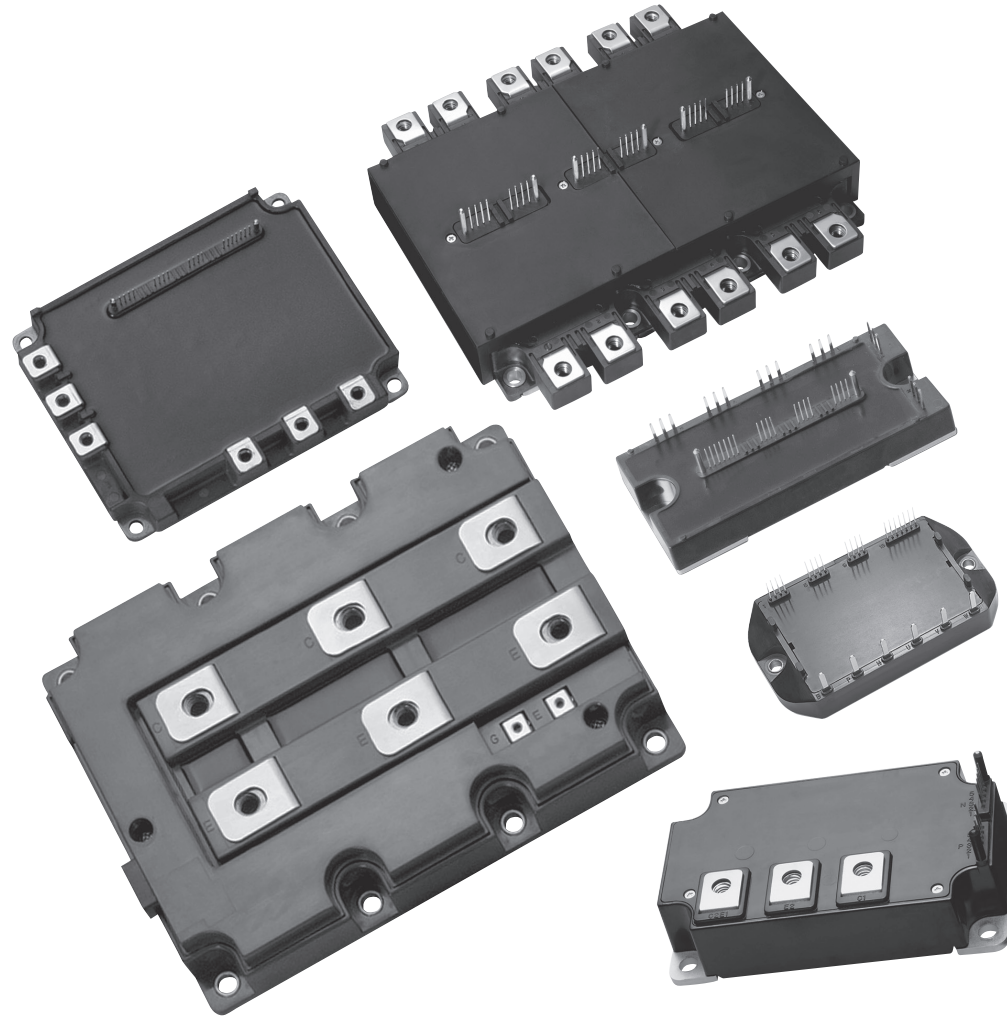
- Gate Drive
- Gate Drive Undervoltage (UV) Lockout
- On-Chip Current Sensor
- Over Temperature Protection
- Short Circuit (SC) Protection

Development Kits available for some types.

(See Section F, Accessories)

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VOLTAGE: 600V TO 3300V
CURRENT: 25A TO 1200A

