

## Diode/Thyristor POW-R-BLOK™ Modules

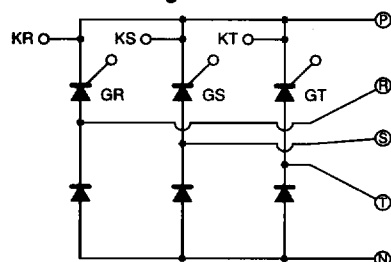
Powerex Rectifier and Thyristor Modules are designed for use in a variety of switching applications. All modules are isolated for easy mounting with other components on common heatsinks. The ratings and configurations are shown below.

For more detailed specifications, please refer to our Power Semiconductor Data Book, Volume 3 or contact your local Powerex manufacturers' representative.

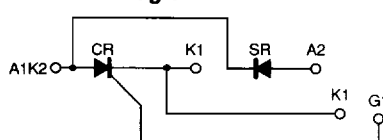
**Diode/Thyristor POW-R-BLOK™ Selector Table**

| Type                                           | Half Control Bridge |               | Dual SCR/Diode |               |               | Split Dual SCR/Diode |
|------------------------------------------------|---------------------|---------------|----------------|---------------|---------------|----------------------|
| $I_F(\text{avg})$ / $V_{\text{RRM}}(\text{V})$ | 400                 | 800           | 800            | 1200          | 1600          | 800                  |
| 20                                             | CE720402 (V1)       | CE720802 (V1) |                |               |               | CT220802 (V6)        |
| 25                                             | CE420430 (V2)       | CE420830 (V2) | CM4208A2 (V3)  | CM4212A2 (V4) | CM4216A2 (V4) |                      |
| 40                                             |                     |               | CD420840 (V7)  | CD421240 (V7) | CD421640 (V7) |                      |
| 55                                             |                     |               | CM420855 (V3)  | CM421255 (V4) | CM421655 (V4) |                      |
| 60                                             | CE420460 (V2)       | CE420860 (V2) | CD420860 (V7)  | CD421260 (V7) | CD421660 (V7) |                      |
| 90                                             |                     |               | CM420890 (V3)  | CM421290 (V4) | CM421690 (V4) |                      |
|                                                |                     |               | CD420890 (V7)  | CD421290 (V7) | CD421690 (V7) |                      |
| 130                                            |                     |               | CM520813 (V5)  | CM521213 (V5) | CM521613 (V5) |                      |
|                                                |                     |               | ED420813 (V9)  | ED421213 (V9) | ED421613 (V9) |                      |
| 150                                            |                     |               | CD620815 (V8)  | CD621215 (V8) | CD621615 (V8) |                      |
| 210                                            |                     |               | CM520821 (V5)  | CM521221 (V5) | CM521621 (V5) |                      |
|                                                |                     |               | ED420821 (V9)  | ED421221 (V9) | ED421621 (V9) |                      |
| 250                                            |                     |               | CM520825 (V5)  | CM521225 (V5) | CM521625 (V5) |                      |
|                                                |                     |               | ED420825 (V9)  | ED421225 (V9) | ED421625 (V9) |                      |

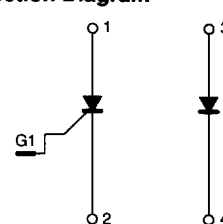
**Half Control Bridge  
Connection Diagram**



