

ACCESSORIES

Applications Include:

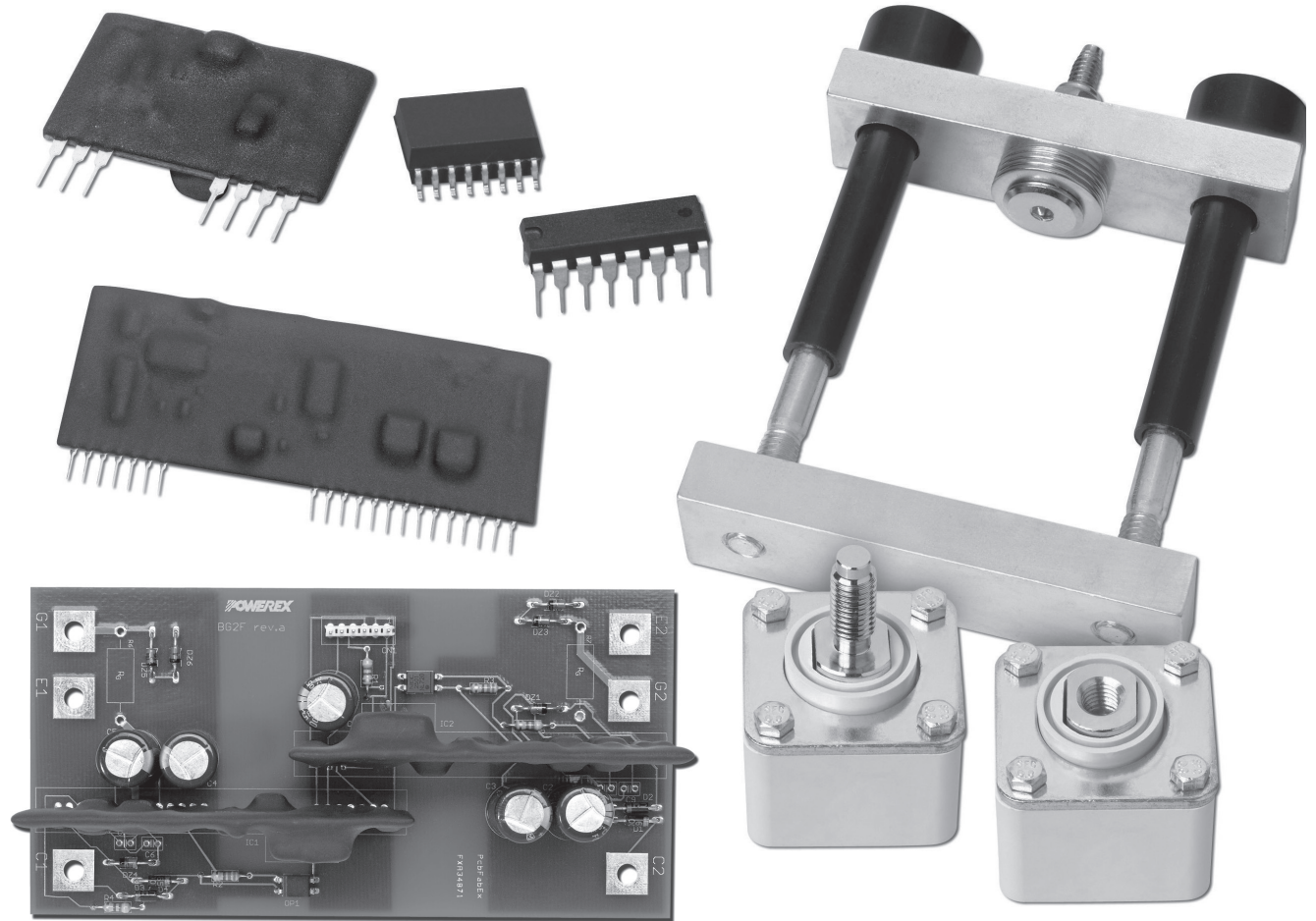
- Acceleration Sensors
- Box and Bar Clamps
- DC-DC Converters to Provide +15V Power Supply for IGBT Gate Drivers
- Development Kits
- HVICs for Driving IGBTs and MOSFETs in Ballast, Motor Drive and Power Supply Applications
- Hybrid IC Gate Drives Designed for Driving IGBTs with Ratings up to 1400A / 1200V and 2400A / 1700V
- SBS for Driving Triacs
- Transistor Arrays

Packages:

- DIP
- Hybrid IC
- SIP
- SMT / SOP
- PCB

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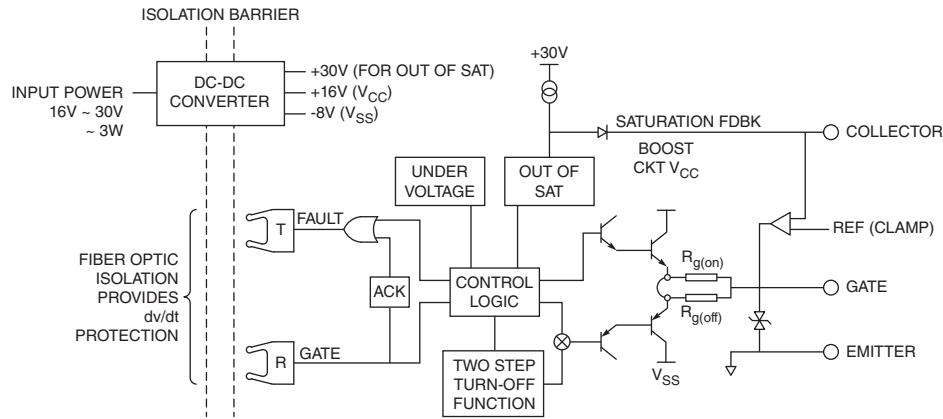


High Voltage Gate Driver,

(Refer to device datasheets at www.pwr.com for test conditions.)

Type	Integrated DC-DC Converter	Short Circuit Protection	Soft Shutdown	Output Current	Usable Range	Optimum Range	Outline Drawings	
							Number	Page
15A10A0017G02	Yes	V_{CE} Desaturation	Yes	+10, -8	3300V, 4500V, 6500V at Any Current	3300V, at Any Current	1	F-22

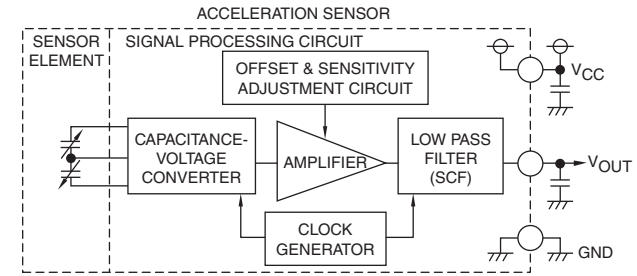
Power Supply Connector: TE Connectivity 640388-2 Amp MTA Type
Signal & Fault: Avago Fiber Optical Duplex HFBR Series (POF)



Acceleration Sensor,

(Refer to device datasheets at www.pwr.com for test conditions.)

Type	ELECTRICAL CHARACTERISTICS				Outline Drawings	
	V_{CC} Volts	A_{CC} g	I_{CC} mA	V_0 Volts	Number	Page
MAS1390P	7	±1000	5.0	2.5±0.2	2	F-22



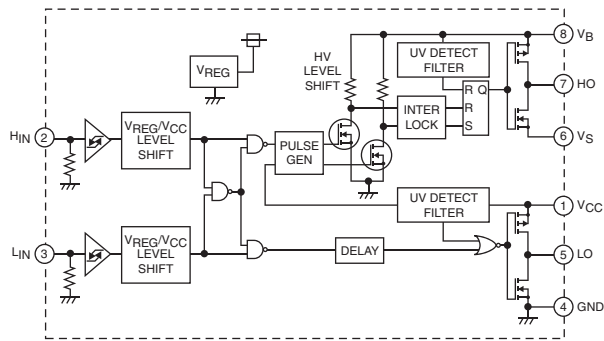
Optional Cathode & Gate Lead Kits for POW-R-BLOK™ Modules

Type	Description	Lead Kit	Outline Drawings	
			Number	Page
CD42, CD47 (Half Control)	One red & one yellow lead per module	MR	21	F-29
CD43 (Full Control)	Two red & two yellow leads per module	MQ	21	F-29
CD63, LD43, ND43, PD43 (Full Control)	Lead Set 1 & Lead Set 2 - one each/module	NK	22	F-29
CD62, LD42, LS43, ND42 (Half Control)	Lead Set 1 - one/module	NL	22	F-29
CD67, LD47, ND47, PS43 (Half Control)	Lead Set 2 - one/module	NM	22	F-29

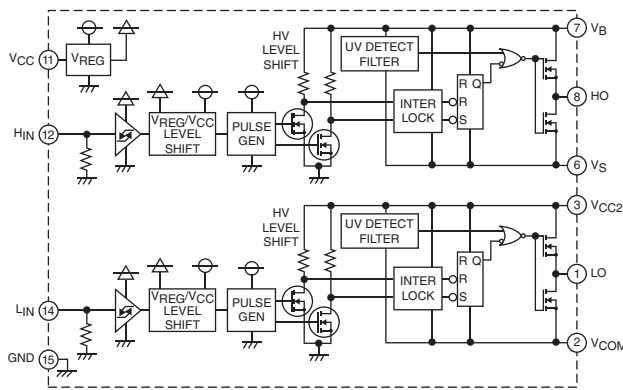
High Voltage Integrated Circuits – HVICs

Type	Voltage	Output Current	Drive Type	Input Signal	Dead-time Control	Remarks	Outline Drawings Number	Page
M81706AFP	600	+120mA / -250mA	Half-Bridge	2	External	Shoot Through Interlock	5	F-24
M81707FP	600	100mA	Dual High Bridge	2	External	—	3	F-23
M81708FP	600	+120mA / -250mA	Half-Bridge	2	External	Shoot Through Interlock	3	F-23
M81709FP	600	2.0A	Half-Bridge	2	External	Shoot Through Interlock	3	F-23
M81711FP	24	±0.4A	Dual Low Bridge	2	—	—	5	F-24
M81713FP	600	±0.5A	Half-Bridge	1	Internal	Shoot Through Interlock	5	F-24
M81716FP	24	+800mA / -600mA	Dual Low Bridge	2	—	—	5	F-24
M81019FP	1200	±1.0A	Half-Bridge	2	—	Shoot Through Interlock	4	F-23
M81721FP	600	±1.0A	Half-Bridge	2	—	Shoot Through Interlock	4	F-23

