Silicon Power Rectifier Assemblies
Plate Heatsink

- Complete bridge with heatsinks – no assembly required
- Available in many circuit configurations
- Rated for convection or forced air cooling
- Available with bracket or stud mounting
- Designs include: DO–4, DO–5, DO–8 and DO–9 rectifiers
- Blocking voltages to 1600V

Silicon Power Rectifier Plate Heatsink Assembly Coding System

K 34 20 B 1 E B 1 S

Size of Heat Sink	Type of Diode	Peak Reverse Voltage	Type of Circuit	Number of Diodes in Series	Type of Finish	Type of Mounting	Number of Diodes in Parallel	Special Feature
E–2"x2" K–3"x3" G–5"x5" N–7"x7"	21 34 37 43 504	20–200 40–400 60–600 80–800 100–1000 120–1200 160–1600	Single Phase H–Half Wave C–Center Tap Positive N–Center Tap Negative D–Doubler B–Bridge M–Open Bridge Three Phase Z–Bridge X–Center Tap Y–Half Wave DC Positive Q–Half Wave DC Negative W–Double WYE V–Open Bridge	Per leg	E–Commercial	B–Stud with brackets or insulating board with mounting bracket N–Stud with no bracket	Per leg	Surge Suppressor

COLORADO Microsemi
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Broomfield, CO. 80020
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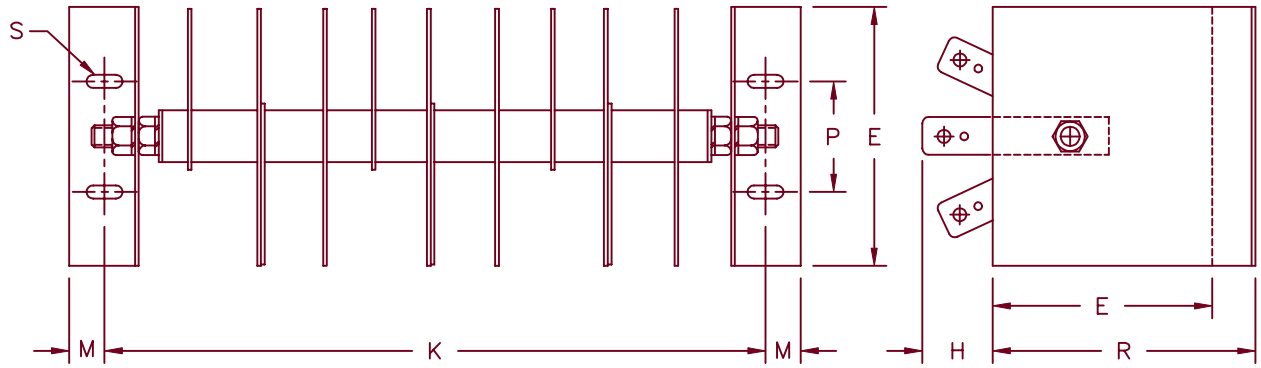
Series 21, 34 & 37
Plate Heatsink



Notes:

1. Current ratings shown are for natural convection cooling resistive or inductive loads for single phase circuits and all loads for three phase circuits
2. Use 2.0 times the listed current ratings for forced convection cooling at 1000LFM
3. For single phase battery, capacitive, or motor loads: the output current shown below should be derated to 80% of the values shown.
4. Assemblies with heat sink sizes other than those shown below are available on request for special applications.

Series 21

Circuit	Size	Dim.	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.
1ø Bridge	2x2	K	5.00	5.25	127.0	133.3
1ø Bridge	3x3	K	5.87	6.12	149.0	155.4
3ø Bridge	2x2	K	7.25	7.50	184.1	190.5
3ø Bridge	3x3	K	8.12	8.37	206.2	212.5
	2x2	M	0.30	0.32	7.62	8.12
Same		P	0.74	0.76	18.7	19.3
for		E	1.99	2.01	50.5	51.0
both		R	2.61	2.63	66.2	66.8
circuits		H	0.86	0.88	21.8	22.3
		S	0.56x.28 Nom.		14x7.1 Nom.	
	3x3	M	0.36	0.38	9.14	9.65
Same		P	1.49	1.51	37.8	38.3
for		E	2.99	3.01	75.9	76.4
both		R	3.67	3.69	93.2	93.7
circuits		H	0.99	1.01	25.1	25.6
		S	0.31x.18 Nom.		7.9x4.7 Nom.	