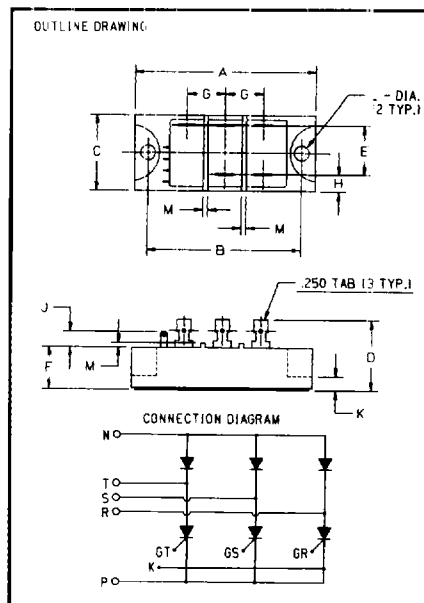
**Dual SCR/Diode  
Connection Diagram**



**Split Dual  
Connection Diagram**



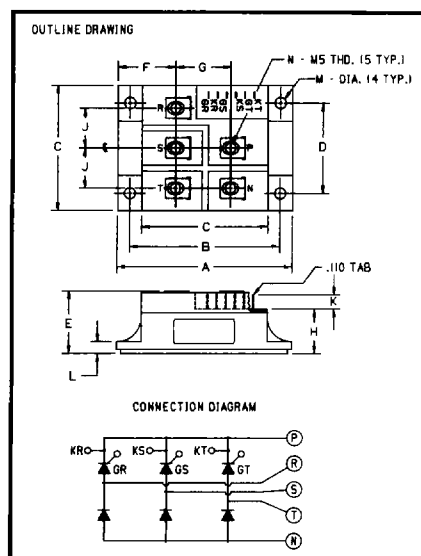
## V1



| Dimension | Inches        | Millimeters |
|-----------|---------------|-------------|
| A         | 3.15          | 80.0        |
| B         | 2.667 ± 0.012 | 68.0 ± 0.3  |
| C         | 1.34          | 34.0        |
| D         | 1.22          | 31.0        |
| E         | 0.87          | 22.0        |
| F         | 0.73          | 18.5        |
| G         | 0.67          | 17.0        |
| H         | 0.3           | 7.5         |
| J         | 0.28          | 7.0         |
| K         | 0.24          | 6.0         |
| L         | 0.777 Dia.    | 4.5 Dia.    |
| M         | 0.08          | 2.0         |

CE720402, CE720802

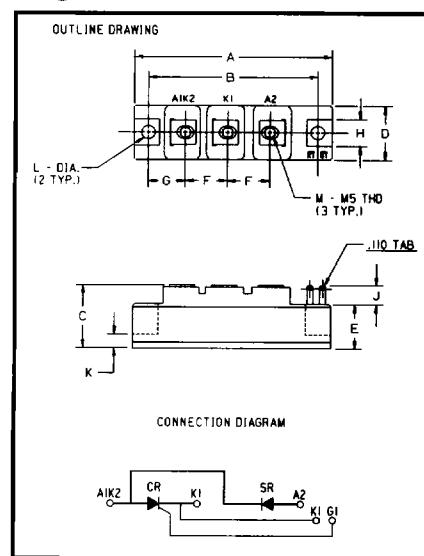
## V2



| Dimension | Inches             | Millimeters    |
|-----------|--------------------|----------------|
| A         | 3.38               | 86.0           |
| B         | 2.913 ± 0.012      | 74.0 ± 0.3     |
| C         | 2.44               | 62.0           |
| D         | 1.772 ± 0.008      | 45.0 ± 0.2     |
| E         | 1.22               | 31.0           |
| F         | 1.12               | 28.5           |
| G         | 1.06               | 27.0           |
| H         | 0.87               | 22.0           |
| J         | 0.79               | 20.0           |
| K         | 0.26               | 7.0            |
| L         | 0.24               | 6.0            |
| M         | 0.217 ± 0.008 Dia. | 5.5 ± 0.2 Dia. |
| N         | M5 Metric          | M5             |