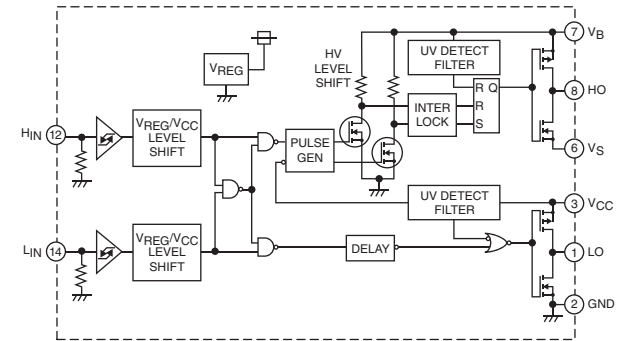
M81706AFP



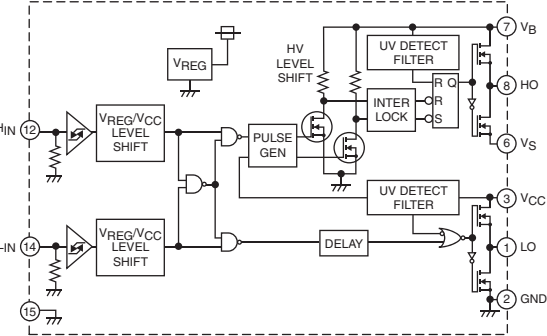
M81707FP



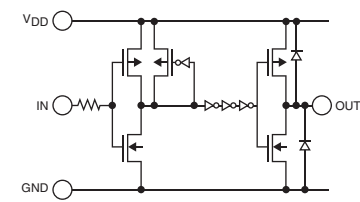
M81708FP



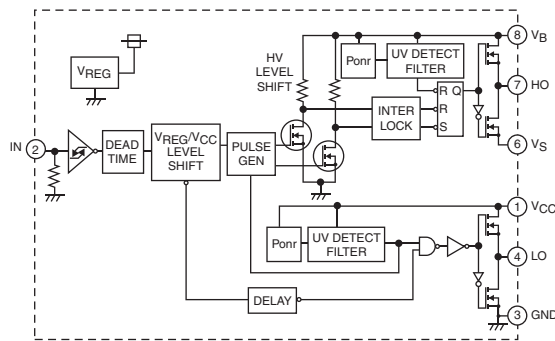
M81709FP



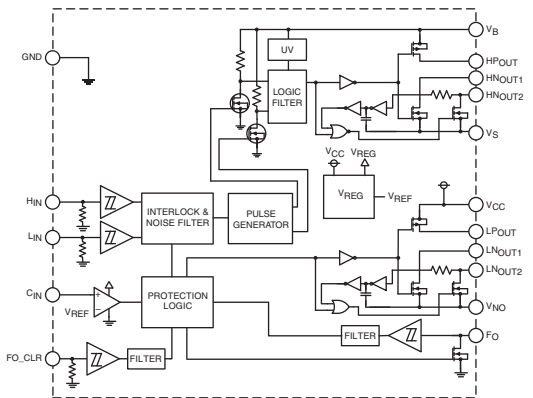
M81711FP, M81716FP



M81713FP



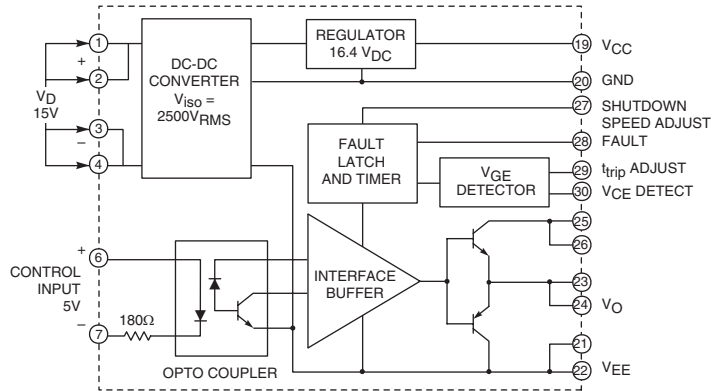
M81019FP, M81721FP



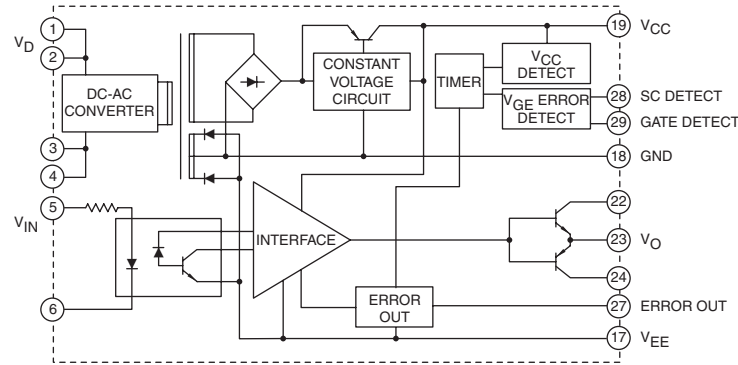
IGBT Gate Drivers, (Refer to device datasheets at www.pwr.com for test conditions.)

Type	Integral DC-to-DC Converter	Short-circuit Protection	Soft Shutdown	Output Current (Amperes)	Usable Range	Optimum Range	Outline Drawings Number Page
M57962K	No	V_{CE} Desaturation	Yes	± 5	600V, 600A, 1200V 600A, 1700V, 400A	1700V, 400A	7 F-24
M57159L	No	V_{CE} Desaturation	Yes	± 1.5	600V, 150A 1200V, 75A	600V, 75A 1200V, 50A	6 F-24
M57160AL	No	V_{GE} RTC Operation	Yes – Adjustable	± 5	All 600V and 1200V F-series Modules		8 F-25
M57161L	Yes	V_{GE} RTC Operation	Yes – Adjustable	± 5	All 600V and 1200V F-series Modules		12 F-26
VLA500-01	Yes	V_{CE} Desaturation	Yes – Adjustable	± 12	600V, 800A 1200V, 1400A	600V, 800A 1200V, 1400A	13 F-26
VLA500K-01R	Yes	V_{CE} Desaturation	Yes Adjustable	± 12	1700V, 2400A	1700V, 2400A	14 F-27
VLA502-01	Yes	V_{CE} Desaturation	Yes – Adjustable	± 12	600V and 1200V High Frequency NFH-series Modules		13 F-26
VLA503-01	No	V_{CE} Desaturation	Yes	± 5	600V, 600A 1200V, 600A	600V, 400A 1200V, 200A	9 F-25
VLA504-01	No	V_{CE} Desaturation	Yes	± 3	600V, 400A 1200V, 200A	600V, 100A 1200V, 50A	9 F-25
VLA507-01	No	None	No	± 3	600V, 200A 1200V, 150A	600V, 200A 1200V, 150A	10 F-25
VLA513-01	No	None	No	± 5	600V, 600A 1200V, 400A	600V, 600A 1200V, 400A	11 F-26
VLA536-01R	Yes	V_{CE} Desaturation	Yes	± 5	All 600V and 1200V NX-Series Dual Modules	600V, 600A 1200V, 450A	23 F-30
VLA539-01R	Yes	V_{CE} Desaturation	Yes – Adjustable	± 24	All 1200V and 1700V MPD S-Series Modules	1200V, 2500A 1700V, 1800A	26 F-31

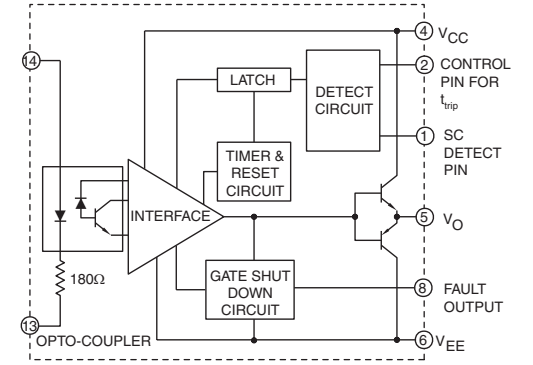
VLA500-01, VLA500K-01R



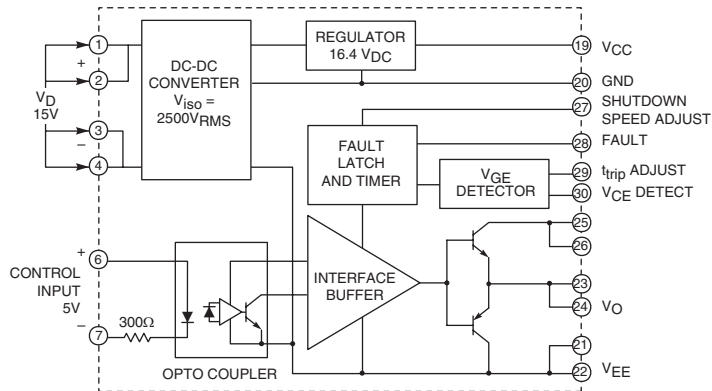
M57161L



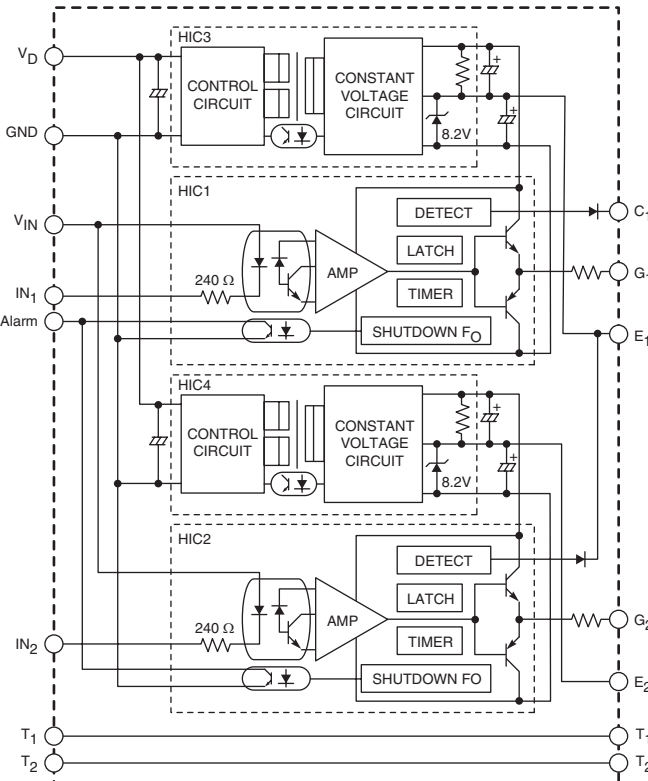
M57159L, M57160AL, M57962K, VLA503-01, VLA504-01



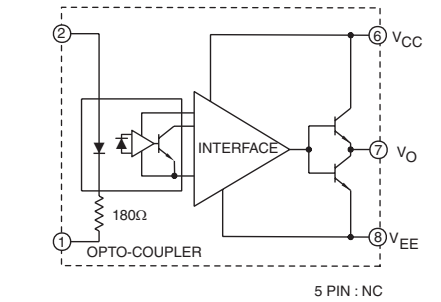
VLA502-01



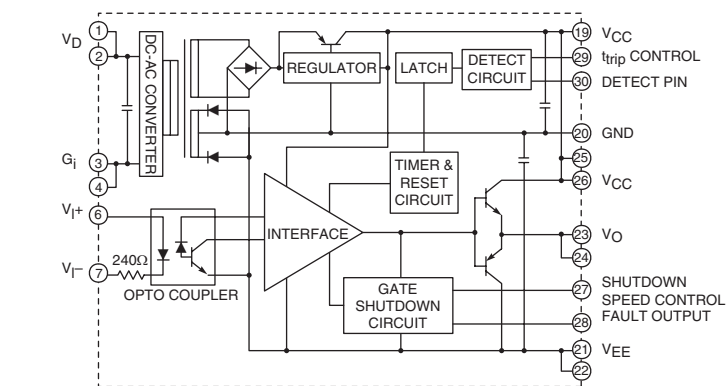
VLA536-01R



VLA507-01, VLA513-01



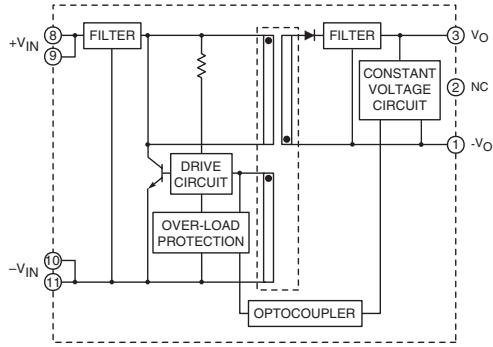
VLA539-01R



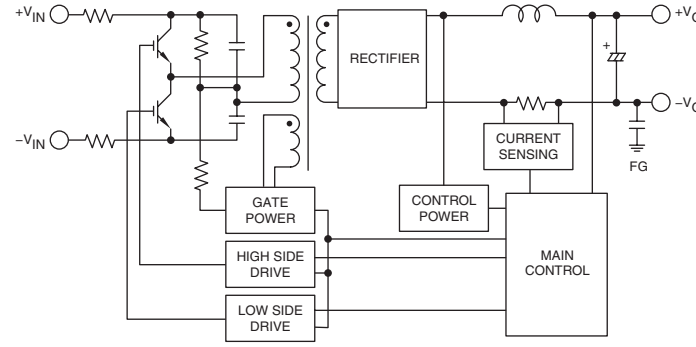
DC-to-DC Converter Modules for Gate Drive and IPM Control Power

Type	Isolated	Isolated Voltage V_{RMS} Volts	Input	Output(s)	Power Watts	Primary Application	Outline Drawings	
							Number	Page
M57140-01	Yes	Primary to Secondary = 2500V Secondary to Secondary = 1500V	20 VDC	(3) +15 Volts @ 30mA (1) +15 Volts @ 100mA	3.0	Isolated Power for IPM Modules	15	F-27
M57182N-315	No	Step Down Converter	140-380	(1) @ 15 Volts	3.0	DIP Control Power	16	F-27
M57184N-715B	No	Step Down Converter	140-380	(1) @ 15 Volts (1) @ 5 Volts	6.25	DIP Control Power	17	F-28
VLA106-15151	Yes	Primary to Secondary = 2500V	12-18	(1) +15 Volts @ 300mA	1.5	Isolated Power for IPM Modules	18	F-28
VLA106-15242	Yes	Primary to Secondary = 2500V	12-18	(1) +24 Volts @ 100mA	1.5	Isolated Power for Hybrid Gate Drivers	18	F-28
VLA106-24151	Yes	Primary to Secondary = 2500V	24	(1) +15 Volts @ 300mA	2.4	Isolated Power for IPM Modules	18	F-28
VLA106-24154	Yes	Primary to Secondary = 2500V	24	(1) +15 Volts @ 300mA	2.4	Isolated Power for IPM Modules	19	F-28
VLA106-24242	Yes	Primary to Secondary = 2500V	21.6-24.6	(1) +24 Volts @ 100mA	4.5	Isolated Power for Hybrid Gate Drivers	18	F-28
VLA107-644R	Yes	Primary to Secondary = 2500V	12-24	(4) +15 Volts @ 120mA	7.2	Isolated Power for IPM Modules	27	F-31
VLA107-677R	Yes	Primary to Secondary = 2500V	12-24	(4) +15 Volts @ 120mA	11.5	Isolated Power for IPM Modules	27	F-31
VLA312-2425	Yes	Primary to Secondary = 2500V	475-850 VDC	24 Volts @ 1.05A	25.2	Pre-regulator for 460VAC Industrial Controls	24	F-30
VLA313-2450A	Yes	Primary to Secondary = 2500V	400~900 VDC	24 Volts @ 2.10A	50.4	Pre-regulator for 460VAC Industrial Controls	25	F-30

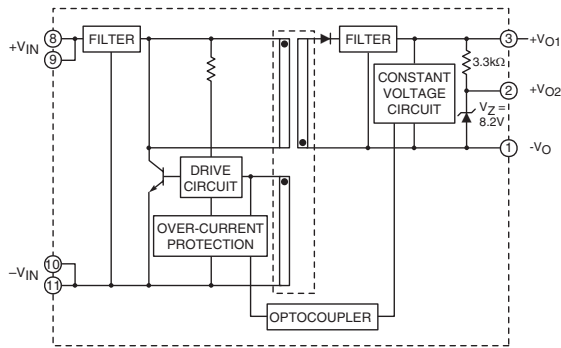
VLA106-15151, VLA106-24151, VLA106-24154