Custom Modules

IGBT Assemblies

Assemblies

Fast Recovery & Three-Phase Diode Modules

Thyristor & Diode Modules

Discrete Rectifiers

Discrete Thyristors

Accessories

DIPIPM

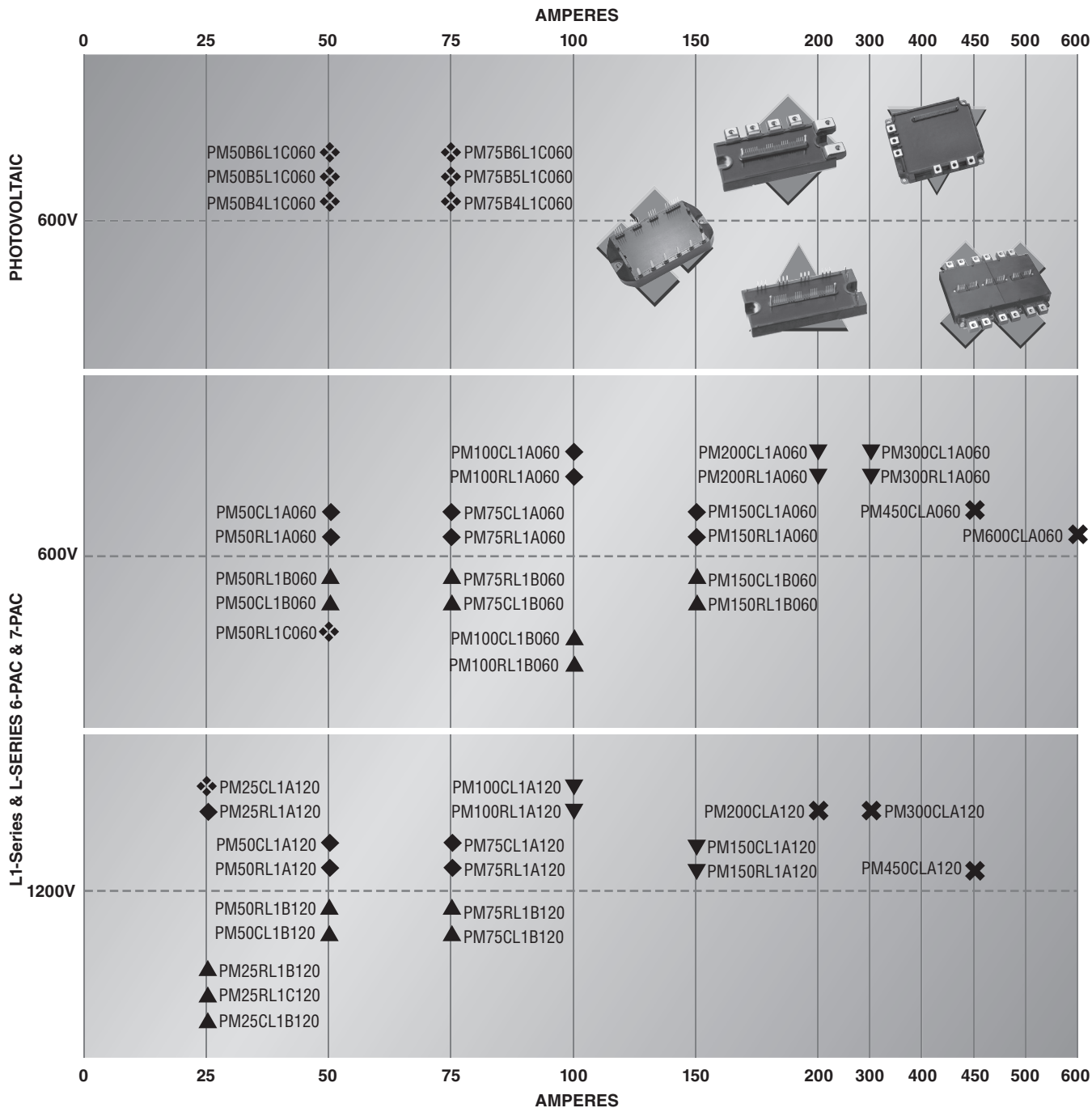
IPMs

MOSFET Modules

Hybrid IGBTs

IGBTs

Product Overview



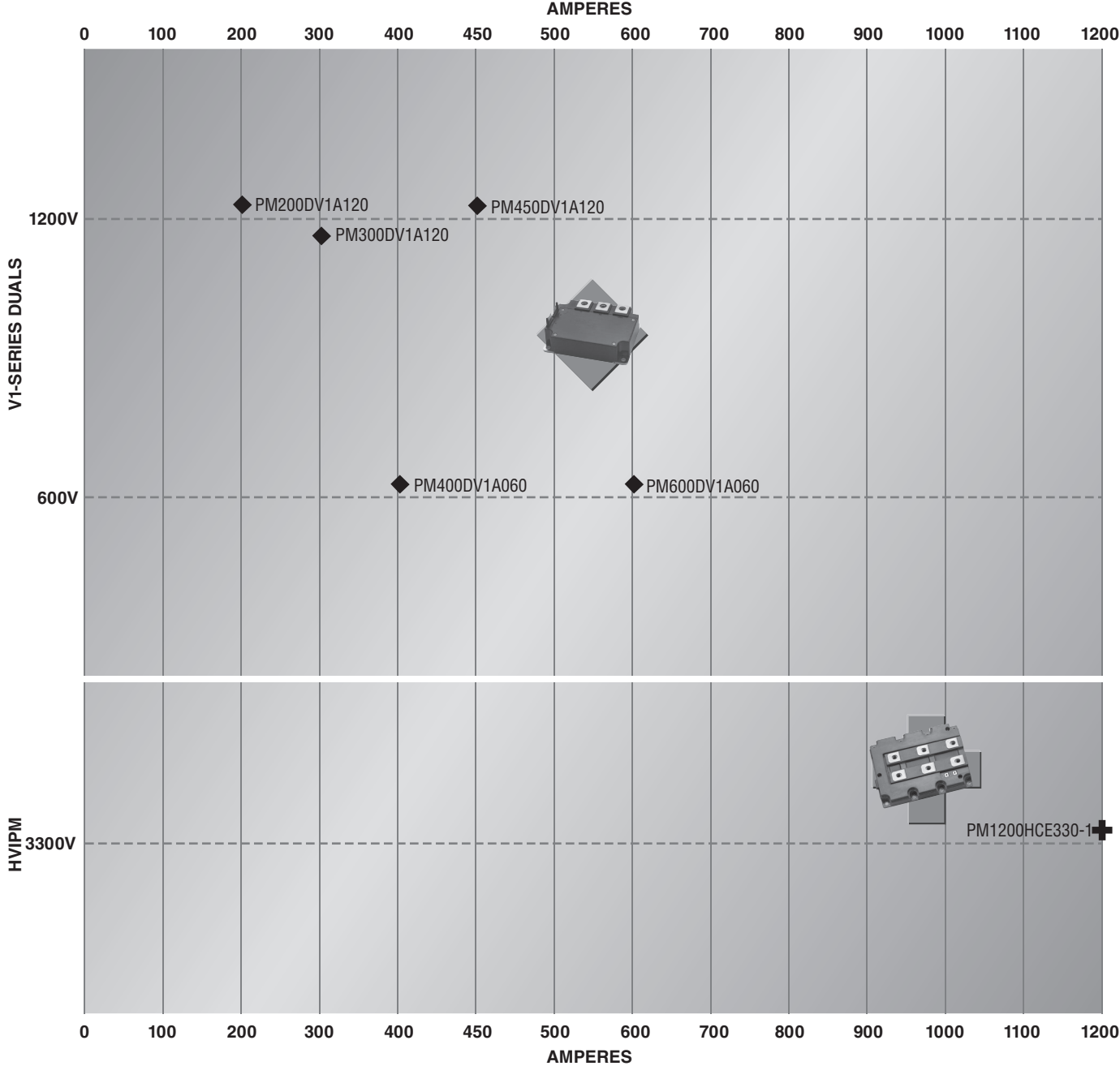
Numbering System

PM150RL1A120 is a 150 Ampere, 1200 Volt, L1-Series IPM



- (1) PM = INTELLIMOD™
- (2) Current Rating: I_C (Amperes)
- (3) C = 6-Pac
R = 7-Pac
B4 = H-Bridge
B5 = H-Bridge + 1 Chopper
B6 = H-Bridge + 2 Choppers
H = Single
D = Dual
- (4) L = L-Series
L1 = L1-Series
C = HVIPM
V1 = V1-Series
- (5) Package Outline
- (6) Voltage V_{CES} Volts (x10)

Product Overview



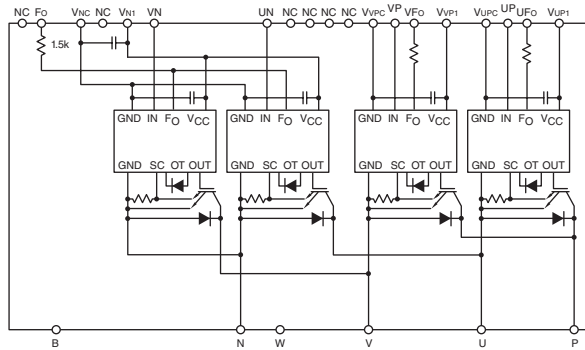
- Custom Modules
- IGBT Assemblies
- Assemblies
- Fast Recovery & Three-Phase Diode Modules
- Thyristor & Diode Modules
- Discrete Rectifiers
- Discrete Thyristors
- Accessories
- DIIPM
- IPMs**
- MOSFET Modules
- Hybrid IGBTs
- IGBTs

Photovoltaic 600V L1-Series Intelligent Power Modules, (Refer to device datasheets at www.pwr.com for test conditions.)