CE420430, CE420460, CE420830,  
CE420860

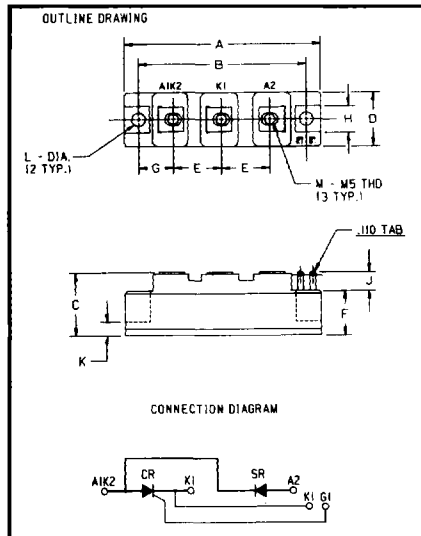
## V3



| Dimension | Inches             | Millimeters    |
|-----------|--------------------|----------------|
| A         | 3.68               | 93.5           |
| B         | 3.150 ± 0.012      | 80.0 ± 0.3     |
| C         | 1.18               | 30.0           |
| D         | 1.02               | 26.0           |
| E         | 0.83               | 21.0           |
| F         | 0.79               | 20.0           |
| G         | 0.69               | 17.5           |
| H         | 0.49               | 12.5           |
| J         | 0.35               | 9.0            |
| K         | 0.26               | 6.5            |
| L         | 0.256 ± 0.008 Dia. | 6.5 ± 0.2 Dia. |
| M         | M5 Metric          | M5             |

CM4208A2, CM420855, CM420890

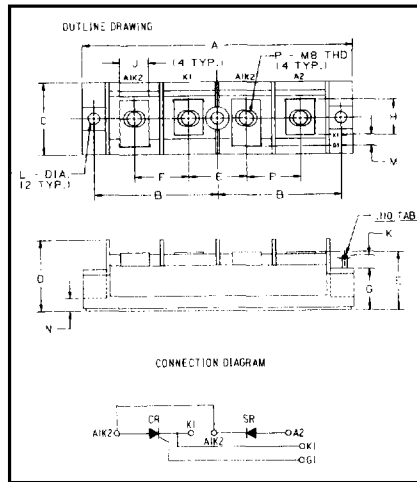
## V4



| Dimension | Inches     | Millimeters |
|-----------|------------|-------------|
| A         | 3.68 Max.  | 93.5 Max.   |
| B         | 3.15       | 80.0        |
| C         | 1.18 Max.  | 30.0 Max.   |
| D         | 1.02 Max.  | 26.0 Max.   |
| E         | 0.9        | 23.0        |
| F         | 0.83       | 21.0        |
| G         | 0.65       | 16.5        |
| H         | 0.51       | 13.0        |
| J         | 0.35       | 9.0         |
| K         | 0.26       | 6.5         |
| L         | 0.256 Dia. | 6.5 Dia.    |
| M         | M5 Metric  | M5          |

CM4212A2, CM421255, CM421290,  
CM4216A2, CM421655, CM421690

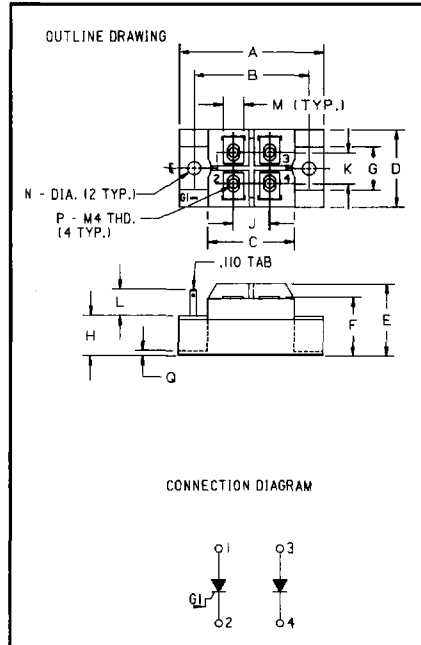
## V5



| Dimension | Inches             | Millimeters    |
|-----------|--------------------|----------------|
| A         | 5.90               | 150.0          |
| B         | 2.697 ± 0.02       | 68.5 ± 0.2     |
| C         | 1.57               | 40.0           |
| D         | 1.53               | 39.0           |
| E         | 1.26               | 32.0           |
| F         | 1.18               | 30.0           |
| G         | 0.9                | 23.0           |
| H         | 0.79               | 20.0           |
| J         | 0.63               | 16.0           |
| K         | 0.28               | 7.0            |
| L         | 0.256 ± 0.008 Dia. | 6.5 ± 0.2 Dia. |
| M         | 0.24               | 6.0            |
| N         | 0.2                | 5.0            |
| P         | M8 Metric          | M8             |