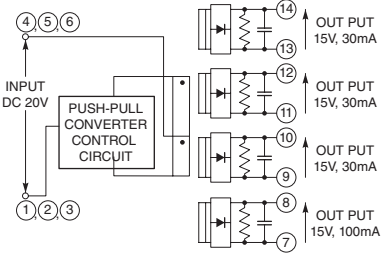
VLA312-2425, VLA313-2450A



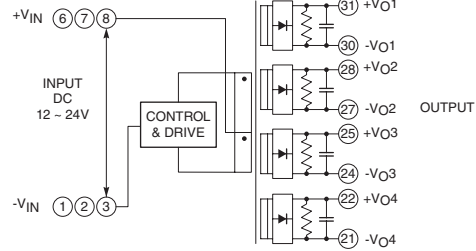
VLA106-15242, VLA106-24242



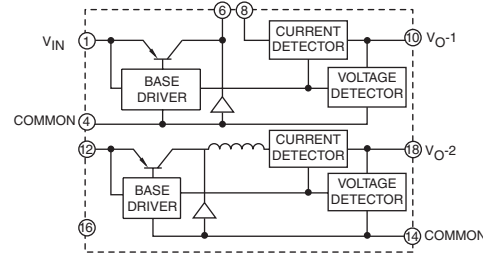
M57140-01



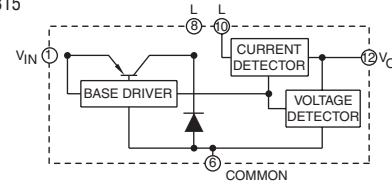
VLA107-644R, VLA107-677R



M57184N-715B



M57182N-315



IGBT Development Kits

Part Number	Prototype Board*	Gate Driver Part Number*	Peak Drive Current Amperes	Minimum RG Ω	Desaturation Detection	Typical Module Rating Amperes	Recommended DC-to-DC Converter*
BG2B-1515	BG2B	M57159L-01	± 1.5	4.2	Yes	Up to 100A	VLA106-15242 (For 15VDC Input)
BG2B-3015	BG2B	VLA504-01	± 3.0	3.0	Yes	Up to 200A	
BG2B-5015	BG2B	VLA503-01	± 5.0	2.0	Yes	Up to 600A	VLA106-24242 (For 24VDC Input)
BG2C-3015	BG2C	VLA507	± 3.0	3.9	No	Up to 200A	
BG2C-5015	BG2C	VLA513	± 5.0	2.0	No	Up to 600A	
BG2A-NF	BG2A	VLA500-01	± 12.0	1.0	Yes	Up to 1400A	Included in Gate Driver
BG2A-NFH	BG2A	VLA502-01	± 12.0	1.0	Yes	Up to 600A NFH Series Devices	
BG2A-K	BG2A	VLA500K	± 12.0	1.0	Yes	1700V Up to 1000A	Included in Gate Driver
BG2D-5015	BG2D	VLA503-01	± 5.0	2.0	Yes	Up to 450A NX Series Duals	VLA106-15242
BG2E	BG2E	VLA500-01	± 12.0	1.0	Yes	Up to 1000A NXL Series Duals	Included in Gate Driver
BG2F	BG2F	VLA539-01R	± 24.0	0.33	Yes	Up to 2500A S-Series Mega Power Dual	Included in Gate Driver

*Kits come with parts noted here and are not assembled.

IPM Development Kits

Part Number	L-Series IPM Part Number	Voltage Volts	Current Amperes	Package	Recommended DC-to-DC Converter*
BP7A-LS**	PM50(#L1(*060	600	50	A or B	VLA106-24151 x 4pc.
BP7B-LS	PM75(#L1(*060	600	75		
	PM100(#L1(*060	600	100		
	PM150(#L1(*060	600	150		
BP7A-LB**	PM200(#L1(*060	600	200	C	VLA106-24151 x 3pc.
BP7B-LB	PM300(#L1(*060	600	300		VLA106-24154 x 1pc.
BP6A-L	PM450CLA060	600	450	D	VLA106-24151 x 6pc.
	PM600CLA060	600	600		
BP7A-LS**	PM25(#L1(*120	1200	25	A or B	VLA106-24151 x 4pc.
BP7B-LS	PM50(#L1(*120	1200	50		
	PM75(#L1(*120	1200	75		
BP7A-LB**	PM100(#L1A120	1200	100	C	VLA106-24151 x 3pc.
BP7B-LB	PM150(#L1A060	1200	150		VLA106-24154 x 1pc.
BP6A-L	PM200CLA120	1200	200	D	VLA106-24151 x 6pc.
	PM300CLA120	1200	300		
	PM450CLA120	1200	450		

*Kits come with parts noted here and are not assembled.

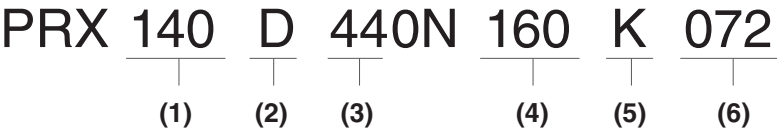
**For 3.3V Logic

Silicon Bilateral Switch,

(Refer to device datasheets at www.pwr.com for test conditions.)

ELECTRICAL CHARACTERISTICS										Outline Drawings	
Type	I_T mA	I_G Amperes	V_S VS	P_T mW	I_S μ A	I_H mA	V_T Volts	I_{GT} μ A (Min.)	V_{GT} μ A (Max.)	Number	Page
BS08D-T112	175	5	8	450	200	1.5	1.4	10	200	20	F-29

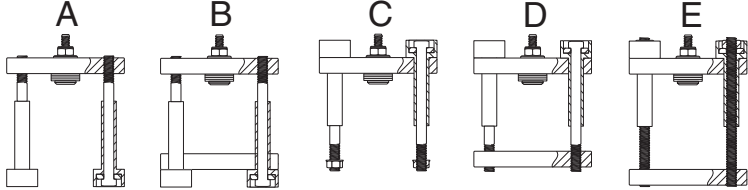
Numbering System for Standard Bar Clamps for use with Discs / Hockey Puks



PRX140D440N160K072 is a 140mm bolt center D style clamp with 160mm long bolts and “K” type insulators with 72mm long sleeves, that can be used with TAS7, TAS0, TAK7, TA20, TBKC, TBKT, TBK7, TBS7, RA20, RBS8, and RBK8 devices.

(1) Bolt Center: Use the first four digits of your Powerex device to locate the associated Bolt Center for your device from the Bolt Center / Mounting Force for Standard Bar Clamps table on page F-10.

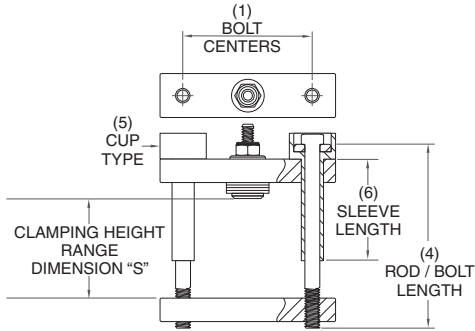
(2) Clamp Style: Choose one of the following styles of clamps.



(3) Recommended Mounting Force: Locate the recommended mounting force for your device from the Bolt Center / Mounting Force for Standard Bar Clamps table on page F-10.

(5) Cup Type:

Bolt Center	Cup Type
070	F
090	F
102	F
118	K
140	K
180	No Cup (Sleeve Insulator)

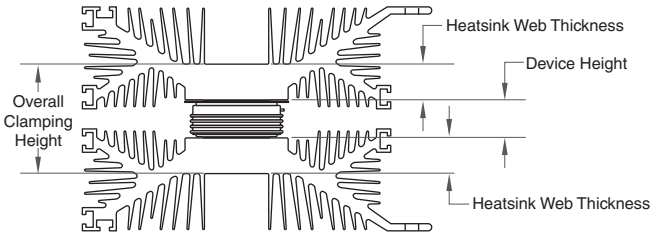


(4) Bolt Length and (6) Sleeve Length: The overall clamping height range found on the Bolt Center tables (pages F-11 to F-21, dimension S) determines the bolt length (4) and sleeve length (6).

- Locate the Bolt Center table that corresponds to your device (pages F-11 to F-21).
- Go to the clamp style (A, B, C, D, E) you chose and select the clamping height range (minimum - maximum) that corresponds closest to the overall clamping height determined below.

$$\text{Overall Clamping Height} = \text{Device Height} + \text{Heatsink(s) Web Thickness}$$

The maximum device height can be taken from the Bolt Center / Mounting Force for Standard Bar Clamps table on page F-10 or can be manually measured. The heatsink web thickness can be taken from the manufacturer’s datasheet or manually measured.



- Follow along the row to select the appropriate bolt / rod length (fourth column from left) and sleeve length (dimension J).

Standard Box Clamps

Box clamps are available for discs / hockey puks up to a maximum 80mm diameter x 32mm height with a maximum mounting force of 17kN.

For additional assistance with ordering and pricing, call Powerex headquarters at (724) 925-7272.

Bolt Center / Mounting Force for Standard Bar Clamps

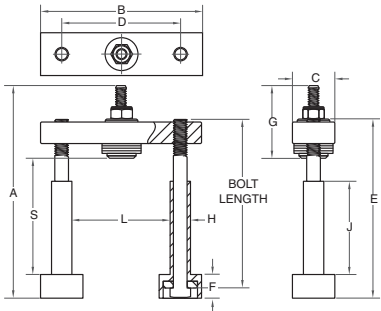
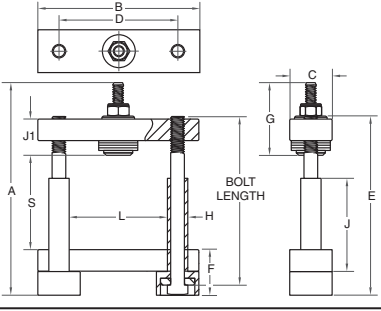
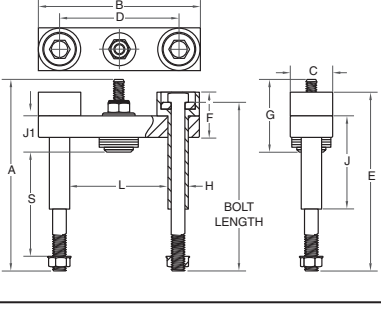
Discrete Thyristors

Disc / Hockey Puk	Bolt Center (mm)	Mounting Force (kN)	Diameter (mm)	Max. Height (mm)
C380	070	05	42.1	14.4
T620	070	05	42.1	14.4
T625	070	05	42.1	14.4
T627	070	05	42.1	14.4
C390	090	10	58.4	27.0
T720	090	10	58.4	27.0
T727	090	10	58.4	27.0
T72H	090	10	58.4	27.0
T7H8	070	10	41.9	15.4
T7S0	070	10	48.3	15.4
T7S7	070	10	41.9	15.4
T7SH	070	10	48.3	15.4
C440	090	15	58.4	27.0
T820	090	15	58.4	27.0
T82F	090	15	58.4	27.0
T8K7	090	15	58.4	27.0
C450	102	22	73.7	27.7
T9G0	102	22	73.7	27.7
T9GH	102	22	73.7	27.7
T9K7	102	22	73.7	27.7
T9KC	102	22	73.7	27.7
T9KT	102	22	73.7	27.7
T9S0	102	22	74.0	16.5
TA20	140	45	100.0	34.6
TAK7	140	45	100.0	34.6
TAS0	140	45	99.06	26.16
TAS7	140	45	99.06	26.16
TBK7	140	45	110.7	38.1
TBKC	140	45	110.7	38.1
TBKT	140	45	110.7	38.1
TBS7	140	45	110.7	26.67
TC20	180	53-67	124.2	38.1
TCK4	180	53-67	124.2	38.1
TCS4	180	53-67	124.2	26.9
TDK4	180	80-110	143.8	38.1
TDS4	180	80-110	143.8	26.9
	200	120	Consult factory for details on this large size clamp.	

Discrete Rectifiers

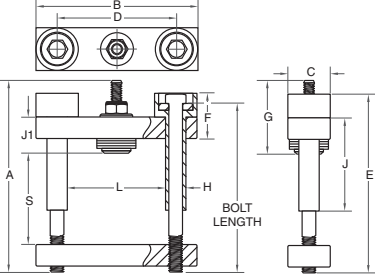
Disc / Hockey Puk	Bolt Center (mm)	Mounting Force (kN)	Diameter (mm)	Max. Height (mm)
A390	070	05	42.1	14.4
R620	070	05	42.1	14.4
R622	070	05	42.1	14.4
R7S0 ($\leq 1600V$)	070	10	41.9	15.4
R7S0 ($\geq 1800V$)	070	10	48.3	15.4
A430	090	10	58.4	26.9
R720	090	10	58.4	26.9
R722	090	10	58.4	26.9
R7S2	070	10	41.9	15.4
A451	102	22	73.4	27.4
R9G0	102	22	73.4	27.4
R9G2	102	22	73.4	27.4
RA20	140	45	99.3	34.0
RBK8	140	45	110.7	38.1
RBS8	140	45	110.7	26.67
RCS8	180	53-67	124.2	26.9
RDK8	180	53-67	143.8	38.1
RDS8	180	80-110	143.8	26.9
	200	120	Consult factory for details on this large size clamp.	

