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 Powerex Europe, S.A., 428 Avenue G. Durand, BP107, 72003 Le Mans, France (43) 41.14.14

### ASYMMETRICAL GTO THYRISTORS

| Type       | V <sub>DRM</sub><br>Volts | V <sub>RRM</sub><br>Volts | V <sub>D(DC)</sub><br>Volts | V <sub>R(DC)</sub><br>Volts | I <sub>DRM</sub><br>mA | I <sub>RRM</sub><br>mA | I <sub>TRM</sub><br>Amperes | C <sub>2</sub><br>( $\mu$ F) | I <sub>TRMS</sub><br>Amperes | I <sub>TSM</sub><br>Amperes |
|------------|---------------------------|---------------------------|-----------------------------|-----------------------------|------------------------|------------------------|-----------------------------|------------------------------|------------------------------|-----------------------------|
| GT300AL16  | 800                       | 15                        | 640                         | 15                          | 30                     | 60                     | 300                         | 1.0                          | 150                          | 2500                        |
| GT300AL20  | 1000                      | 15                        | 800                         | 15                          | 30                     | 60                     | 300                         | 1.0                          | 150                          | 2500                        |
| GT300AL24  | 1200                      | 15                        | 960                         | 15                          | 30                     | 60                     | 300                         | 1.0                          | 150                          | 2500                        |
| GT300AL32  | 1600                      | 15                        | 1280                        | 15                          | 30                     | 60                     | 300                         | 1.0                          | 150                          | 2500                        |
| GT300AV70  | 3500                      | 17                        | 2800                        | 17                          | 30                     | 30                     | 300                         | 0.5                          | 190                          | 2500                        |
| GT300AV80  | 4000                      | 17                        | 3200                        | 17                          | 30                     | 30                     | 300                         | 0.5                          | 190                          | 2500                        |
| GT300AV90  | 4500                      | 17                        | 3600                        | 17                          | 30                     | 30                     | 300                         | 0.5                          | 190                          | 2500                        |
| FG450BL16  | 800                       | 15                        | 640                         | 15                          | 30                     | 100                    | 450                         | 2.0                          | 200                          | 2500                        |
| FG450BL20  | 1000                      | 15                        | 800                         | 15                          | 30                     | 100                    | 450                         | 2.0                          | 200                          | 2500                        |
| FG450BL24  | 1200                      | 15                        | 960                         | 15                          | 30                     | 100                    | 450                         | 2.0                          | 200                          | 2500                        |
| FG450BL32  | 1600                      | 15                        | 1280                        | 15                          | 30                     | 100                    | 450                         | 2.0                          | 200                          | 2500                        |
| FG600AL16  | 800                       | 15                        | 640                         | 15                          | 40                     | 100                    | 600                         | 2.0                          | 270                          | 5000                        |
| FG600AL20  | 1000                      | 15                        | 800                         | 15                          | 40                     | 100                    | 600                         | 2.0                          | 270                          | 5000                        |
| FG600AL24  | 1200                      | 15                        | 960                         | 15                          | 40                     | 100                    | 600                         | 2.0                          | 270                          | 5000                        |
| FG600AL32  | 1600                      | 15                        | 1280                        | 15                          | 40                     | 100                    | 600                         | 2.0                          | 270                          | 5000                        |
| FG600AH40  | 2000                      | 15                        | 1600                        | 15                          | 40                     | 100                    | 600                         | 2.0                          | 270                          | 5000                        |
| FG600AH50  | 2500                      | 15                        | 2000                        | 15                          | 40                     | 100                    | 600                         | 2.0                          | 270                          | 5000                        |
| FG600BV70* | 3500                      | 15                        | 2800                        | 17                          | 40                     | 50                     | 600                         | 0.5                          | 440                          | 4600                        |
| FG600BV80* | 4000                      | 15                        | 3200                        | 17                          | 40                     | 50                     | 600                         | 0.5                          | 440                          | 4600                        |
| FG600BV90* | 4500                      | 15                        | 3600                        | 17                          | 40                     | 50                     | 600                         | 0.5                          | 440                          | 4600                        |
| FG1000AL16 | 800                       | 15                        | 640                         | 15                          | 50                     | 100                    | 1000                        | 3.0                          | 440                          | 7000                        |
| FG1000AL20 | 1000                      | 15                        | 800                         | 15                          | 50                     | 100                    | 1000                        | 3.0                          | 440                          | 7000                        |
| FG1000AL24 | 1200                      | 15                        | 960                         | 15                          | 50                     | 100                    | 1000                        | 3.0                          | 440                          | 7000                        |
| FG1000AL32 | 1600                      | 15                        | 1280                        | 15                          | 50                     | 100                    | 1000                        | 3.0                          | 440                          | 7000                        |
| FG1000AH40 | 2000                      | 15                        | 1600                        | 15                          | 50                     | 100                    | 1000                        | 2.0                          | 440                          | 7000                        |
| FG1000AH50 | 2500                      | 15                        | 2000                        | 15                          | 50                     | 100                    | 1000                        | 2.0                          | 440                          | 7000                        |
| FG1000AV70 | 3500                      | 17                        | 2800                        | 17                          | 70                     | 70                     | 1000                        | 2.0                          | 595                          | 5500                        |
| FG1000AV80 | 4000                      | 17                        | 3200                        | 17                          | 70                     | 70                     | 1000                        | 2.0                          | 595                          | 5500                        |
| FG1000AV90 | 4500                      | 17                        | 3600                        | 17                          | 70                     | 70                     | 1000                        | 2.0                          | 595                          | 5500                        |