MAXIMUM RATINGS (IGBT Inverter Sector)					ELECTRICAL CHARACTERISTICS (IGBT Inverter Sector)										PROTECTION TRIP LEVELS			THERMAL CHARACTERISTICS			Outline Drawings		
Type	V _{CE(S)} Volts	I _C Amperes	P _d Watts	V _{RMS} Isolation Volts	Typ. V _{CE(SAT)} Volts	V _{EC} Volts	I _{CES} mA	V _{CC(PROT)} Volts	Brake I _C Amperes	Inductive Load Switching Times					SC Amperes	OT °C	UV Volts	R _{th(c-f)} °C/W	IGBT R _{th(j-c)} °C/W	DIODES R _{th(j-c)} °C/W	Weight Grams	Number	Page
										t _(on) μsec	t _{rr} μsec	t _{c(on)} μsec	t _(off) μsec	t _{c(off)} μsec									
PM50B4L1C060	600	50	168	2500	1.9	1.7	1.0	400	—	0.8	0.4	0.4	1.0	0.3	75	135	12	0.06	0.74	1.28	135	3	D-8
PM50B5L1C060	600	50	168	2500	1.9	1.7	1.0	400	50	0.8	0.4	0.4	1.0	0.3	75	135	12	0.06	0.74	1.28	135	3	D-8
PM50B6L1C060	600	50	168	2500	1.9	1.7	1.0	400	50	0.8	0.4	0.4	1.0	0.3	75	135	12	0.06	0.74	1.28	135	3	D-8
PM75B4L1C060	600	75	337	2500	1.9	1.7	1.0	400	—	0.8	0.4	0.4	1.0	0.3	112	135	12	0.06	0.37	0.63	135	3	D-8
PM75B5L1C060	600	75	337	2500	1.9	1.7	1.0	400	75	0.8	0.4	0.4	1.0	0.3	112	135	12	0.06	0.37	0.63	135	3	D-8
PM75B6L1C060	600	75	337	2500	1.9	1.7	1.0	400	75	0.8	0.4	0.4	1.0	0.23	112	135	12	0.06	0.37	0.63	135	3	D-8

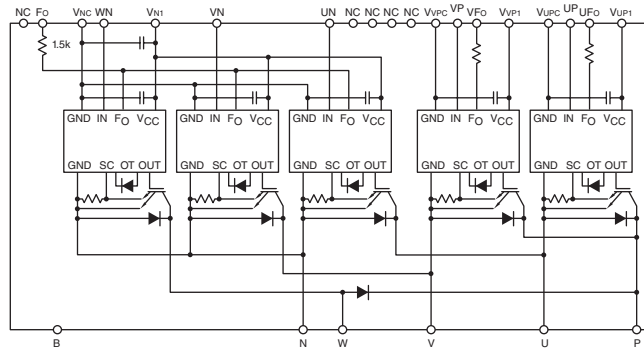
H-Bridge Module

PM50B4L1C060, PM75B4L1C060



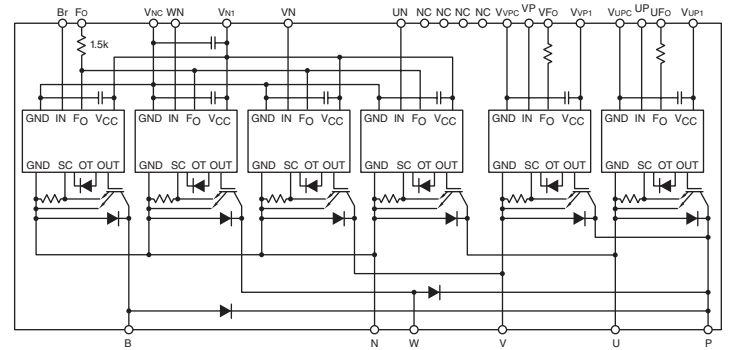
H-Bridge + 1 Chopper Module

PM50B5L1C060, PM75B5L1C060



H-Bridge + 2 Choppers Module

PM50B6L1C060, PM75B6L1C060



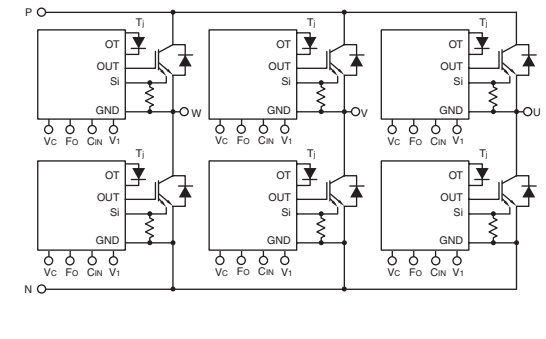
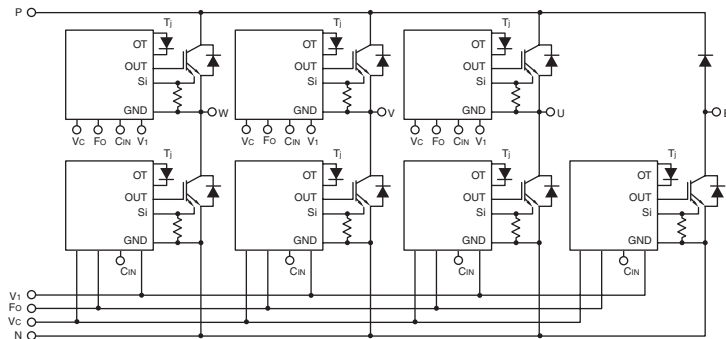
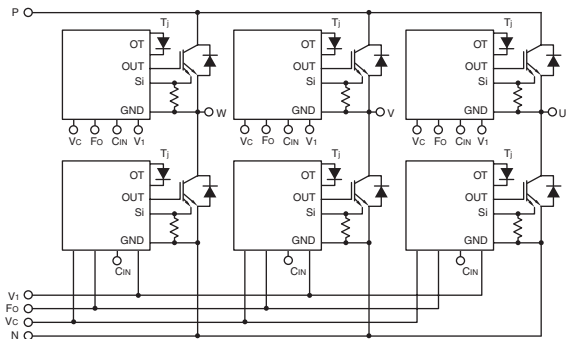
L1-Series & L-Series 6-Pac & 7-Pac 600V Intelligent Power Modules, (Refer to device datasheets at www.pwr.com for test test conditions.)