CM520813, CM520821, CM520825,  
CM521213, CM521221, CM521225,  
CM521613, CM521621, CM521625

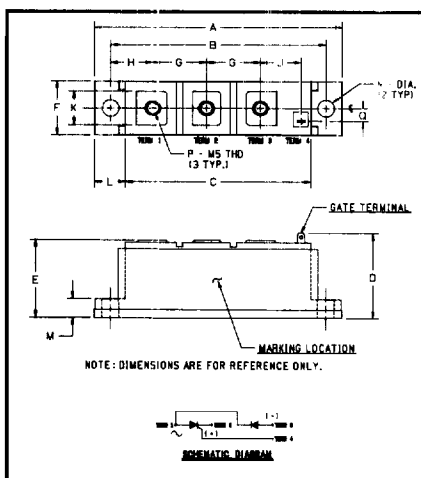
## V6



| Dimension | Inches     | Millimeters |
|-----------|------------|-------------|
| A         | 2.36 Max.  | 60.0 Max.   |
| B         | 1.87       | 47.6        |
| C         | 1.42       | 36.0        |
| D         | 1.26 Max.  | 32.0 Max.   |
| E         | 1.18 Max.  | 30.0 Max.   |
| F         | 1.0        | 24.5        |
| G         | 0.71       | 18.0        |
| H         | 0.65       | 16.5        |
| J         | 0.59       | 15.0        |
| K         | 0.51       | 13.0        |
| L         | 0.43       | 11.0        |
| M         | 0.33       | 8.5         |
| N         | 0.216 Dia. | 5.5 Dia.    |
| P         | M4 Metric  | M4          |
| Q         | 0.08       | 2.0         |

CT220802

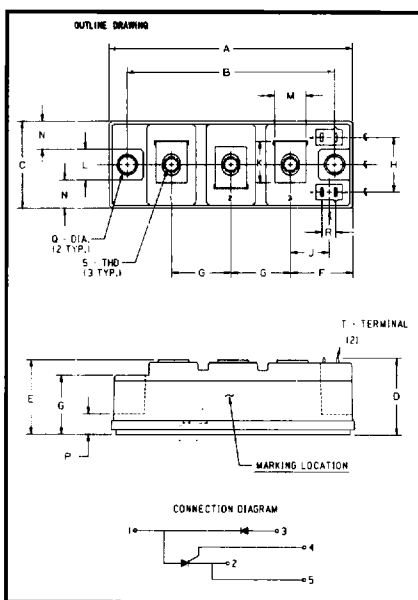
## V7



| Dimension | Inches |       | Millimeters |       |
|-----------|--------|-------|-------------|-------|
|           | Min.   | Max.  | Min.        | Max.  |
| A         | 3.602  | 3.64  | 91.49       | 92.45 |
| B         | 3.146  | 3.154 | 79.91       | 80.11 |
| C         | 2.705  | 2.735 | 68.71       | 69.47 |
| D         | 1.24   | 1.28  | 31.5        | 32.51 |
| E         | 1.125  | 1.165 | 28.58       | 29.59 |
| F         | 0.795  | 0.805 | 20.19       | 20.45 |
| G         | 0.788  | 0.798 | 19.76       | 20.27 |
| H         | 0.608  | 0.628 | 15.44       | 15.95 |
| J         | 0.585  | 0.605 | 14.86       | 15.36 |
| K         | 0.48   | 0.52  | 12.19       | 13.21 |
| L         | 0.43   | 0.47  | 10.92       | 11.94 |
| M         | 0.36   | 0.4   | 9.14        | 10.16 |
| N         | 0.265  | 0.285 | 6.73        | 7.24  |
| P         | 0.245  | 0.255 | 6.22        | 6.48  |
| Q         | —      | —     | M5 x 0.8    |       |