\* Also available in alternate package FG600AV, outline drawing number 6.

| I <sub>RT</sub><br>(A <sup>2</sup> s) | V <sub>TM</sub><br>(at I <sub>TORM</sub> )<br>Volts | I <sub>GT</sub><br>mA | V <sub>GT</sub><br>Volts | tgt<br>μs | t <sub>gq</sub><br>μs | di <sub>T</sub> /dt<br>A/μs | dv/dt<br>V/μs | R <sub>θJS</sub><br>°C/W | Mounting<br>Force (kN)<br>(*Torque (N.m)) | Outline Drawings |      |
|---------------------------------------|---|-----------------------|--------------------------|-----------|-----------------------|-----------------------------|---------------|--------------------------|---|------------------|------|
|                                       |   |                       |                          |           |                       |                             |               |                          |   | Number           | Page |
| 2.6 x 10 <sup>4</sup>                 | 2.1   | 700                   | 1.5                      | 10        | 15                    | 300                         | 1000          | 0.16                     | *27.0 to 36.0                             | 1                | 14   |
| 2.6 x 10 <sup>4</sup>                 | 2.1   | 700                   | 1.5                      | 10        | 15                    | 300                         | 1000          | 0.16                     | *27.0 to 36.0                             | 1                | 14   |
| 2.6 x 10 <sup>4</sup>                 | 2.1   | 700                   | 1.5                      | 10        | 15                    | 300                         | 1000          | 0.16                     | *27.0 to 36.0                             | 1                | 14   |
| 2.6 x 10 <sup>4</sup>                 | 2.1   | 700                   | 1.5                      | 10        | 15                    | 300                         | 1000          | 0.16                     | *27.0 to 36.0                             | 1                | 14   |
| 2.6 x 10 <sup>4</sup>                 | 3.5   | 1000                  | 1.5                      | 10        | 15                    | 600                         | 1000          | 0.16                     | *27.0 to 36.0                             | 2                | 14   |
| 2.6 x 10 <sup>4</sup>                 | 3.5   | 1000                  | 1.5                      | 10        | 15                    | 600                         | 1000          | 0.16                     | *27.0 to 36.0                             | 2                | 14   |
| 2.6 x 10 <sup>4</sup>                 | 3.5   | 1000                  | 1.5                      | 10        | 15                    | 600                         | 1000          | 0.16                     | *27.0 to 36.0                             | 2                | 14   |
| 2.6 x 10 <sup>4</sup>                 | 2.5   | 700                   | 1.5                      | 10        | 15                    | 300                         | 1000          | 0.09                     | 4.5 to 6.0                                | 3                | 14   |
| 2.6 x 10 <sup>4</sup>                 | 2.5   | 700                   | 1.5                      | 10        | 15                    | 300                         | 1000          | 0.09                     | 4.5 to 6.0                                | 3                | 14   |
| 2.6 x 10 <sup>4</sup>                 | 2.5   | 700                   | 1.5                      | 10        | 15                    | 300                         | 1000          | 0.09                     | 4.5 to 6.0                                | 3                | 14   |
| 2.6 x 10 <sup>4</sup>                 | 2.5   | 700                   | 1.5                      | 10        | 15                    | 300                         | 1000          | 0.09                     | 4.5 to 6.0                                | 3                | 14   |
| 2.6 x 10 <sup>4</sup>                 | 2.5   | 700                   | 1.5                      | 10        | 15                    | 300                         | 1000          | 0.09                     | 4.5 to 6.0                                | 3                | 14   |
| 1.0 x 10 <sup>5</sup>                 | 2.2   | 1500                  | 1.5                      | 10        | 15                    | 300                         | 1000          | 0.055                    | 8.0 to 11.0                               | 3                | 14   |