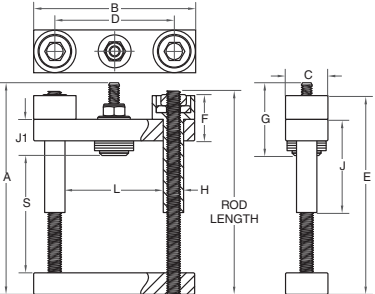
70mm Bolt Center for Standard Bar Clamps (5, 8, 10, & 12 kN Mounting Force Rating)

Clamp Drawing	Clamp Style	Clamping Height Range* S Dimension (mm)		Bolt Length (mm)	Dimensions (mm)										
		Min.	Max.		A	B	C	D	E	F	G	H	J	J1	L
	A	66	69	100	125	95	25.4	70	106	14	42	12	55	0	54
	A	77	79	110	135	95	25.4	70	116	14	42	12	65	0	54
	A	87	89	120	145	95	25.4	70	126	14	42	12	70	0	54
	A	91	99	130	155	95	25.4	70	136	14	42	12	70	0	54
	A	101	109	140	165	95	25.4	70	146	14	42	12	70	0	54
	A	111	119	150	175	95	25.4	70	156	14	42	12	70	0	54
	B	54	56	100	125	95	25.4	70	106	27	42	12	65	21	54
	B	64	66	110	135	95	25.4	70	116	27	42	12	70	21	54
	B	74	76	120	145	95	25.4	70	126	27	42	12	70	21	54
	B	78	86	130	155	95	25.4	70	136	27	42	12	70	21	54
	B	88	96	140	165	95	25.4	70	146	27	42	12	70	21	54
	C	52	60	100	113	95	25.4	70	106	27	42	12	65	21	54
	C	62	70	110	123	95	25.4	70	116	27	42	12	70	21	54
	C	72	80	120	133	95	25.4	70	126	27	42	12	70	21	54
	C	76	90	130	143	95	25.4	70	136	27	42	12	70	21	54
	C	86	100	140	153	95	25.4	70	146	27	42	12	70	21	54

*For clamping height ranges that exceed the parameters of this table, please contact Powerex headquarters at (724) 925-7272 and select Option 2 - Product Technical Assistance.

70mm Bolt Center for Standard Bar Clamps (5, 8, 10, & 12 kN Mounting Force Rating)

Clamp Drawing	Clamp Style	Clamping Height Range* S Dimension (mm)		Bolt Length (mm)	Dimensions										
		Min.	Max.		A	B	C	D	E	F	G	H	J	J1	L
			D		54	56	100	113	95	25.4	70	106	27	42	12
	D	64	66	110	123	95	25.4	70	116	27	42	12	65	21	54
	D	74	76	120	133	95	25.4	70	126	27	42	12	70	21	54
	D	78	86	130	143	95	25.4	70	136	27	42	12	70	21	54
	D	88	96	140	153	95	25.4	70	146	27	42	12	70	21	54
	D	98	106	150	163	95	25.4	70	156	27	42	12	70	21	54

Clamp Drawing	Clamp Style	Clamping Height Range* S Dimension (mm)		Rod Length (mm)	Dimensions										
		Min.	Max.		A	B	C	D	E	F	G	H	J	J1	L
			E		29	49	100	104	95	25.4	70	96	27	42	12
	E	29	74	125	129	95	25.4	70	121	27	42	12	45	21	54
	E	54	99	150	154	95	25.4	70	146	27	42	12	70	21	54
	E	114	224	275	279	95	25.4	70	271	27	42	12	130	21	54
	E	114	249	300	304	95	25.4	70	296	27	42	12	130	21	54
	E	129	274	325	329	95	25.4	70	321	27	42	12	145	21	54

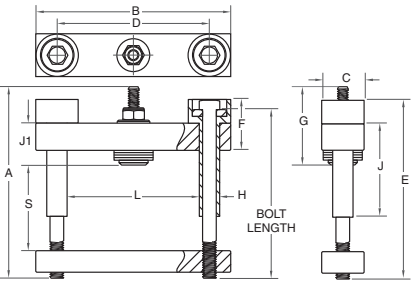
*For clamping height ranges that exceed the parameters of this table, please contact Powerex headquarters at (724) 925-7272 and select Option 2 - Product Technical Assistance.

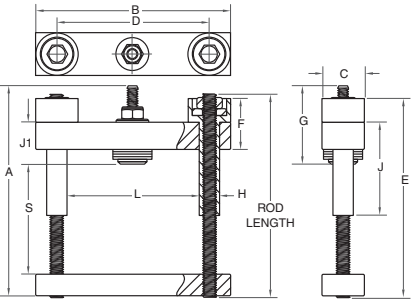
90mm Bolt Center for Standard Bar Clamps (5, 8, 10, 12 kN Mounting Force Rating)

Clamp Drawing	Clamp Style	Clamping Height Range* S Dimension (mm)		Bolt Length (mm)	Dimensions (mm)										
		Min.	Max.		A	B	C	D	E	F	G	H	J	J1	L
	A	67	69	100	125	115	25.4	90	106	14	42	12	45	0	74
	A	77	79	110	135	115	25.4	90	116	14	42	12	45	0	74
	A	87	89	120	145	115	25.4	90	126	14	42	12	55	0	74
	A	91	99	130	155	115	25.4	90	136	14	42	12	55	0	74
	A	101	109	140	165	115	25.4	90	146	14	42	12	55	0	74
	A	111	119	150	175	115	25.4	90	156	14	42	12	55	0	74
	A	121	129	160	185	115	25.4	90	166	14	42	12	70	0	74
	B	54	56	100	125	115	25.4	90	106	27	42	12	55	21	74
	B	64	66	110	135	115	25.4	90	116	27	42	12	55	21	74
	B	74	76	120	145	115	25.4	90	126	27	42	12	55	21	74
	B	78	86	130	155	115	25.4	90	136	27	42	12	55	21	74
	B	88	96	140	165	115	25.4	90	146	27	42	12	55	21	74
	B	98	106	150	175	115	25.4	90	156	27	42	12	65	21	74
	B	108	116	160	185	115	25.4	90	166	27	42	12	65	21	74
	C	52	60	100	113	115	25.4	90	106	27	42	12	65	21	74
	C	62	70	110	123	115	25.4	90	116	27	42	12	65	21	74
	C	72	80	120	133	115	25.4	90	126	27	42	12	65	21	74
	C	76	90	130	143	115	25.4	90	136	27	42	12	65	21	74
	C	86	100	140	153	115	25.4	90	146	27	42	12	70	21	74
	C	96	110	150	163	115	25.4	90	156	27	42	12	70	21	74
	C	106	120	160	173	115	25.4	90	166	27	42	12	70	21	74

*For clamping height ranges that exceed the parameters of this table, please contact Powerex headquarters at (724) 925-7272 and select Option 2 - Product Technical Assistance.

90mm Bolt Center for Standard Bar Clamps (5, 8, 10, 12 kN Mounting Force Rating)

Clamp Drawing	Clamp Style	Clamping Height Range* S Dimension (mm)		Bolt Length (mm)	Dimensions										
		Min.	Max.		A	B	C	D	E	F	G	H	J	J1	L
	D	54	56	100	113	115	25.4	90	106	27	42	12	55	21	74
	D	64	66	110	123	115	25.4	90	116	27	42	12	65	21	74
	D	74	76	120	133	115	25.4	90	126	27	42	12	65	21	74
	D	78	86	130	143	115	25.4	90	136	27	42	12	70	21	74
	D	88	96	140	153	115	25.4	90	146	27	42	12	70	21	74
	D	98	106	150	163	115	25.4	90	156	27	42	12	70	21	74
	D	108	116	160	173	115	25.4	90	166	27	42	12	70	21	74

Clamp Drawing	Clamp Style	Clamping Height Range* S Dimension (mm)		Rod Length (mm)	Dimensions										
		Min.	Max.		A	B	C	D	E	F	G	H	J	J1	L
	E	29	49	100	104	115	25.4	90	96	27	42	12	45	21	74
	E	29	74	125	129	115	25.4	90	121	27	42	12	45	21	74
	E	49	99	150	154	115	25.4	90	146	27	42	12	65	21	74
	E	114	224	275	279	115	25.4	90	271	27	42	12	130	21	74
	E	114	249	300	304	115	25.4	90	296	27	42	12	130	21	74

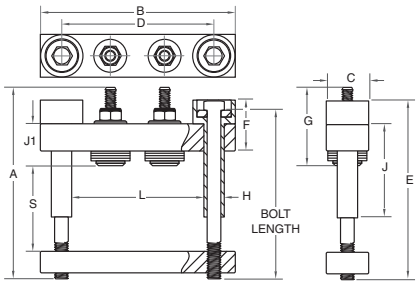
*For clamping height ranges that exceed the parameters of this table, please contact Powerex headquarters at (724) 925-7272 and select Option 2 - Product Technical Assistance.

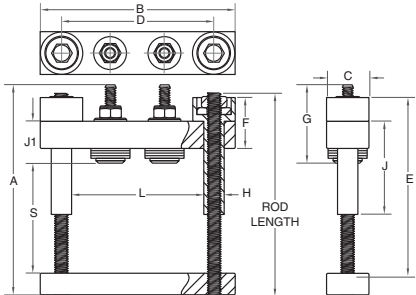
90mm Bolt Center for Standard Bar Clamps (15 kN Mounting Force Rating)

Clamp Drawing	Clamp Style	Clamping Height Range* S Dimension (mm)		Bolt Length (mm)	Dimensions (mm)										
		Min.	Max.		A	B	C	D	E	F	G	H	J	J1	L
	A	64	67	100	122	115	25.4	90	106	14	42	12	45	0	74
	A	74	77	110	132	115	25.4	90	116	14	42	12	45	0	74
	A	84	87	120	142	115	25.4	90	126	14	42	12	55	0	74
	A	88	97	130	152	115	25.4	90	136	14	42	12	55	0	74
	A	98	107	140	162	115	25.4	90	146	14	42	12	55	0	74
	A	108	117	150	172	115	25.4	90	156	14	42	12	65	0	74
	A	118	127	160	182	115	25.4	90	166	14	42	12	65	0	74
	B	52	55	100	122	115	25.4	90	106	27	42	12	55	24	74
	B	62	65	110	132	115	25.4	90	116	27	42	12	65	24	74
	B	72	75	120	142	115	25.4	90	126	27	42	12	70	24	74
	B	76	85	130	152	115	25.4	90	136	27	42	12	70	24	74
	B	86	95	140	162	115	25.4	90	146	27	42	12	70	24	74
	B	96	105	150	172	115	25.4	90	156	27	42	12	70	24	74
	B	106	115	160	182	115	25.4	90	166	27	42	12	70	24	74
	C	49	57	100	110	115	25.4	90	106	30	42	12	55	24	74
	C	59	67	110	120	115	25.4	90	116	30	42	12	65	24	74
	C	69	77	120	130	115	25.4	90	126	30	42	12	70	24	74
	C	73	87	130	140	115	25.4	90	136	30	42	12	70	24	74
	C	83	97	140	150	115	25.4	90	146	30	42	12	70	24	74
	C	93	107	150	160	115	25.4	90	156	30	42	12	70	24	74
	C	103	117	160	170	115	25.4	90	166	30	42	12	70	24	74

*For clamping height ranges that exceed the parameters of this table, please contact Powerex headquarters at (724) 925-7272 and select Option 2 - Product Technical Assistance.

90mm Bolt Center for Standard Bar Clamps (15 kN Mounting Force Rating)

Clamp Drawing	Clamp Style	Clamping Height Range* S Dimension (mm)		Bolt Length (mm)	Dimensions										
		Min.	Max.		A	B	C	D	E	F	G	H	J	J1	L
			D		50	54	100	110	115	25.4	90	106	30	42	12
	D	60	64	110	120	115	25.4	90	116	30	42	12	65	24	74
	D	70	74	120	130	115	25.4	90	126	30	42	12	70	24	74
	D	74	84	130	140	115	25.4	90	136	30	42	12	70	24	74
	D	84	94	140	150	115	25.4	90	146	30	42	12	70	24	74
	D	94	104	150	160	115	25.4	90	156	30	42	12	70	24	74
	D	104	114	160	170	115	25.4	90	166	30	42	12	70	24	74

Clamp Drawing	Clamp Style	Clamping Height Range* S Dimension (mm)		Rod Length (mm)	Dimensions										
		Min.	Max.		A	B	C	D	E	F	G	H	J	J1	L
			E		26	45	100	100	115	25.4	90	96	30	42	12
	E	36	70	125	125	115	25.4	90	121	30	42	12	55	24	74
	E	46	95	150	150	115	25.4	90	146	30	42	12	65	24	74
	E	51	120	175	175	115	25.4	90	171	30	42	12	70	24	74
	E	51	145	200	200	115	25.4	90	196	30	42	12	70	24	74
	E	51	170	225	225	115	25.4	90	221	30	42	12	70	24	74
	E	51	195	250	250	115	25.4	90	246	30	42	12	70	24	74
	E	111	220	275	275	115	25.4	90	271	30	42	12	130	24	74

*For clamping height ranges that exceed the parameters of this table, please contact Powerex headquarters at (724) 925-7272 and select Option 2 - Product Technical Assistance.