Series 34 & 37

Circuit	Size	Dim.	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.
1ø Bridge	3x3	K	5.75	6.25	146.0	158.7
1ø Bridge	5x5	K	5.75	6.25	146.0	158.7
3ø Bridge	3x3	K	8.00	8.50	203.2	215.9
3ø Bridge	5x5	K	8.00	8.50	203.2	215.9
	3x3	M	0.36	0.38	9.14	9.65
Same		P	1.49	1.51	37.8	38.3
for		E	2.99	3.01	75.9	76.4
both		R	3.67	3.69	93.2	93.7
circuits		H	0.99	1.01	25.1	25.6
		S	0.56x.28 Nom.		14x7.1 Nom.	
	5x5	M	0.36	0.38	9.14	9.65
Same		P	2.49	2.51	63.2	63.7
for		E	4.99	5.01	126.7	127.2
both		R	5.99	6.01	152.1	152.6
circuits		H	1.24	1.26	31.4	32.0
		S	0.56x.28 Nom.		14x7.1 Nom.	

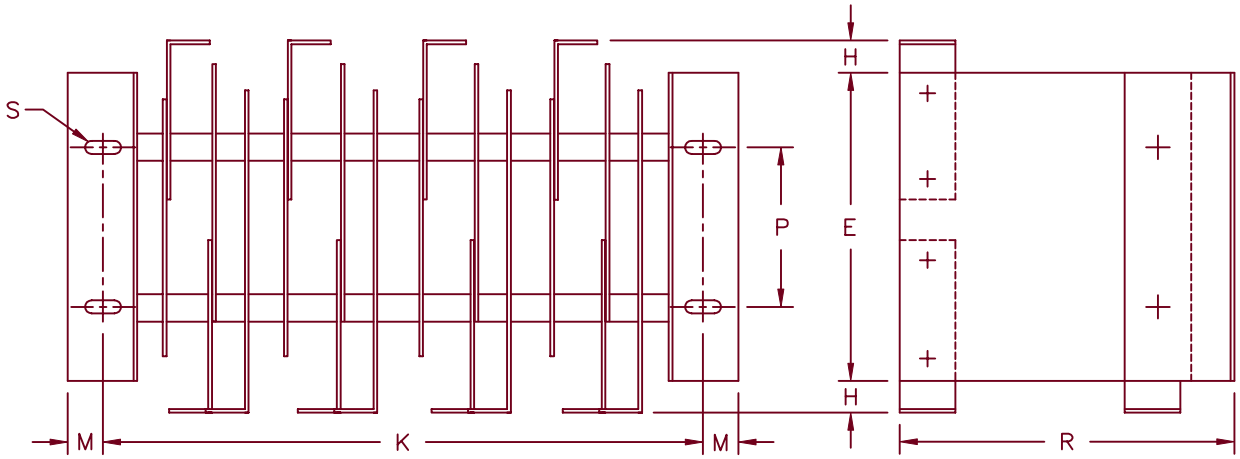
Ratings – Average Circuit Output Current – Amperes

DIODE SERIES	HEAT SINK SIZE (inches)	I^{FSM} AMPS	AMBIENT TEMP.°C	1–PHASE 1/2 WAVE	1–PHASE CTR. TAP	1–PHASE BRIDGE	3–PHASE 1/2 WAVE	3–PHASE BRIDGE	3–PHASE CTR. TAP	3–PHASE DBL.–WYE
21	2x2x1/16	250	40	7.8	15.6	15.6	23.4	23.4	38.1	46.8
21	2x2x1/16	250	70	6.0	12.0	12.0	18.0	18.0	29.3	36.0
21	2x2x1/16	250	100	4.3	8.6	8.6	12.9	12.9	21.0	25.8
21	3x3x1/16	250	40	11.0	22.0	22.0	33.0	33.0	53.8	66.0
21	3x3x1/16	250	70	8.8	17.6	17.6	26.4	26.4	43.0	52.8
21	3x3x1/16	250	100	6.3	12.6	12.6	18.9	18.9	30.8	37.8

Ratings – Average Circuit Output Current – Amperes

DIODE SERIES	HEAT SINK SIZE (inches)	I^{FSM} AMPS	AMBIENT TEMP.°C	1–PHASE 1/2 WAVE	1–PHASE CTR. TAP	1–PHASE BRIDGE	3–PHASE 1/2 WAVE	3–PHASE BRIDGE	3–PHASE CTR. TAP	3–PHASE DBL.–WYE
34	3x3x1/16	800	40	18.0	36.0	36.0	54.0	54.0	88.0	108.0
34	3x3x1/16	800	70	14.5	29.0	29.0	43.5	43.5	70.9	87.0
34	3x3x1/16	800	100	10.5	21.0	21.0	31.5	31.5	51.3	63.0
34	5x5x1/16	800	40	25.5	50.0	50.0	75.0	75.0	122.3	150.0
34	5x5x1/16	800	70	20.2	40.4	40.4	60.6	60.6	98.8	121.2
34	5x5x1/16	800	100	14.5	29.0	29.0	43.5	43.5	70.9	87.0
37	5x5x1/16	1500	40	33.2	67.5	67.5	97.5	97.5	159.0	195.0
37	5x5x1/16	1500	70	26.3	52.5	52.5	78.7	78.7	128.4	157.5
37	5x5x1/16	1500	100	18.8	37.7	37.7	56.5	56.5	92.2	113.1

Series 43 & 504
Plate Heatsink



Notes:

1. Current ratings shown are for natural convection cooling resistive or inductive loads for single phase circuits and all loads for three phase circuits
2. Use 2.0 times the listed current ratings for forced convection cooling at 1000LFM
3. For single phase battery, capacitive, or motor loads: the output current shown below should be derated to 80% of the values shown.
4. Assemblies with heat sink sizes other than those shown below are available on request for special applications.