MAXIMUM RATINGS (IGBT Inverter Sector)					ELECTRICAL CHARACTERISTICS (IGBT Inverter Sector)										PROTECTION TRIP LEVELS			THERMAL CHARACTERISTICS			Outline Drawings		
Type	V _{CES} Volts	I _C Amperes	P _d Watts	V _{RMS} Isolation Volts	Typ. V _{CE(SAT)} Volts	V _{EC} Volts	I _{CES} mA	V _{CC(PROT)} Volts	Brake I _C Amperes	Inductive Load Switching Times					SC Amperes	OT °C	UV Volts	R _{th(c-f)} °C/W	IGBT R _{th(j-c)} °C/W	DIODES R _{th(j-c)} °C/W	Weight Grams	Number	Page
										t _(on) μsec	t _{rr} μsec	t _{c(on)} μsec	t _(off) μsec	t _{c(off)} μsec									
L1-Series Modules																							
PM50CL1A060	600	50	284	2500	1.75	1.70	1.0	400	–	0.8	0.4	0.4	1.0	0.3	100	135	12	0.038	0.44	0.75	380	1	D-8
PM50CL1B060	600	50	284	2500	1.75	1.70	1.0	400	–	0.8	0.4	0.4	1.0	0.3	100	135	12	0.038	0.44	0.75	340	2	D-8
PM50RL1A060	600	50	284	2500	1.75	1.70	1.0	400	50	0.8	0.4	0.4	1.0	0.3	100	135	12	0.038	0.44	0.75	380	1	D-8
PM50RL1B060	600	50	284	2500	1.75	1.70	1.0	400	50	0.8	0.4	0.4	1.0	0.3	100	135	12	0.038	0.44	0.75	340	2	D-8
PM50RL1C060	600	50	168	2500	1.75	1.70	1.0	400	50	0.8	0.4	0.4	1.0	0.3	100	135	12	0.085	0.74	1.28	135	3	D-8
PM75CL1A060	600	75	337	2500	1.75	1.70	1.0	400	–	0.8	0.4	0.4	1.0	0.3	150	135	12	0.038	0.37	0.63	380	1	D-8
PM75CL1B060	600	75	337	2500	1.75	1.70	1.0	400	–	0.8	0.4	0.4	1.0	0.3	150	135	12	0.038	0.37	0.63	340	2	D-8
PM75RL1A060	600	75	337	2500	1.75	1.70	1.0	400	50	0.8	0.4	0.4	1.0	0.3	150	135	12	0.038	0.37	0.63	380	1	D-8
PM75RL1B060	600	75	337	2500	1.75	1.70	1.0	400	50	0.8	0.4	0.4	1.0	0.3	150	135	12	0.038	0.37	0.63	340	2	D-8
PM100CL1A060	600	100	390	2500	1.75	1.70	1.0	400	–	0.8	0.4	0.4	1.0	0.3	200	135	12	0.038	0.32	0.52	380	1	D-8
PM100CL1B060	600	100	390	2500	1.75	1.70	1.0	400	–	0.8	0.4	0.4	1.0	0.3	200	135	12	0.038	0.32	0.52	340	2	D-8
PM100RL1A060	600	100	390	2500	1.75	1.70	1.0	400	50	0.8	0.4	0.4	1.0	0.3	200	135	12	0.038	0.32	0.52	380	1	D-8
PM100RL1B060	600	100	390	2500	1.75	1.70	1.0	400	50	0.8	0.4	0.4	1.0	0.3	200	135	12	0.038	0.32	0.52	340	2	D-8
PM150CL1A060	600	150	500	2500	1.75	1.70	1.0	400	–	0.8	0.4	0.4	1.0	0.3	300	135	12	0.038	0.25	0.41	380	1	D-8
PM150CL1B060	600	150	500	2500	1.75	1.70	1.0	400	–	0.8	0.4	0.4	1.0	0.3	300	135	12	0.038	0.25	0.41	340	2	D-8
PM150RL1A060	600	150	500	2500	1.75	1.70	1.0	400	75	0.8	0.4	0.4	1.0	0.3	300	135	12	0.038	0.25	0.41	380	1	D-8
PM150RL1B060	600	150	500	2500	1.75	1.70	1.0	400	75	0.8	0.4	0.4	1.0	0.3	300	135	12	0.038	0.25	0.41	340	2	D-8
PM200CL1A060	600	200	625	2500	1.75	1.70	1.0	400	–	0.8	0.4	0.4	1.0	0.3	400	135	12	0.023	0.2	0.3	800	4	D-9
PM200RL1A060	600	200	625	2500	1.75	1.70	1.0	400	100	0.8	0.4	0.4	1.0	0.3	400	135	12	0.023	0.2	0.3	800	4	D-9
PM300CL1A060	600	300	833	2500	1.75	1.70	1.0	400	–	0.8	0.4	0.4	1.0	0.3	600	135	12	0.023	0.15	0.23	800	4	D-9
PM300RL1A060	600	300	833	2500	1.75	1.70	1.0	400	150	0.8	0.4	0.4	1.0	0.3	600	135	12	0.023	0.15	0.23	800	4	D-9
L-Series Modules																							
PM450CLA060	600	450	1041	2500	1.70	2.60	1.0	400	–	1.0	0.2	0.4	2.2	0.6	900	135	12	0.014	0.12	0.19	1250	5	D-9
PM600CLA060	600	600	1785	2500	1.70	2.60	1.0	400	–	1.0	0.2	0.4	2.2	0.6	1200	135	12	0.014	0.07	0.11	1250	5	D-9

PM50CL1A060, PM50CL1B060, PM75CL1A060, PM75CL1B060, PM100CL1A060, PM100CL1B060, PM150CL1A060, PM150CL1B060, PM200CL1A060, PM300CL1A060

PM50RL1A060, PM50RL1B060, PM50RL1C060, PM75RL1A060, PM75RL1B060, PM100RL1A060, PM100RL1B060, PM150RL1A060, PM150RL1B060, PM200RL1A060, PM300RL1A060

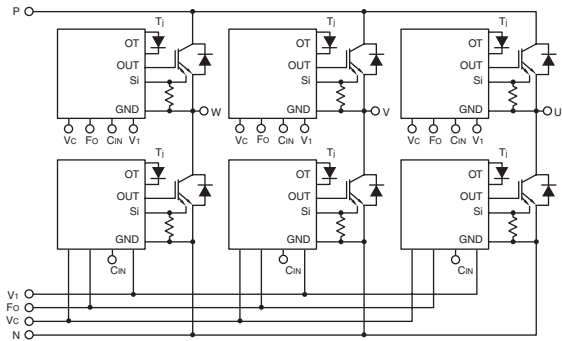
PM450CLA060, PM600CLA060



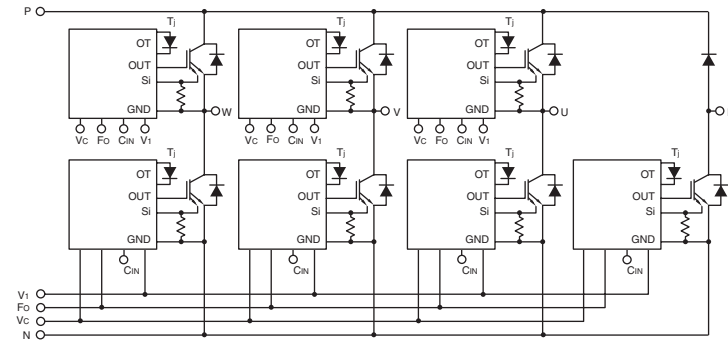
L1-Series & L-Series 6-Pac & 7-Pac 1200V Intelligent Power Modules, (Refer to device datasheets at www.pwr.com for test test conditions.)