| 1.0 x 10 <sup>5</sup>                 | 2.2   | 1500                  | 1.5                      | 10        | 15                    | 300                         | 1000          | 0.055                    | 8.0 to 11.0                               | 3                | 14   |
| 1.0 x 10 <sup>5</sup>                 | 2.2   | 1500                  | 1.5                      | 10        | 15                    | 300                         | 1000          | 0.055                    | 8.0 to 11.0                               | 3                | 14   |
| 1.0 x 10 <sup>5</sup>                 | 2.2   | 1500                  | 1.5                      | 10        | 15                    | 300                         | 1000          | 0.055                    | 8.0 to 11.0                               | 3                | 14   |
| 1.0 x 10 <sup>5</sup>                 | 2.5   | 1500                  | 1.5                      | 10        | 20                    | 300                         | 1000          | 0.055                    | 8.0 to 11.0                               | 6                | 15   |
| 1.0 x 10 <sup>5</sup>                 | 2.5   | 1500                  | 1.5                      | 10        | 20                    | 300                         | 1000          | 0.055                    | 8.0 to 11.0                               | 6                | 15   |
| 8.8 x 10 <sup>4</sup>                 | 3.5   | 1500                  | 1.5                      | 10        | 15                    | 600                         | 1000          | 0.045                    | 8.0 to 11.0                               | 4                | 14   |
| 8.8 x 10 <sup>4</sup>                 | 3.5   | 1500                  | 1.5                      | 10        | 15                    | 600                         | 1000          | 0.045                    | 8.0 to 11.0                               | 4                | 14   |
| 8.8 x 10 <sup>4</sup>                 | 3.5   | 1500                  | 1.5                      | 10        | 15                    | 600                         | 1000          | 0.045                    | 8.0 to 11.0                               | 4                | 14   |
| 2.0 x 10 <sup>5</sup>                 | 1.9   | 2000                  | 1.5                      | 10        | 20                    | 300                         | 1000          | 0.045                    | 10.0 to 13.0                              | 7                | 15   |
| 2.0 x 10 <sup>5</sup>                 | 1.9   | 2000                  | 1.5                      | 10        | 20                    | 300                         | 1000          | 0.045                    | 10.0 to 13.0                              | 7                | 15   |
| 2.0 x 10 <sup>5</sup>                 | 1.9   | 2000                  | 1.5                      | 10        | 20                    | 300                         | 1000          | 0.045                    | 10.0 to 13.0                              | 7                | 15   |
| 2.0 x 10 <sup>5</sup>                 | 1.9   | 2000                  | 1.5                      | 10        | 20                    | 300                         | 1000          | 0.045                    | 10.0 to 13.0                              | 7                | 15   |
| 2.0 x 10 <sup>5</sup>                 | 2.5   | 2000                  | 1.5                      | 10        | 20                    | 300                         | 1000          | 0.04                     | 10.0 to 15.0                              | 9                | 16   |
| 2.0 x 10 <sup>5</sup>                 | 2.5   | 2000                  | 1.5                      | 10        | 20                    | 300                         | 1000          | 0.04                     | 10.0 to 15.0                              | 9                | 16   |
| 1.3 x 10 <sup>5</sup>                 | 3.5   | 2000                  | 1.5                      | 10        | 20                    | 600                         | 1000          | 0.035                    | 12.0 to 15.0                              | 8                | 15   |
| 1.3 x 10 <sup>5</sup>                 | 3.5   | 2000                  | 1.5                      | 10        | 20                    | 600                         | 1000          | 0.035                    | 12.0 to 15.0                              | 8                | 15   |
| 1.3 x 10 <sup>5</sup>                 | 3.5   | 2000                  | 1.5                      | 10        | 20                    | 600                         | 1000          | 0.035                    | 12.0 to 15.0                              | 8                | 15   |