102mm Bolt Center for Standard Bar Clamps (18 & 22 kN Mounting Force Rating)

Clamp Drawing	Clamp Style	Clamping Height Range* S Dimension (mm)		Bolt Length (mm)	Dimensions (mm)										
		Min.	Max.		A	B	C	D	E	F	G	H	J	J1	L
	A	63	65	100	122	127	25.4	102	106	14	42	12	45	0	86
	A	73	75	110	132	127	25.4	102	116	14	42	12	45	0	86
	A	83	85	120	142	127	25.4	102	126	14	42	12	45	0	86
	A	87	95	130	152	127	25.4	102	136	14	42	12	55	0	86
	A	97	105	140	162	127	25.4	102	146	14	42	12	55	0	86
	A	107	115	150	172	127	25.4	102	156	14	42	12	65	0	86
	A	117	125	160	182	127	25.4	102	166	14	42	12	65	0	86
	B	51	53	100	122	127	25.4	102	106	27	42	12	55	24	86
	B	61	63	110	132	127	25.4	102	116	27	42	12	55	24	86
	B	71	73	120	142	127	25.4	102	126	27	42	12	65	24	86
	B	75	83	130	152	127	25.4	102	136	27	42	12	65	24	86
	B	85	93	140	162	127	25.4	102	146	27	42	12	70	24	86
	C	48	57	100	110	127	25.4	102	106	30	42	12	55	24	86
	C	58	67	110	120	127	25.4	102	116	30	42	12	65	24	86
	C	68	77	120	130	127	25.4	102	126	30	42	12	65	24	86
	C	72	87	130	140	127	25.4	102	136	30	42	12	70	24	86

*For clamping height ranges that exceed the parameters of this table, please contact Powerex headquarters at (724) 925-7272 and select Option 2 - Product Technical Assistance.

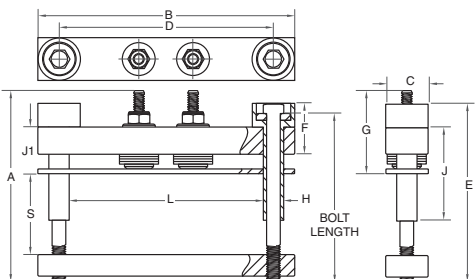
102mm Bolt Center for Standard Bar Clamps (18 & 22 kN Mounting Force Rating)

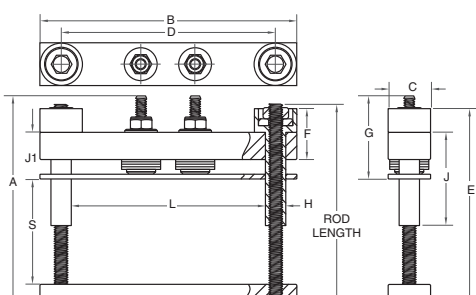
Clamp Drawing	Clamp Style	Clamping Height Range* S Dimension (mm)		Bolt Length (mm)	Dimensions										
		Min.	Max.		A	B	C	D	E	F	G	H	J	J1	L
	D	48	54	100	110	127	25.4	102	106	30	42	12	55	24	86
	D	58	64	110	120	127	25.4	102	116	30	42	12	65	24	86
	D	68	74	120	130	127	25.4	102	126	30	42	12	65	24	86
	D	72	84	130	140	127	25.4	102	136	30	42	12	70	24	86
	D	82	94	140	150	127	25.4	102	146	30	42	12	70	24	86

Clamp Drawing	Clamp Style	Clamping Height Range* S Dimension (mm)		Rod Length (mm)	Dimensions										
		Min.	Max.		A	B	C	D	E	F	G	H	J	J1	L
	E	26	45	100	100	127	25.4	102	96	30	42	12	45	24	86
	E	26	70	125	125	127	25.4	102	121	30	42	12	45	24	86
	E	46	95	150	150	127	25.4	102	146	30	42	12	65	24	86
	E	111	220	275	275	127	25.4	102	271	30	42	12	130	24	86

*For clamping height ranges that exceed the parameters of this table, please contact Powerex headquarters at (724) 925-7272 and select Option 2 - Product Technical Assistance.

118mm Bolt Center for Standard Bar Clamps (30, 35, 42 & 44 kN Mounting Force Rating)

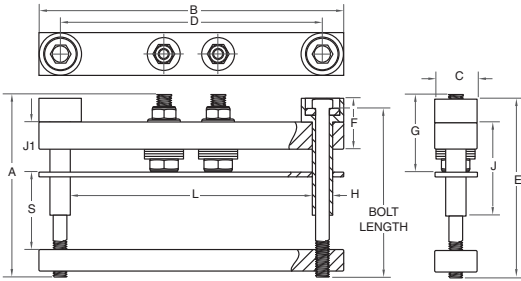
Clamp Drawing	Clamp Style	Clamping Height Range* S Dimension (mm)		Bolt Length (mm)	Dimensions										
		Min.	Max.		A	B	C	D	E	F	G	H	J	J1	L
	D	38	46	120	141	158	38	118	141	53	65	16	72	46	98
	D	42	56	130	151	158	38	118	151	53	65	16	72	46	98

Clamp Drawing	Clamp Style	Clamping Height Range* S Dimension (mm)		Rod Length (mm)	Dimensions										
		Min.	Max.		A	B	C	D	E	F	G	H	J	J1	L
	E	31	42	125	134	158	38	118	134	53	65	16	72	46	98
	E	89	117	200	209	158	38	118	209	53	65	16	130	46	98
	E	89	142	225	234	158	38	118	234	53	65	16	130	46	98
	E	89	167	250	259	158	38	118	259	53	65	16	130	46	98

*For clamping height ranges that exceed the parameters of this table, please contact Powerex headquarters at (724) 925-7272 and select Option 2 - Product Technical Assistance.

140mm Bolt Center for Standard Bar Clamps (45 & 50 kN Mounting Force Rating)

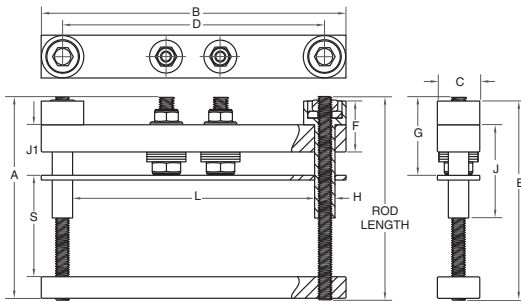
Clamp Drawing	Clamp Style	Clamping Height Range* S Dimension (mm)		Bolt Length (mm)	Dimensions										
		Min.	Max.		A	B	C	D	E	F	G	H	J	J1	L



D

Please contact Powerex headquarters at (724) 925-7272 and select Option 2 - Product Technical Assistance for help in selection of this style of clamp.

Clamp Drawing	Clamp Style	Clamping Height Range* S Dimension (mm)		Rod Length (mm)	Dimensions										
		Min.	Max.		A	B	C	D	E	F	G	H	J	J1	L



E

E	82	135	225	234	180	38	140	234	56	69	16	130	53	120
E	82	160	250	259	180	38	140	259	56	69	16	130	53	120

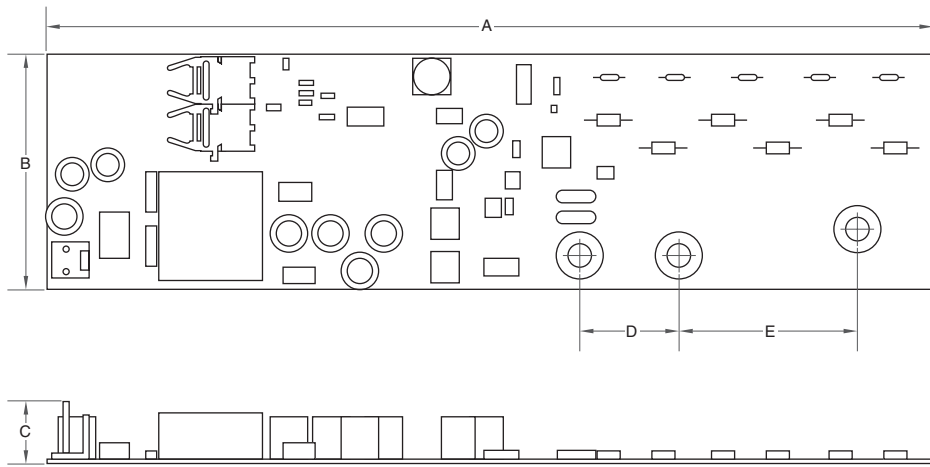
*For clamping height ranges that exceed the parameters of this table, please contact Powerex headquarters at (724) 925-7272 and select Option 2 - Product Technical Assistance.

180mm Bolt Center for Standard Bar Clamps - Sleeve Type Insulator (No Cups) (80 - 90 kN Mounting Force Rating)

Clamp Drawing	Clamp Style	Clamping Height Range * S Dimension (mm)		Rod Length (mm)	Dimensions										
		Min.	Max.		A	B	C	D	E	F @ "S" Max.	F @ "S" Min.	H	J	J1	L
	E	30	55	200	202	220	60	180	195	38	63	19	91	100	161
	E	50	75	220	222	220	60	180	215	58	83	19	91	120	161
	E	70	95	240	242	220	60	180	235	78	103	19	91	140	161
	E	90	115	260	262	220	60	180	255	98	123	19	91	160	161
	E	110	135	280	282	220	60	180	275	118	143	19	91	180	161
	E	130	155	300	302	220	60	180	295	138	163	19	91	200	161
	E	150	175	320	322	220	60	180	315	158	183	19	91	220	161
	E	170	195	340	342	220	60	180	335	178	203	19	91	240	161
	E	190	215	360	362	220	60	180	355	198	223	19	91	260	161
	E	210	235	380	382	220	60	180	375	218	243	19	91	280	161
	E	230	255	400	402	220	60	180	395	238	263	19	91	300	161
	E	250	275	420	422	220	60	180	415	258	283	19	91	320	161
	E	270	295	440	442	220	60	180	435	278	303	19	91	340	161
	E	290	315	460	462	220	60	180	455	298	323	19	91	360	161
	E	310	335	480	482	220	60	180	475	318	343	19	91	380	161
	E	330	355	500	502	220	60	180	495	338	363	19	91	400	161

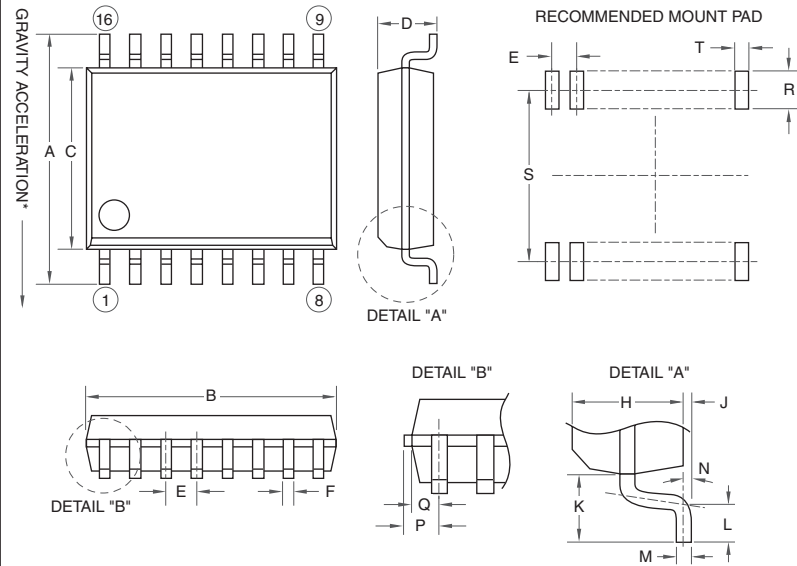
*For clamping height ranges that exceed the parameters of this table, please contact Powerex headquarters at (724) 925-7272 and select Option 2 - Product Technical Assistance.

1 15A10A0017G02



Dim.	Inches	Millimeters
A	7.48	190.0
B	1.93	49.0
C	0.023±0.004	0.59±0.1
D	0.826±0.01	21.0±0.3
E	1.5±0.01	38.15±0.3

2 MAS1390P



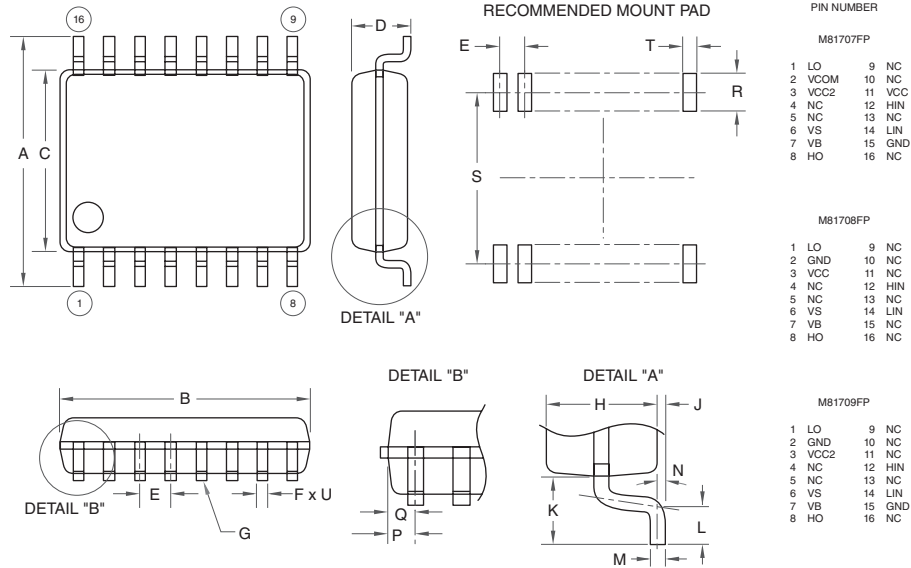
- PIN NUMBER**
- 1 NC
 - 2 NC
 - 3 NC
 - 4 NC
 - 5 V_{OUT}
 - 6 NC
 - 7 GND
 - 8 V_{CC}
 - 9 NC
 - 10 NC
 - 11 NC
 - 12 NC
 - 13 NC
 - 14 NC
 - 15 NC
 - 16 NC

*In this case, sensor's output decreases.