MAXIMUM RATINGS (IGBT Inverter Sector)					ELECTRICAL CHARACTERISTICS (IGBT Inverter Sector)											PROTECTION TRIP LEVELS			THERMAL CHARACTERISTICS			Outline Drawings		
Type	V _{CES} Volts	I _C Amperes	P _d Watts	V _{RMS} Isolation Volts	Typ. V _{CE(SAT)} Volts	V _{EC} Volts	I _{CES} mA	V _{CC(Prot)} Volts	Brake I _C Amperes	Inductive Load Switching Times					SC Amperes	OT °C	UV Volts	R _{th(c-f)} °C/W	IGBT R _{th(j-c)} °C/W	DIODES R _{th(j-c)} °C/W	Weight Grams			Number
										t _(on) μsec	t _{rr} μsec	t _{c(on)} μsec	t _(off) μsec	t _{c(off)} μsec										
L1-Series Modules																								
PM25CL1A120	1200	25	128	2500	1.65	2.30	1.0	800	-	0.8	0.3	0.4	1.2	0.4	50	135	12	0.038	0.97	1.6	380	1	D-8	
PM25CL1B120	1200	25	128	2500	1.65	2.30	1.0	800	-	0.8	0.3	0.4	1.2	0.4	50	135	12	0.038	0.97	1.6	340	2	D-8	
PM25RL1A120	1200	25	128	2500	1.65	2.30	1.0	800	25	0.8	0.3	0.4	1.2	0.4	50	135	12	0.038	0.97	1.6	380	1	D-8	
PM25RL1B120	1200	25	128	2500	1.65	2.30	1.0	800	25	0.8	0.3	0.4	1.2	0.4	50	135	12	0.038	0.97	1.6	340	2	D-8	
PM25RL1C120	1200	25	178	2500	1.65	2.30	1.0	800	25	0.8	0.3	0.4	1.5	0.4	50	135	12	0.085	0.7	1.18	135	3	D-8	
PM50CL1A120	1200	50	462	2500	1.65	2.30	1.0	800	-	0.8	0.3	0.4	1.2	0.4	100	135	12	0.038	0.27	0.47	380	1	D-8	
PM50CL1B120	1200	50	462	2500	1.65	2.30	1.0	800	-	0.8	0.3	0.4	1.2	0.4	100	135	12	0.038	0.27	0.47	340	2	D-8	
PM50RL1A120	1200	50	462	2500	1.65	2.30	1.0	800	25	0.8	0.3	0.4	1.2	0.4	100	135	12	0.038	0.27	0.47	380	1	D-8	
PM50RL1B120	1200	50	462	2500	1.65	2.30	1.0	800	25	0.8	0.3	0.4	1.2	0.4	100	135	12	0.038	0.27	0.47	340	2	D-8	
PM75CL1A120	1200	75	595	2500	1.65	2.30	1.0	800	-	0.8	0.3	0.4	1.2	0.4	150	135	12	0.038	0.21	0.36	380	1	D-8	
PM75CL1B120	1200	75	595	2500	1.65	2.30	1.0	800	-	0.8	0.3	0.4	1.2	0.4	150	135	12	0.038	0.21	0.36	340	2	D-8	
PM75RL1A120	1200	75	595	2500	1.65	2.30	1.0	800	50	0.8	0.3	0.4	1.2	0.4	150	135	12	0.038	0.21	0.36	380	1	D-8	
PM75RL1B120	1200	75	595	2500	1.65	2.30	1.0	800	50	0.8	0.3	0.4	1.2	0.4	150	135	12	0.038	0.21	0.36	340	2	D-8	
PM100CL1A120	1200	100	657	2500	1.65	2.30	1.0	800	-	0.8	0.3	0.4	1.2	0.4	200	135	12	0.023	0.19	0.31	800	4	D-9	
PM100RL1A120	1200	100	657	2500	1.65	2.30	1.0	800	50	0.8	0.3	0.4	1.2	0.4	200	135	12	0.023	0.25	0.41	800	4	D-9	
PM150CL1A120	1200	150	833	2500	1.65	2.30	1.0	800	-	0.8	0.3	0.4	1.2	0.4	300	135	12	0.023	0.19	0.31	800	4	D-9	
PM150RL1A120	1200	150	833	2500	1.65	2.30	1.0	800	75	0.8	0.3	0.4	1.2	0.4	300	135	12	0.023	0.19	0.31	800	4	D-9	
L-Series Modules																								
PM200CLA120	1200	200	1041	2500	1.80	2.80	1.0	800	-	1.0	0.5	0.4	2.3	0.7	400	135	12	0.014	0.12	0.2	1250	5	D-9	
PM300CLA120	1200	300	1562	2500	1.80	2.80	1.0	800	-	1.0	0.5	0.4	2.3	0.7	600	135	12	0.014	0.08	0.13	1250	5	D-9	
PM450CLA120	1200	450	2500	2500	1.80	2.80	1.0	800	-	1.0	0.5	0.4	2.3	0.7	900	135	12	0.014	0.05	0.09	1250	5	D-9	

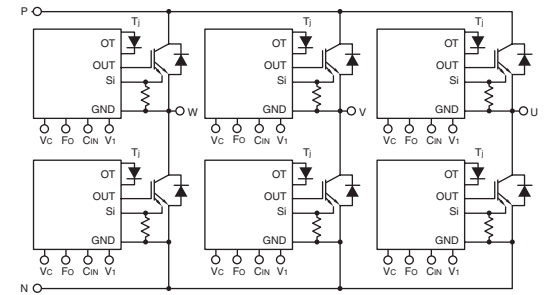
PM25CL1A120, PM25CL1B120, PM50CL1A120, PM50CL1B120, PM75CL1A120, PM75CL1B120, PM100CL1A120, PM150CL1A120



PM25RL1A120, PM25RL1B120, PM25RL1C120, PM50RL1A120, PM50RL1B120, PM75RL1A120, PM75RL1B120, PM100RL1A120, PM150RL1A120



PM200CLA120, PM300CLA120, PM450CLA120



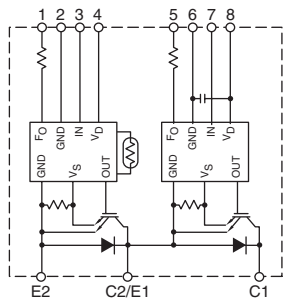
V1-Series Dual Intelligent Power Modules, (Refer to device datasheets at www.pwr.com for test test conditions.)