CD420840, CD420860, CD420890,  
CD421240, CD421260, CD421290,  
CD421640, CD421660, CD421690

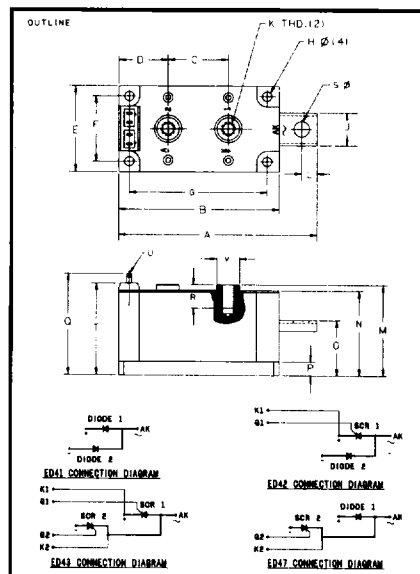
## V8



| Dimension | Inches |       | Millimeters |       |
|-----------|--------|-------|-------------|-------|
|           | Min.   | Max.  | Min.        | Max.  |
| A         | 3.681  | 3.721 | 93.5        | 94.51 |
| B         | 3.145  | 3.155 | 79.88       | 80.14 |
| C         | 1.329  | 1.349 | 33.76       | 34.26 |
| D         | 1.28   | 1.32  | 32.51       | 33.53 |
| E         | 1.161  | 1.201 | 29.49       | 30.51 |
| F         | 0.94   | 0.95  | 23.88       | 24.13 |
| G         | 0.901  | 0.911 | 22.88       | 23.14 |
| H         | 0.832  | 0.842 | 21.13       | 21.39 |
| J         | 0.656  | 0.666 | 16.66       | 16.92 |
| K         | 0.61   | 0.65  | 15.49       | 16.51 |
| L         | 0.502  | 0.522 | 12.75       | 13.26 |
| M         | 0.46   | 0.48  | 11.68       | 12.19 |
| N         | 0.403  | 0.423 | 10.24       | 10.74 |
| P         | 0.305  | 0.325 | 7.75        | 8.26  |
| Q (Rad.)  | 0.251  | 0.261 | 6.38        | 6.63  |
| R         | 0.203  | 0.213 | 5.16        | 5.41  |
| S         | —      | —     | M6 x 0.6    |       |

CD620815, CD621215, CD621615

## V9



| Dimension | Inches       |      | Millimeters |      |
|-----------|--------------|------|-------------|------|
|           | Min.         | Max. | Min.        | Max. |
| A         | 4.57         | —    | 116.0       | —    |
| B         | 3.66         | —    | 93.0        | —    |
| C         | 1.38         | —    | 35.0        | —    |
| D         | 1.12         | —    | 28.5        | —    |
| E         | 1.97         | —    | 50.0        | —    |
| F         | 1.5          | —    | 38.0        | —    |
| G         | 3.15         | —    | 80.0        | —    |
| H         | 0.22         | —    | 5.5         | —    |
| J         | 0.71         | —    | 18.0        | —    |
| K         | —            | —    | M8          | —    |
| L         | 0.35         | —    | 9.0         | —    |
| M         | 2.05         | —    | 52.0        | —    |
| N         | 1.93         | —    | 49.0        | —    |
| O         | 1.34         | —    | 34.0        | —    |
| P         | 0.394        | —    | 10.0        | —    |
| Q         | 2.16         | —    | 55.0        | —    |
| R         | 0.55         | —    | 14.0        | —    |
| S         | —            | —    | M8          | —    |
| T         | 2.09         | —    | 53.1        | —    |
| U         | 0.11 x 0.032 | —    | 2.8 x 0.8   | —    |
| V         | 0.54         | —    | 14.0        | —    |

ED420813, ED420821, ED420825,  
ED421213, ED421221, ED421225,  
ED421613, ED421621, ED421625