NC = For internal use

Dimensions	Inches	Millimeters	Dimensions	Inches	Millimeters
A	0.41±0.01	10.3±0.3	L	0.0315±0.008	0.8±0.2
B	0.41±0.004	10.3±0.1	M	0.1±0.002	0.25±0.05
C	0.3±0.004	7.5±0.1	N	8° Max.	8° Max.
D	0.104 Max.	2.65 Max.	P	0.034 Max.	0.855 Max.
E	0.05	1.27	Q	0.028	0.705
F	0.0165±0.0028	0.42±0.07	R	0.05 Min.	1.27 Min.
H	0.09	2.3	S	0.375	9.53
J	0.008±0.004	0.2±0.1	T	0.03	0.76
K	0.06	1.4			

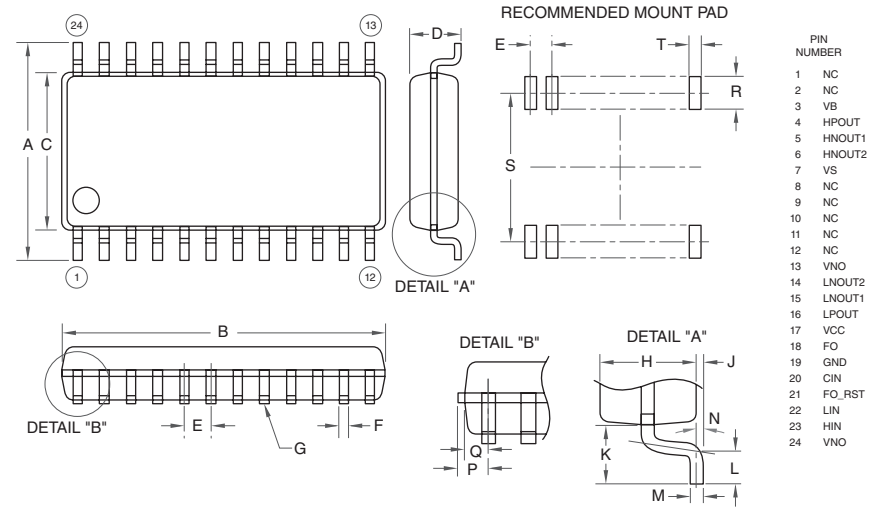
3 M81707FP, M81708FP, M81709FP



Dim.	Inches	Millimeters
A	0.31±0.01	7.8±0.3
B	0.41±0.004	10.1±0.1
C	0.21±0.004	5.3±0.1
D	0.12	2.10
E	0.05	1.27
F	0.02±0.002	0.4±0.05
G	0.004	0.1
H	0.07	1.8
J	0.01±0.004	0.1±0.1
K	0.05	1.25

Dim.	Inches	Millimeters
L	0.024±0.008	0.6±0.2
M	0.1±0.002	0.2±0.05
N	8°	8°
P	0.03	0.755
R	0.05 Min.	1.27 Min.
S	0.30	7.62
T	0.029	0.76
U	0.098 Dia.	0.25 Dia.

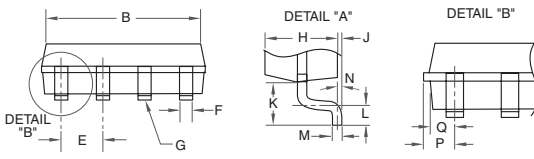
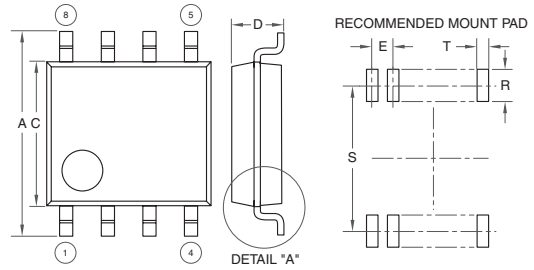
4 M81019FP, M81721FP



Dim.	Inches	Millimeters
A	0.31±0.01	7.8±0.3
B	0.40±0.004	10.1±0.1
C	0.21±0.004	5.3±0.1
D	0.08 Max.	2.1 Max.
E	0.03	0.8
F	0.01+0.004/0.0020.35+0.1/-0.05	
G	0.004	0.1
H	0.07	1.8
J	0.008 Max.	0.2 Max.

Dim.	Inches	Millimeters
K	0.05	1.25
L	0.02±0.008	0.6±0.2
M	0.008+0.002/-0.008	0.2+0.05/-0.2
N	8° Max.	8° Max.
P	0.03 Max.	0.8 Max.
Q	0.026	0.65
R	0.051 Min.	1.27 Min.
S	0.30	7.62
T	0.02	0.5

5 M81706AFP, M81711FP, M81713FP, M81716FP

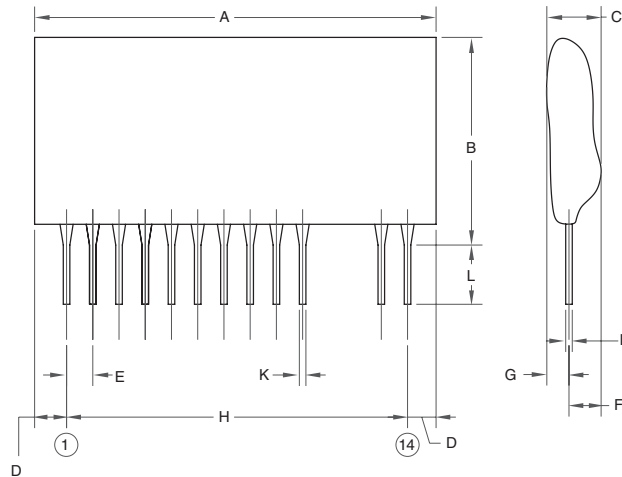


PIN NUMBER			
M81706AFP	M81711FP	M81713FP	M81716FP
1 VCC 8 VB	1 NC 8 NC	1 VCC 8 VB	1 NC 8 NC
2 HN 7 HO	2 IN A 7 OUT A	2 IN 7 HO	2 IN A 7 OUT A
3 LN 6 VS	3 GND 6 VDD	3 GND 6 VS	3 GND 6 VDD
4 GND 5 LO	4 IN B 5 OUT B	4 LO 5 NC	4 IN B 5 OUT B

Dim.	Inches	Millimeters
A	0.24±0.01	6.2±0.3
B	0.2±0.008	5.0±0.2
C	0.17±0.008	4.4±0.2
D	0.08 Max.	1.9 Max.
E	0.05	1.27
F	0.015±0.002	0.4±0.05
G	0.004	0.1
H	0.06	1.5
J	0.002 Min.	0.05 Min.

Dim.	Inches	Millimeters
K	0.04	0.9
L	0.015±0.008	0.4±0.2
M	0.006±0.002	0.15±0.05
N	10° Max.	10° Max.
P	0.03	0.745
Q	0.023	0.595
R	0.05 Min.	1.27 Min.
S	0.23	5.72
T	0.76	0.76

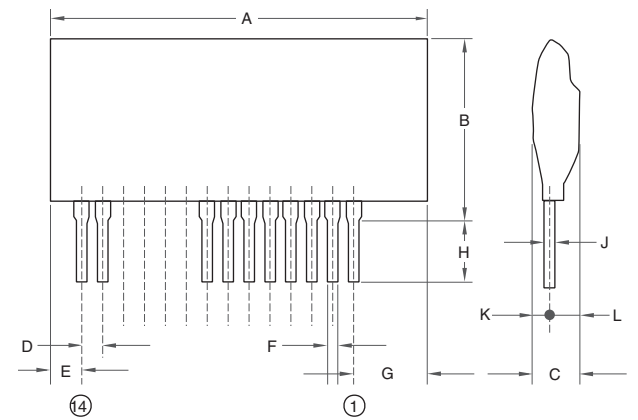
6 M57159L



Dim.	Inches	Millimeters
A	1.70 Max.	43.0 Max.
B	0.87 Max.	22.0 Max.
C	0.43 Max.	11.0 Max.
D	0.22 Max.	5.5 Max.
E	0.10	2.54
F	0.34 Max.	8.5 Max.

Dim.	Inches	Millimeters
G	0.14 Max.	3.5 Max.
H	1.30	33.02
J	0.18±0.06	4.5±1.5
K	0.02±0.0008	0.55±0.2
L	0.01±0.008	0.35±0.2

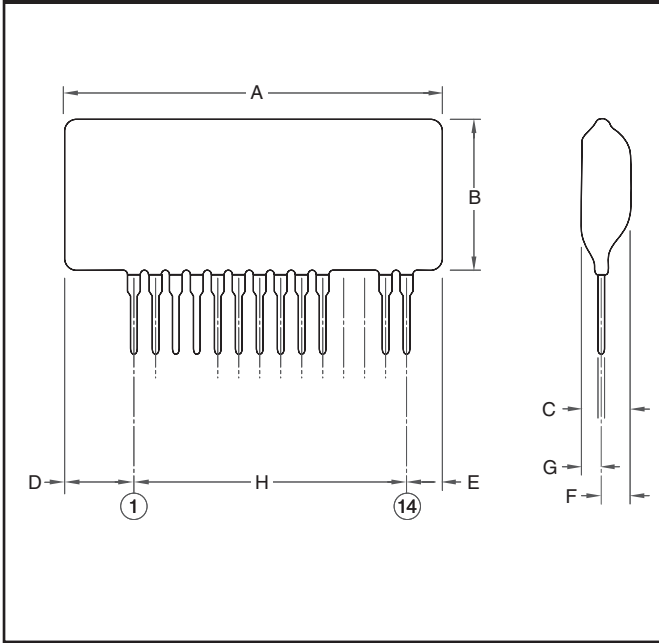
7 M57962K



Dim.	Inches	Millimeters
A	2.0 Max.	51.0 Max.
B	1.06 Max.	27.0 Max.
C	0.4 Max.	10.0 Max.
D	0.10	2.54
E	0.26 Max.	6.5 Max.
F	0.02+0.006/-0.004	0.5+0.15/-0.1

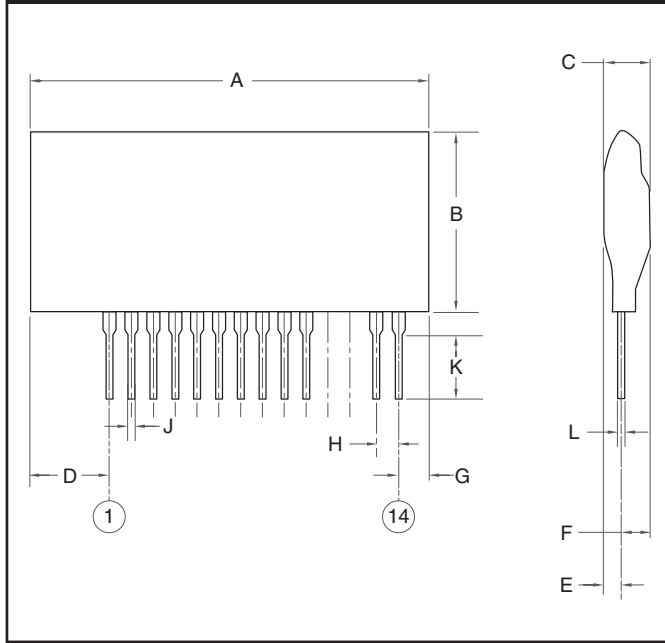
Dim.	Inches	Millimeters
G	0.5 Max.	12.5 Max.
H	0.18±0.06	4.5±1.5
J	0.01+0.008/-0.004	0.25+0.2/-0.1
K	0.12 Max.	3.0 Max.
L	0.3 Max.	7.5 Max.

8 M57160AL



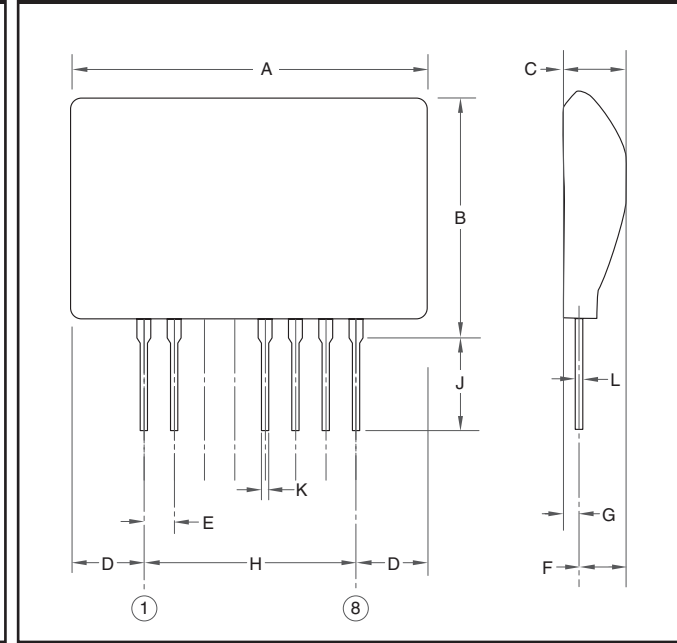
Dim.	Inches	Millimeters
A	1.85 Max.	47.0 Max.
B	0.81 Max.	20.5 Max.
C	0.45 Max.	11.5 Max.
D	0.37 Max.	9.5 Max.