MAXIMUM RATINGS (IGBT Inverter Sector)					ELECTRICAL CHARACTERISTICS (IGBT Inverter Sector)										PROTECTION TRIP LEVELS			THERMAL CHARACTERISTICS			Outline Drawings		
Type	V _{CES} Volts	I _C Amperes	P _d Watts	V _{RMS} Isolation Volts	Typ. V _{CE(SAT)} Volts	V _{EC} Volts	I _{CES} mA	V _{CC(PROT)} Volts	Inductive Load Switching Times					SC Amperes	OT °C	UV Volts	R _{th(c-f)} °C/W	IGBT R _{th(j-c)} °C/W	DIODES R _{th(j-c)} °C/W	Weight Grams	Number		Page
									t _(on) μsec	t _{rr} μsec	t _{c(on)} μsec	t _(off) μsec	t _{c(off)} μsec								6	7	
600V Dual Modules																							
PM400DV1A060	600	400	1262	2500	1.75	1.75	1.0	400	0.8	0.4	0.4	1.0	0.3	600	135	12	0.016	0.099	0.153	510	6	D-9	
PM600DV1A060	600	600	1712	2500	1.75	1.70	1.0	400	0.8	0.3	0.4	1.0	0.3	900	135	12	0.016	0.073	0.109	510	6	D-9	
1200V Dual Modules																							
PM200DV1A120	1200	200	1388	2500	1.65	2.30	1.0	800	0.8	0.3	0.4	1.2	0.4	300	135	12	0.016	0.09	0.146	510	6	D-9	
PM300DV1A120	1200	300	1785	2500	1.65	2.30	1.0	800	0.8	0.3	0.4	1.2	0.4	450	135	12	0.016	0.07	0.11	510	6	D-9	
PM450DV1A120	1200	450	2232	2500	1.65	2.30	1.0	800	0.8	0.3	0.4	1.2	0.4	675	1.35	12	0.016	0.056	0.079	510	6	D-9	

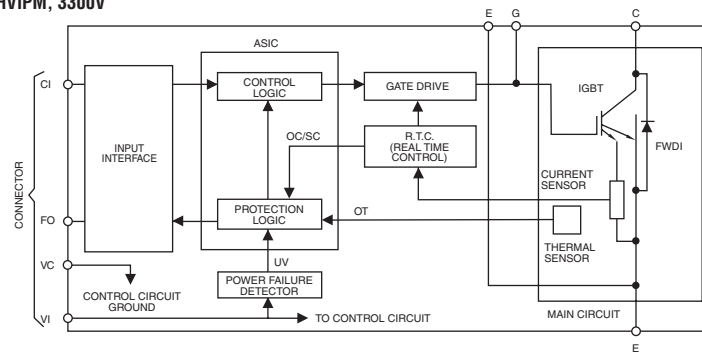
HVIPM 3300V Intelligent Power Modules, (Refer to device datasheets at www.pwr.com for test test conditions.)

MAXIMUM RATINGS (IGBT Inverter Sector)							ELECTRICAL CHARACTERISTICS (Static)				PROTECTION TRIP LEVELS			THERMAL CHARACTERISTICS			Outline Drawings		
Type	V _{CES} Volts	I _C Amperes	I _{CM} Amperes	P _d Watts	V _{RMS} Isolation Volts	Test Conditions		Typ. V _{CE(SAT)} Volts	Max. V _{CE(SAT)} Volts	Min. OC Amperes	Typ. OT °C	Typ. UV Volts	Module R _{th(c-s)} °C/W	IGBT R _{th(j-c)} °C/W	DIODES R _{th(j-c)} °C/W	Weight Grams	Number		Page
						I _C Amperes	V _{GE} Volts										6	7	
PM1200HCE330-1	3300	1200	2400	—	6000	1200	15	3.05	3.97	2200	113	20.0	0.0075	0.0083	0.0167	1500	7	D-10	

V1-Series, Duals

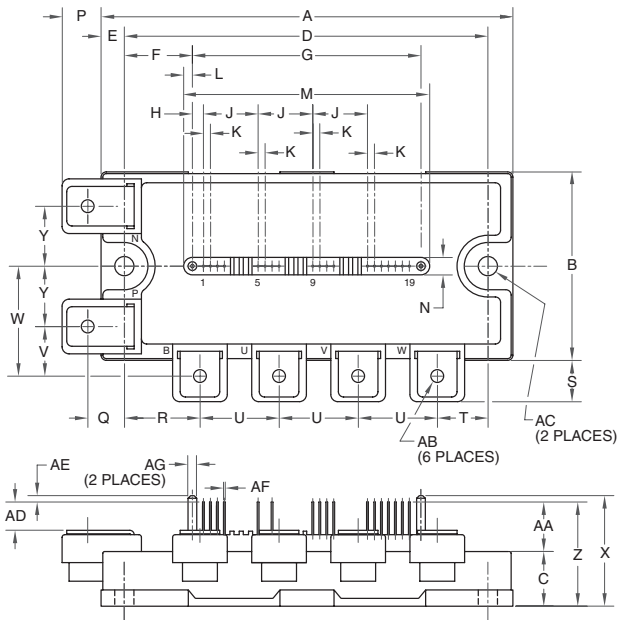


HVIPM, 3300V



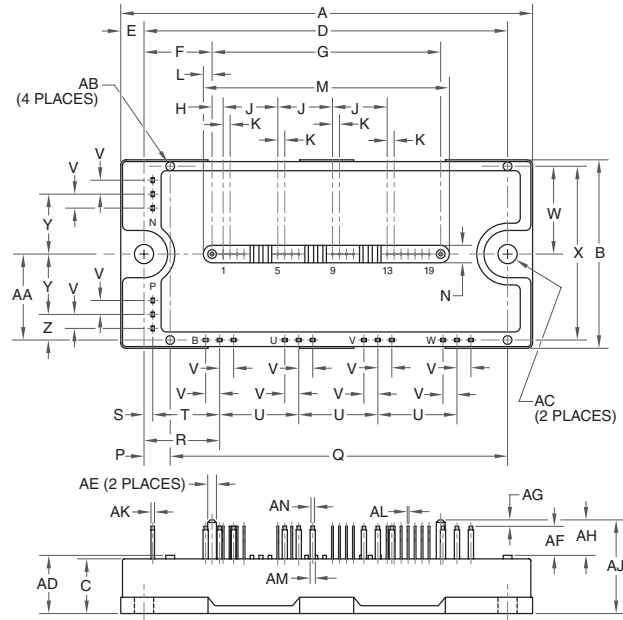
1

PM25CL1A120, PM25RL1A120, PM50CL1A060, PM50RL1A120, PM50RL1A060, PM50RL1A120, PM75CL1A060, PM75CL1A120, PM75RL1A060, PM75RL1A120, PM100CL1A060, PM100RL1A060, PM150CL1A060, PM150RL1A060