Series 43

Circuit	Size	Dim.	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.
1ø Bridge	5x5	K	9.25	9.75	234.9	247.6
1ø Bridge	7x7	K	9.25	9.75	234.9	247.6
3ø Bridge	5x5	K	13.0	13.5	330.2	342.9
3ø Bridge	7x7	K	13.0	13.5	330.2	342.9
	5x5	M	0.36	0.38	9.14	9.65
Same		P	2.49	2.51	63.2	63.7
for		E	4.99	5.01	126.7	127.2
both		R	5.99	6.01	152.1	152.6
circuits		H	0.98	1.00	25.1	25.6
		S	0.56x0.28 Nom.		14x7.1 Nom.	
	7x7	M	0.36	0.38	9.14	9.65
Same		P	3.74	3.76	94.9	95.5
for		E	6.99	7.01	177.5	178.0
both		R	7.99	8.01	202.9	203.4
circuits		H	0.98	1.00	25.1	25.6
		S	0.31x0.18 Nom.		7.9x4.7 Nom.	

Series 504

Circuit	Size	Dim.	Inches Min.	Inches Max.	Millimeters Min.	Millimeters Max.
1ø Bridge	5x5	K	10.5	11.0	266.7	279.4
1ø Bridge	7x7	K	10.5	11.0	266.7	279.4
3ø Bridge	5x5	K	15.0	15.5	381.0	393.7
3ø Bridge	7x7	K	15.0	15.5	381.0	393.7
	5x5	M	0.36	0.38	9.14	9.65
Same		P	2.49	2.51	63.2	63.7
for		E	4.99	5.01	126.7	127.2
both		R	5.99	6.01	152.1	153.6
circuits		H	0.98	1.00	24.8	25.4
		S	0.56x0.28 Nom.		14x7.1 Nom.	
	7x7	M	0.36	0.38	9.14	9.65
Same		P	3.74	3.76	94.9	95.5
for		E	6.99	7.01	177.5	178.0
both		R	7.99	8.01	202.9	203.4
circuits		H	0.98	1.00	24.8	25.4
		S	0.56x0.28 Nom.		14x7.1 Nom.	

Ratings – Average Circuit Output Current – Amperes

DIODE SERIES	HEAT SINK SIZE (inches)	I_{FSM} AMPS	AMBIENT TEMP.°C	1–PHASE 1/2 WAVE	1–PHASE CTR. TAP	1–PHASE BRIDGE	3–PHASE 1/2 WAVE	3–PHASE BRIDGE	3–PHASE CTR. TAP	3–PHASE DBL.–WYE
43	5x5x1/8	2500	40	42.0	84.0	84.0	126.0	126.0	205.4	252.0
43	5x5x1/8	2500	70	32.0	64.0	64.0	96.0	96.0	156.5	192.0
43	5x5x1/8	2500	100	24.0	48.0	48.0	72.0	72.0	117.4	144.0
43	7x7x1/8	2500	40	52.0	104.0	104.0	156.0	156.0	254.3	312.0
43	7x7x1/8	2500	70	40.0	80.0	80.0	120.0	120.0	195.6	240.0
43	7x7x1/8	2500	100	28.0	56.0	56.0	84.0	84.0	137.0	168.0

Ratings – Average Circuit Output Current – Amperes

DIODE SERIES	HEAT SINK SIZE (inches)	I_{FSM} AMPS	AMBIENT TEMP.°C	1–PHASE 1/2 WAVE	1–PHASE CTR. TAP	1–PHASE BRIDGE	3–PHASE 1/2 WAVE	3–PHASE BRIDGE	3–PHASE CTR. TAP	3–PHASE DBL.–WYE
504	5x5x1/8	5500	40	62.0	124.0	124.0	186.0	186.0	303.0	372.0
504	5x5x1/8	5500	70	47.0	94.0	94.0	141.0	141.0	230.0	282.0
504	5x5x1/8	5500	100	33.0	66.0	66.0	99.0	99.0	161.0	198.0
504	7x7x1/4	5500	40	81.0	162.0	162.0	243.0	243.0	396.0	486.0
504	7x7x1/4	5500	70	63.0	126.0	126.0	189.0	189.0	308.0	378.0
504	7x7x1/4	5500	100	45.0	90.0	90.0	135.0	135.0	220.0	270.0

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