9 VLA503-01, VLA504-01



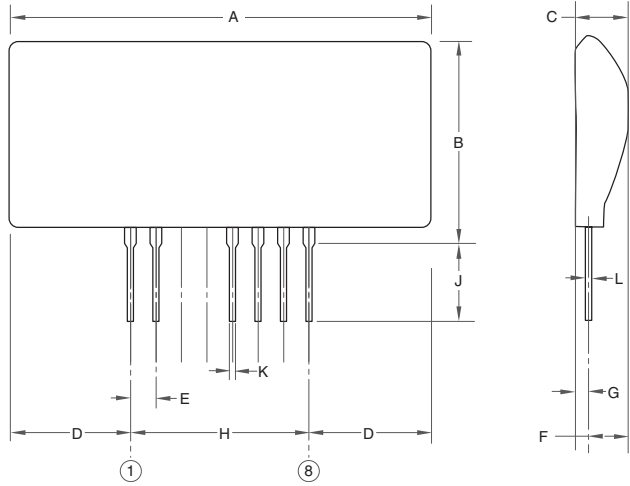
Dim.	Inches	Millimeters
A	2.0 Max.	51.0 Max.
B	1.02 Max.	26.0 Max.
C	0.4 Max.	10.0 Max.
D	0.45 Max.	11.5 Max.
E	0.12 Max.	3.0 Max.
F	0.3 Max.	7.5 Max.

10 VLA507-01



Dim.	Inches	Millimeters
A	1.18 Max.	30.0 Max.
B	0.79 Max.	20.0 Max.
C	0.28 Max.	7.0 Max.
D	0.24 Max.	6.0 Max.
E	0.10	2.54
F	0.216 Max.	5.5 Max.

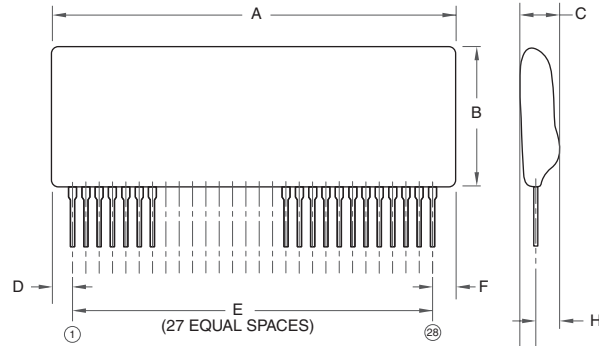
11 VLA513-01



Dim.	Inches	Millimeters
A	1.85 Max.	47.0 Max.
B	1.063 Max.	27.0 Max.
C	0.28 Max.	7.0 Max.
D	0.59 Max.	15.0 Max.
E	0.10	2.54
F	0.216 Max.	5.5 Max.

Dim.	Inches	Millimeters
G	0.08 Max.	2.0 Max.
H	0.70	17.78
J	0.18±0.06	4.5±1.5
K	0.03	0.75
L	0.02	0.5

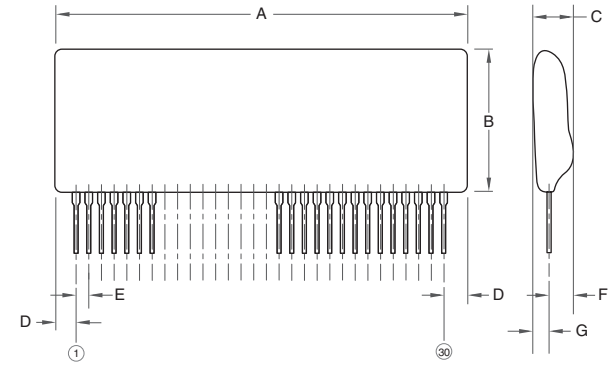
12 M57161L



Dim.	Inches	Millimeters
A	3.27 Max.	83.0 Max.
B	1.18 Max.	30.0 Max.
C	0.59 Max.	15.0 Max.
D	0.24 Max.	6.0 Max.

Dim.	Inches	Millimeters
E	2.80	71.12
F	0.22 Max.	5.5 Max.
G	0.18 Max.	4.5 Max.
H	0.43 Max.	11.0 Max.

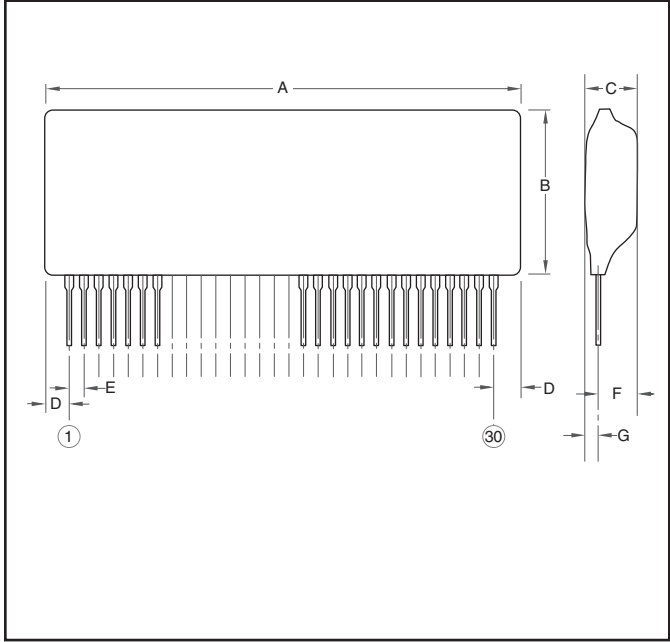
13 VLA500-01, VLA502-01



Dim.	Inches	Millimeters
A	3.27 Max.	83.0 Max.
B	1.30 Max.	33.0 Max.
C	0.61 Max.	15.5 Max.
D	0.20 Max.	5.0 Max.

Dim.	Inches	Millimeters
E	0.10	2.54
F	0.45 Max.	11.5 Max.
G	0.18 Max.	4.6 Max.

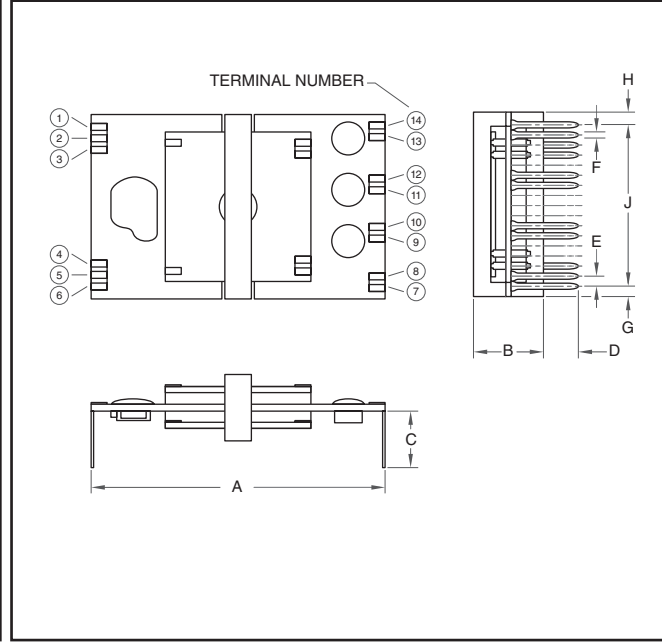
14 VLA500K-01R



Dim.	Inches	Millimeters
A	3.27	83.0
B	1.3	33.0
C	0.67	17.0
D	0.2	5.0
E	0.1	2.54
F	0.45	11.5
G	0.24	6.0

Note: All dimensions listed are maximums except E.

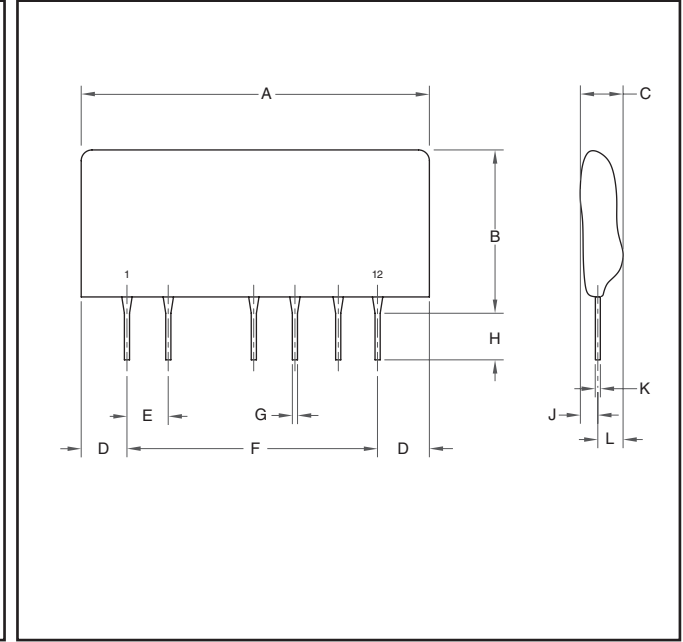
15 M57140-01



Dim.	Inches	Millimeters
A	2.03	51.5
B	0.71	18.0
C	0.39±0.06	12.5±1.5
D	0.18±0.06	4.5±1.5
E	0.07	1.8

Dim.	Inches	Millimeters
F	0.02	0.55
G	0.08	2.1
H	0.08	2.1
J	1.13	28.8

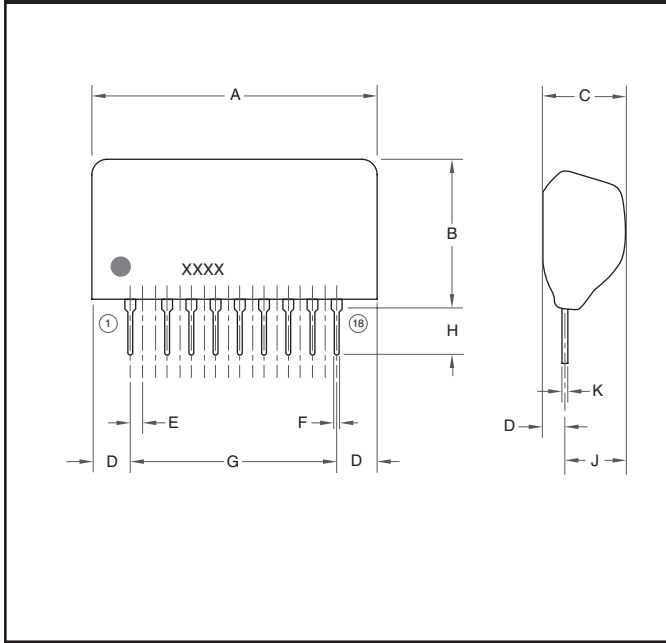
16 M57182N-315



Dim.	Inches	Millimeters
A	1.38 Max.	35.0 Max.
B	0.79 Max.	20.0 Max.
C	0.34 Max.	8.5 Max.
D	0.14 Max.	3.5 Max.
E	0.02	5.08
F	1.10	27.94

Dim.	Inches	Millimeters
G	0.02	0.55±0.1
H	0.18±0.6	4.5±1.5
J	0.15 Max.	3.8 Max.
K	0.01±0.008	0.35±0.02
L	0.20 Max.	5.0 Max.