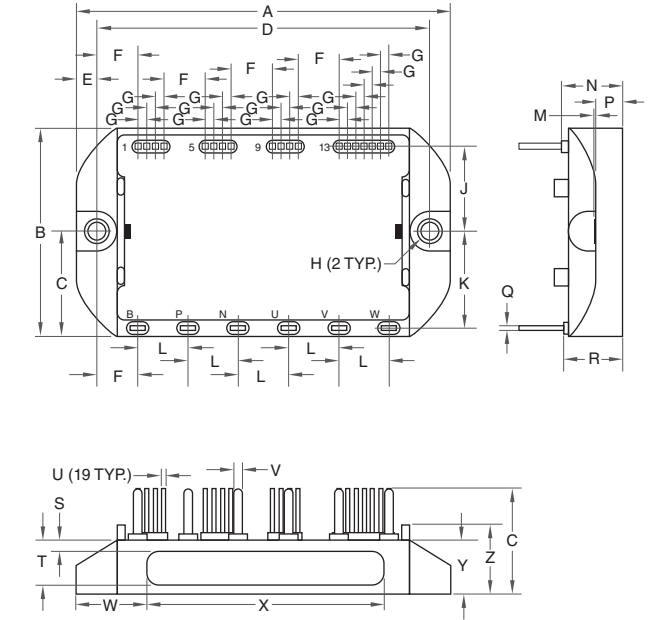
2

PM25CL1B120, PM25RL1B120, PM50CL1B060, PM50CL1B120, PM50RL1B060, PM50RL1B120, PM75CL1B060, PM75CL1B120, PM75RL1B060, PM75RL1B120, PM100CL1B060, PM100RL1B060, PM150CL1B060, PM150RL1B060



3

PM25RL1C120, PM50B4L1C060, PM50B5L1C060, PM50B6L1C060, PM50RL1C060, PM75B4L1C060, PM75B5L1C060, PM75B6L1C060



Dim.	Inches	Millimeters
A	4.72	120.0
B	2.17	55.0
C	0.63	16.0
D	4.17	106.0
E	0.28	7.0
F	0.78	19.75
G	2.62	66.5
H	0.13	3.25
J	0.63	16.0
K	0.08	2.0
L	0.10	2.5
M	2.81	71.5
N	0.20	5.0
P	0.43	11.0
Q	0.42	10.75
R	0.87	22.0

Dim.	Inches	Millimeters
S	0.46	11.75
T	0.59	15.0
U	0.91	23.0
V	0.57	14.5
W	1.26	32.0
X	1.22	31.0
Y	0.69	17.5
Z	1.14	29.0
AA	0.51	13.0
AB	M5 Metric	M5
AC	0.22 Dia.	5.5 Dia.
AD	0.28	7.0
AE	0.08	2.0
AF	0.02 Sq.	0.5 Sq.
AG	0.10 Dia.	2.5 Dia.

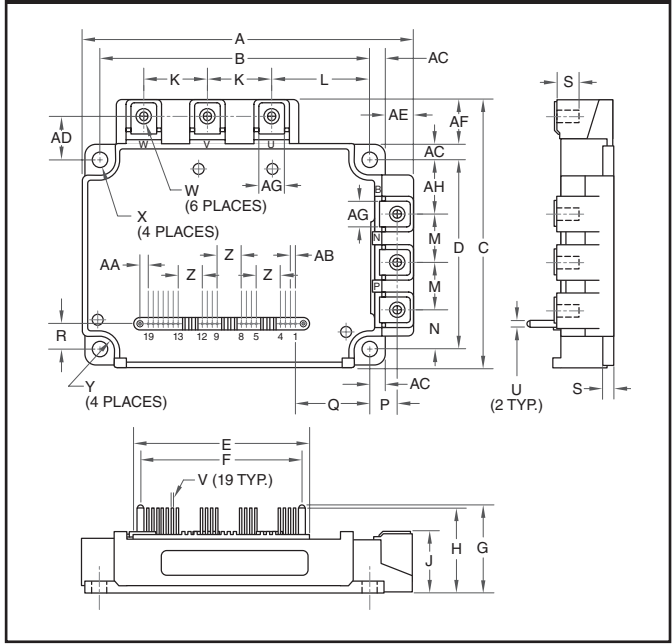
Dim.	Inches	Millimeters
A	4.72	120.0
B	2.17	55.0
C	0.63	16.0
D	4.17	106.0
E	0.28	7.0
F	0.78	19.75
G	2.62	66.5
H	0.13	3.25
J	0.63	16.0
K	0.08	2.0
L	0.10	2.5
M	2.81	71.5
N	0.20	5.0
P	0.31	7.75
Q	3.87	98.25
R	0.87	22.0
S	0.10	2.5
T	0.77	19.5
U	0.91	23.0

Dim.	Inches	Millimeters
V	0.16	4.0
W	1.01	25.75
X	2.00	50.75
Y	0.69	17.5
Z	0.30	7.5
AA	0.98	25.0
AB	0.10 Dia.	2.5 Dia.
AC	0.22 Dia.	5.5 Dia.
AD	0.67	17.0
AE	0.10 Dia.	2.5 Dia.
AF	0.33	8.5
AG	0.08	2.0
AH	0.41	10.5
AJ	1.08	27.5
AK	0.04	1.0
AL	0.02 Sq.	0.5 Sq.
AM	0.06	1.5
AN	0.04	1.0

Dim.	Inches	Millimeters
A	3.54	90.0
B	1.97	50.0
C	0.98	25.0
D	3.5	80.0
E	0.2	5.0
F	0.4	10.0
G	0.08	2.0
H	0.17 Dia.	4.3 Dia.
J	0.8	20.5
K	0.9	23.0
L	0.5	12.0
M	0.012	0.3

Dim.	Inches	Millimeters
N	0.58	14.6
P	0.26	6.7
Q	0.02	0.5
R	0.56	14.2
S	0.1±0.02	2.5±0.5
T	0.31	8.0
U	0.02 Sq.	0.5 Sq.
V	0.08	2.0
W	0.69±0.02	17.5±0.5
X	0.22	5.5
Y	0.52	13.0
Z	0.65	16.5

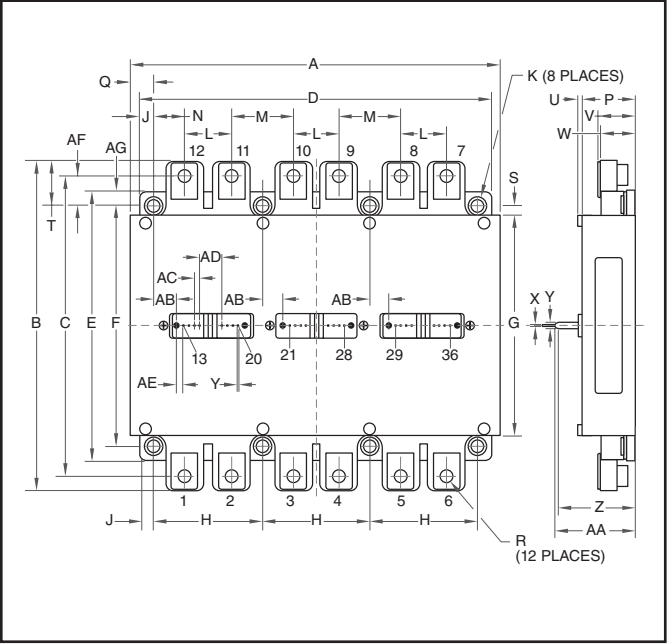
4 PM100CL1A120, PM100RL1A120, PM150CL1A120, PM150RL1A120, PM200CL1A060, PM200RL1A060, PM300CL1A060, PM300RL1A060,



Dim.	Inches	Millimeters
A	5.31	135.0
B	4.33±0.02	110±0.5
C	4.33	110.0
D	3.07	78.0±0.5
E	2.81	71.5
F	2.62	66.5
G	1.37	34.7
H	1.32	33.6
J	0.95+0.04/-0.01	24.1+1.0/-0.5
K	1.02	26.0
L	1.59	40.5
M	0.79	20.0
N	0.65	16.5
P	0.43±0.01	11.0±0.3
Q	1.19	30.15
R	0.43	11.0

Dim.	Inches	Millimeters
S	0.51	13.0
T	0.16	4.0
U	0.1 Dia.	2.5 Dia.
V	0.02 Sq.	0.5 Sq.
W	M5 Metric	M5
X	0.22 Dia.	5.5 Dia.
Y	0.24 Rad.	6.0 Rad.
Z	0.39	10.0
AA	0.13	3.25
AB	0.08	2.0
AC	0.24	6.05
AD	0.71	18.0
AE	0.46	11.7
AF	0.74	18.7
AG	0.41	10.5
AH	0.85	21.5

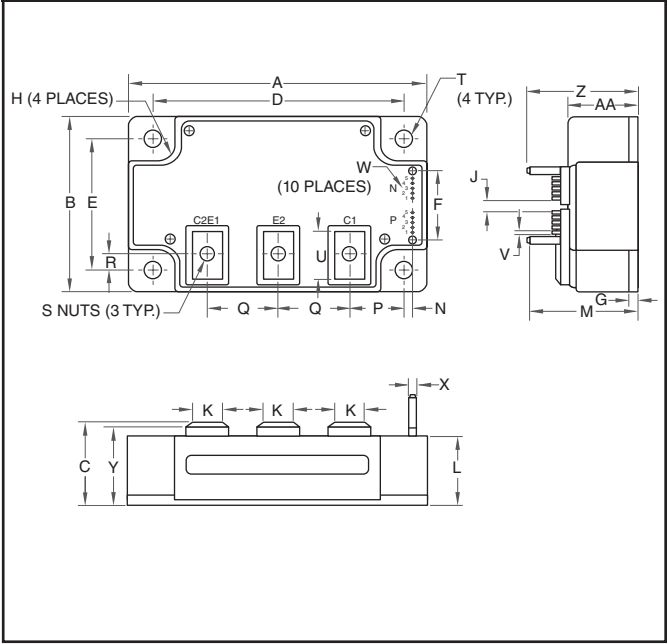
5 PM200CLA120, PM300CLA120, PM450CLA060, PM450CLA120, PM600CLA060



Dim.	Inches	Millimeters
A	6.77	172.0
B	5.90	150.0
C	5.39	137.0
D	6.38	162.0
E	4.84	123.0
F	4.33	110.0
G	3.90	99.0
H	1.97	50.0
J	0.236	6.0
K	5.5 Metric	M5.5
L	0.866	22.0
M	1.10	28.0
N	0.55	14.0
P	0.945	24.0
Q	0.43	11.0
R	M6 Metric	M6

Dim.	Inches	Millimeters
S	0.217	5.5
T	0.79	20.0
U	0.08	2.0
V	0.67	17.0
W	0.62	15.8
X	0.025 Sq.	0.64 Sq.
Y	0.1 Dia.	2.5 Dia.
Z	1.40	35.5
AA	1.44	36.6
AB	0.36	9.08
AC	0.10	2.54
AD	0.40	10.16
AE	0.127	3.22
AF	0.53	13.5
AG	0.256	6.5

6 PM200DV1A120, PM300DV1A120, PM400DV1A060, PM450DV1A120, PM600DV1A060,

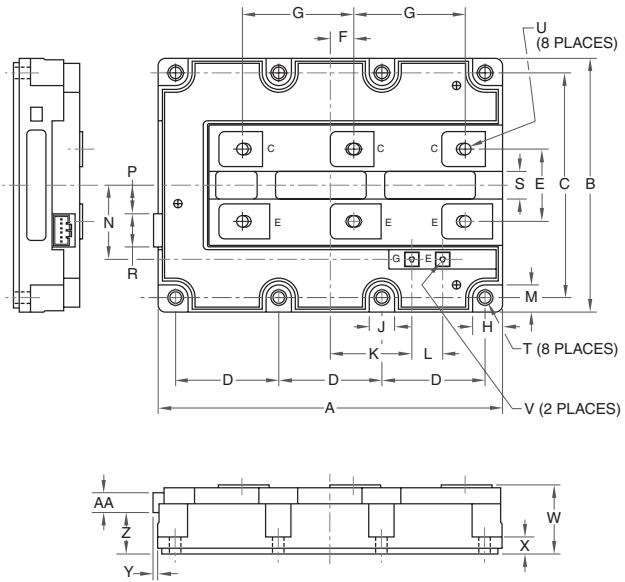


Dim.	Inches	Millimeters
A	4.72	120.0
B	2.76	70.0
C	1.14+0.04/-0.02	29.0+1.0/-0.5
D	4.17±0.01	106.0±0.3
E	2.20±0.01	56.0±0.3
F	1.52	38.5
G	0.16	4.0
H	0.26 Radius	6.5 Radius
J	0.40	10.16
K	0.55	14.0
L	1.02	26.0
M	1.53	39.0
N	0.12±0.02	3.0±0.5

Dim.	Inches	Millimeters
P	1.50	38.0
Q	0.98	25.0
R	0.37	9.3
S	M6 Metric	M6
T	0.26 Dia.	6.5 Dia.
U	0.72	18.3
V	0.10	2.54
W	0.025 Sq.	0.64 Sq.
X	0.14 Dia.	3.5 Dia.
Z	1.59	40.5
AA	1.14	29.0

7

PM1200HCE330-1



Dim.	Inches	Millimeters	Dim.	Inches	Millimeters
A	7.48±0.012	190.0±0.3	N	1.61	41.0
B	5.51±0.012	140.0±0.3	P	0.62	15.85
C	4.88±0.012	124.0±0.3	R	0.72	18.3
D	2.24±0.012	57.0±0.3	S	0.59	15.0
E	1.57	40.0	T	0.26	6.5
F	0.51	13.0	U	M8 Metric	M8
G	2.42±0.012	61.5±0.3	V	M3 Metric	M3
H	0.65	16.5	W	1.50 +0.4/-0.0	38.0 +1.0/-0.0
J	0.55	14.0	X	0.37	9.3
K	1.77	45.0	Y	0.10	2.6
L	0.67	17.0	Z	0.91	23.0
M	0.59	15.0	AA	0.43	11.0