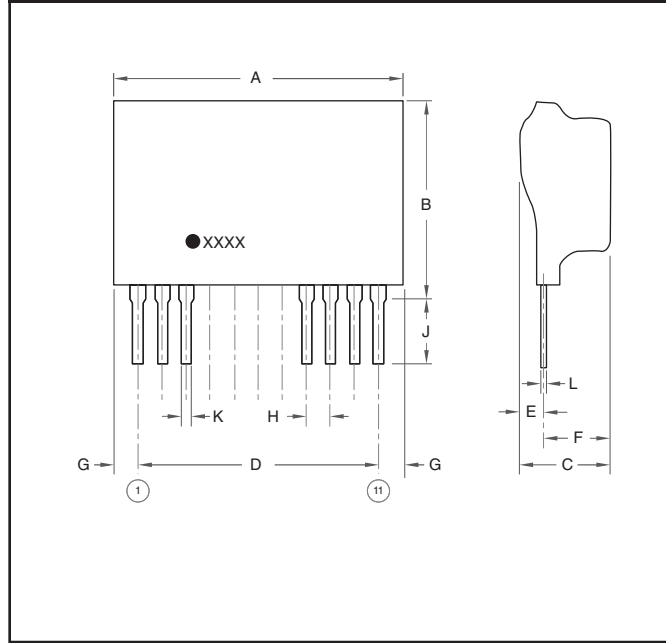
17 M57184N-715B



Dim.	Inches	Millimeters
A	2.05 Max.	52.0 Max.
B	0.95 Max.	24.0 Max.
C	0.47 Max.	12.0 Max.
D	0.18 Max.	4.5 Max.
E	0.01	2.54

Dim.	Inches	Millimeters
F	0.02±0.004	0.55±0.1
G	1.70	43.18
H	0.16±0.4	4.0±1.0
J	0.3 Max.	7.5 Max.
K	0.01±0.008	0.35±0.2

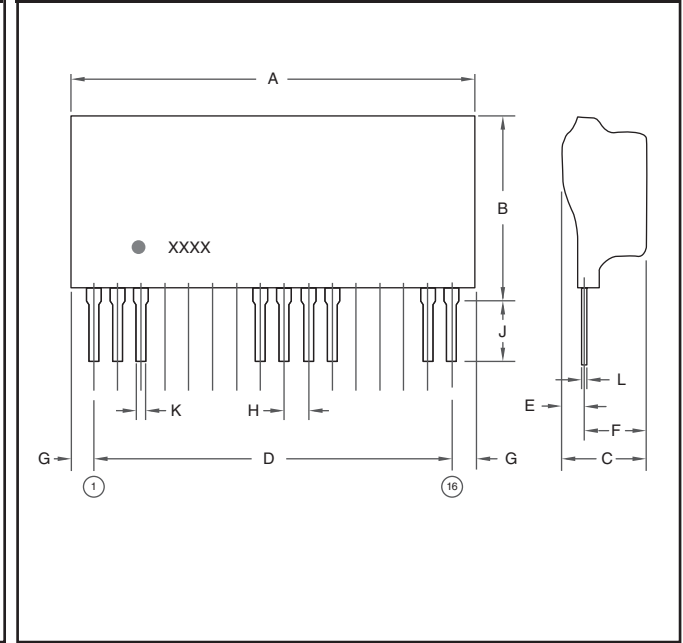
18 VLA106-15151, VLA106-15242,
VLA106-24151, VLA106-24242



Dim.	Inches	Millimeters
A	1.3	33.0
B	0.945	24.0
C	0.71	18.0
D	1.0	25.4
E	0.22	5.5
F	0.53	13.5

Note: All dimensions listed are maximums except D.

19 VLA106-24154

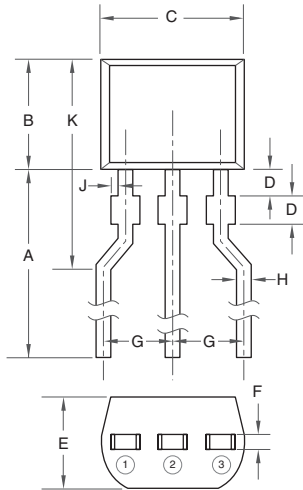


Dim.	Inches	Millimeters
A	1.87	47.5
B	0.945	24.0
C	0.71	18.0
D	1.60	40.64
E	0.22	5.5
F	0.53	13.5

Note: All dimensions listed are maximums except D.

Dim.	Inches	Millimeters
G	0.18	4.5
H	0.10	2.54
J	0.18±0.06	4.5±1.5
K	0.02+0.004/-0.002	0.5+0.1/-0.05
L	0.01+0.01/-0.002	0.25+0.2/-0.05

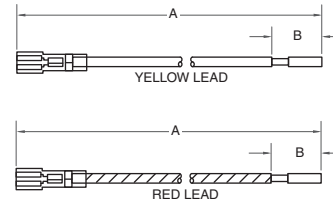
20 BS08D-T112



Dim.	Inches	Millimeters
A	0.55 Min.	14.0 Min.
B	0.12 Max.	3.0 Max.
C	0.16	4.0
D	0.39	1.0
E	0.098 Max.	2.5 Max.

Dim.	Inches	Millimeters
F	0.016	0.4
G	0.10	2.5
H	0.018	0.45
J	0.004	0.1
K	0.29 Max.	7.5 Max.

21 Lead Kits MR, MQ



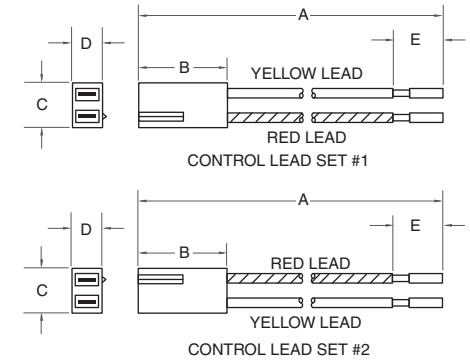
1. WIRE COMPOSITION:
AWG 22, TINNED COPPER STRAND WIRE WITH ETEF INSULATION RATED TO 125°C
2. LEAD COLOR:
RED (CATHODE) AND YELLOW (GATE). BOTH WITH INSULATED TERMINALS
3. RECEPTACLES:
FEMALE TERMINAL WITH NYLON INSULATOR THAT FITS .11 x .03 IN. BLADES

MQ KIT: TWO RED & TWO YELLOW LEADS / MODULE

MR KIT: ONE RED & ONE YELLOW LEAD / MODULE

Dim.	Inches	Millimeters
A	0.46	11.80
B	0.01	0.26

22 Lead Kits NK, NL, NM



1. WIRE COMPOSITION:
AWG 22, TINNED COPPER STRAND WIRE WITH ETEF INS RATED TO 125°C

NK KIT: LEAD SET 1 & LEAD SET 2 - ONE EACH / MODULE

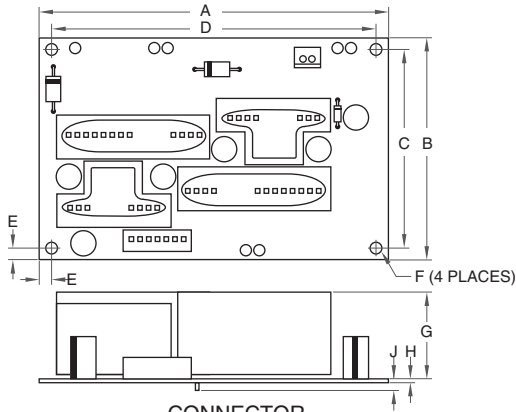
NL KIT: LEAD SET 1 - ONE / MODULE

NM KIT: LEAD SET 2 - ONE / MODULE

Dim.	Inches	Millimeters
A	0.54	13.80
B	0.03	0.79
C	0.015	0.39

Dim.	Inches	Millimeters
D	0.009	0.23
E	0.01	0.26

23 VLA536-01R

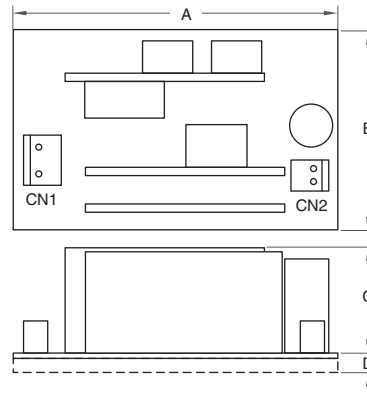


CONNECTOR

Pin	CN1	CN2
1	V _D	T ₁
2	GND	T ₂
3	NC	
4	Alarm	
5	IN ₁	
6	IN ₂	
7	V _{IN}	

Dim.	Inches	Millimeters
A	3.97±0.04	101.0±1.0
B	2.52±0.02	64.0±0.5
C	2.26	57.5
D	3.75	94.5
E	0.13	3.25

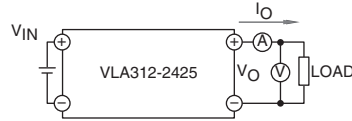
24 VLA312-2425



CONNECTOR

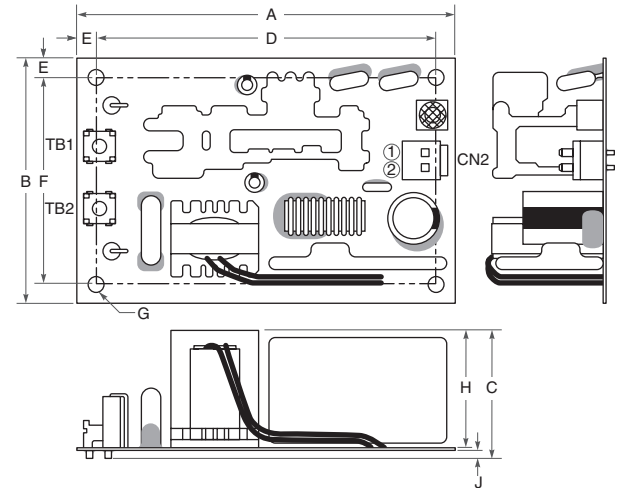
Parts No.	CN1 B2P3-VH, JST	CN2 B2P-VH, JST
Polarity (Pin 1)	-V _{IN}	+V _O
Polarity (Pin 2)	—	-V _O
Polarity (Pin 3)	+V _{IN}	—

TEST CIRCUIT DIAGRAM



Dim.	Inches	Millimeters
A	3.54	90.0
B	2.16	55.0
C	1.38	35.0
D	0.20	5.0

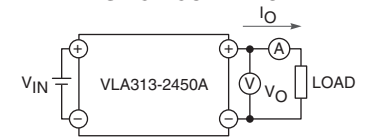
25 VLA313-2450A



CONNECTOR

Parts No.	Polarity
TB1 (OT-047 M3, OSADA)	+V _{IN}
TB2 (OT-047 M3, OSADA)	-V _{IN}
CN2 (B2P-VH, JST)	① +V _O ② -V _O

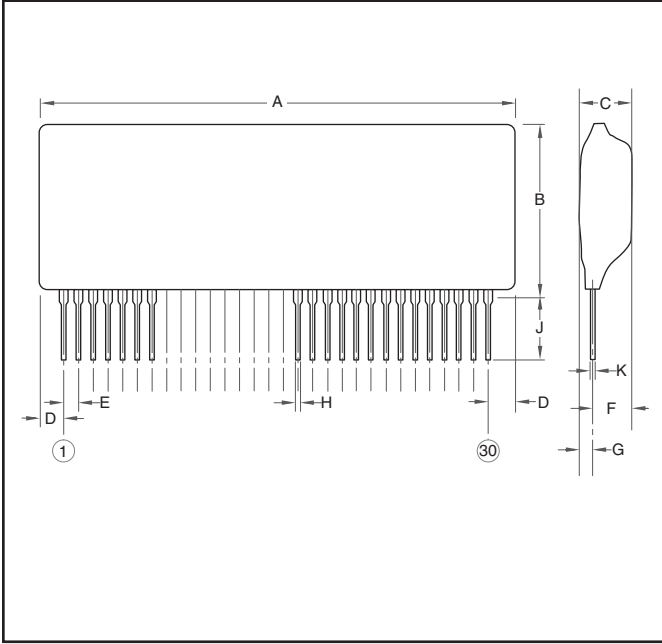
TEST CIRCUIT DIAGRAM



Dim.	Inches	Millimeters
A	4.53±0.012	115.0±0.3
B	2.76±0.012	70.0±0.3
C	1.42 Max.	36.0 Max.
D	4.13±0.012	105.0±0.3
E	0.2	5.0

Dim.	Inches	Millimeters
F	2.36±0.012	60.0±0.3
G	0.14 Dia.	3.5 Dia.
H	1.26 Max.	32.0 Max.
J	0.12 Max.	3.0 Max.

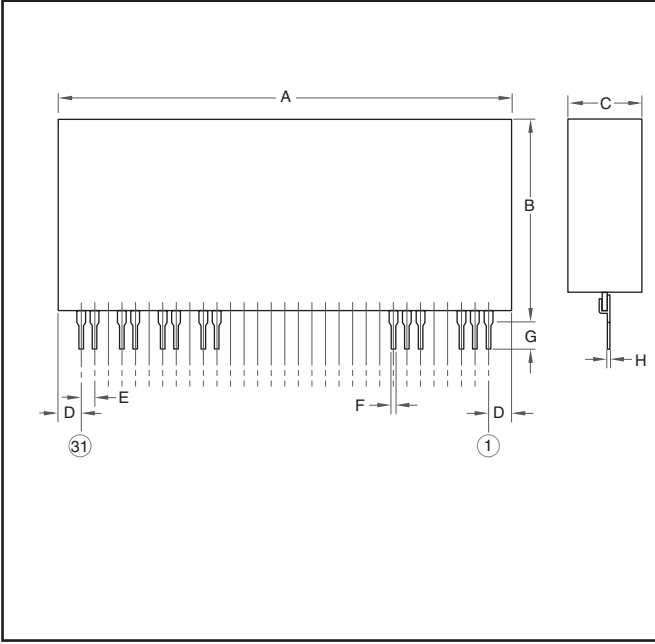
26 VLA539-01R



Dim.	Inches	Millimeters
A	3.46 Max.	88.0 Max.
B	1.65 Max.	42.0 Max.
C	0.67 Max.	17.0 Max.
D	0.31 Max.	8.0 Max.
E	0.1	2.54

Dim.	Inches	Millimeters
F	0.45 Max.	11.5 Max.
G	0.23 Max.	6.0 Max.
H	0.03±0.004	0.75±0.1
J	0.14±0.04	3.5±1.0
K	0.027 Max.	0.7 Max.

27 VLA107-644R, VLA107-677R



Dim.	Inches	Millimeters
A	3.42 Max.	87.0 Max.
B	1.53 Max.	39.0 Max.
C	0.55 Max.	14.0 Max.
D	0.21 Max.	5.5 Max.

Dim.	Inches	Millimeters
E	0.1	2.54
F	0.03±0.004	0.75±0.1
G	0.18±0.6	4.5±1.5
H	0.01+0.008/-0.004	0.5+0.2/-0.1