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### ASYMMETRICAL GTO THYRISTORS

| Type        | V <sub>DRM</sub><br>Volts | V <sub>RRM</sub><br>Volts | V <sub>D(DC)</sub><br>Volts | V <sub>R(DC)</sub><br>Volts | I <sub>DRM</sub><br>mA | I <sub>RRM</sub><br>mA | I <sub>TARM</sub><br>Amperes | C <sub>e</sub><br>( $\mu$ F) | I <sub>T RMS</sub><br>Amperes | I <sub>T SM</sub><br>Amperes |
|-------------|---------------------------|---------------------------|-----------------------------|-----------------------------|------------------------|------------------------|------------------------------|------------------------------|-------------------------------|------------------------------|
| FG1800CH40* | 2000                      | 17                        | 1600                        | 17                          | 100                    | 300                    | 1800                         | 4.0                          | 865                           | 16000                        |
| FG1800CH50* | 2500                      | 17                        | 2000                        | 17                          | 100                    | 300                    | 1800                         | 4.0                          | 865                           | 16000                        |
| FG2000DV70  | 3500                      | 17                        | 2800                        | 17                          | 150                    | 300                    | 2000                         | 4.0                          | 940                           | 13000                        |
| FG2000DV80  | 4000                      | 17                        | 3200                        | 17                          | 150                    | 300                    | 2000                         | 4.0                          | 940                           | 13000                        |
| FG2000DV90  | 4500                      | 17                        | 3600                        | 17                          | 150                    | 300                    | 2000                         | 4.0                          | 940                           | 13000                        |
| FG3000BH40  | 2000                      | 17                        | 1600                        | 17                          | 150                    | 300                    | 3000                         | 6.0                          | 1570                          | 24000                        |
| FG3000BH50  | 2500                      | 17                        | 2000                        | 17                          | 150                    | 300                    | 3000                         | 6.0                          | 1570                          | 24000                        |
| FG3000BV70  | 3500                      | 19                        | 2800                        | 17                          | 150                    | 300                    | 3000                         | 6.0                          | 1250                          | 17000                        |
| FG3000BV80  | 4000                      | 19                        | 3200                        | 17                          | 150                    | 300                    | 3000                         | 6.0                          | 1250                          | 17000                        |
| FG3000BV90  | 4500                      | 19                        | 3600                        | 17                          | 150                    | 300                    | 3000                         | 6.0                          | 1250                          | 17000                        |
| FG4000AH40  | 2000                      | 17                        | 1600                        | 17                          | 150                    | 300                    | 4000                         | 6.0                          | 1600                          | 30000                        |
| FG4000AH50  | 2500                      | 17                        | 2000                        | 17                          | 150                    | 300                    | 4000                         | 6.0                          | 1600                          | 30000                        |
| FG4000AV70  | 3500                      | 17                        | 2800                        | 17                          | 150                    | 300                    | 4000                         | 6.0                          | 1600                          | 20000                        |
| FG4000AV80  | 4000                      | 17                        | 3200                        | 17                          | 150                    | 300                    | 4000                         | 6.0                          | 1600                          | 20000                        |
| FG4000AV90  | 4500                      | 17                        | 3600                        | 17                          | 150                    | 300                    | 4000                         | 6.0                          | 1600                          | 20000                        |

\*Also available in alternate package FG1800BH, outline drawing number 10.

| I <sub>RT</sub><br>(A <sup>2</sup> s) | V <sub>TM</sub><br>(at I <sub>TORM</sub> )<br>Volts | I <sub>GT</sub><br>mA | V <sub>GT</sub><br>Volts | t <sub>gt</sub><br>μs | t <sub>gq</sub><br>μs | di <sub>T</sub> /dt<br>A/μs | dv/dt<br>V/μs | R <sub>θJS</sub><br>°C/W | Mounting<br>Force<br>(kN) | Outline Drawings |      |
|---------------------------------------|---|-----------------------|--------------------------|-----------------------|-----------------------|-----------------------------|---------------|--------------------------|---------------------------|------------------|------|
|                                       |   |                       |                          |                       |                       |                             |               |                          |                           | Number           | Page |
| 1.1 x 10 <sup>6</sup>                 | 3.0   | 3000                  | 1.5                      | 10                    | 30                    | 300                         | 1000          | 0.02                     | 18.0 to 24.0              | 11               | 16   |
| 1.1 x 10 <sup>6</sup>                 | 3.0   | 3000                  | 1.5                      | 10                    | 30                    | 300                         | 1000          | 0.02                     | 18.0 to 24.0              | 11               | 16   |
| 7.0 x 10 <sup>5</sup>                 | 3.5   | 3000                  | 1.5                      | 10                    | 30                    | 300                         | 1000          | 0.02                     | 18.0 to 24.0              | 11               | 16   |
| 7.0 x 10 <sup>5</sup>                 | 3.5   | 3000                  | 1.5                      | 10                    | 30                    | 300                         | 1000          | 0.02                     | 18.0 to 24.0              | 11               | 16   |
| 2.4 x 10 <sup>6</sup>                 | 3.0   | 4000                  | 1.2                      | 10                    | 30                    | 500                         | 1000          | 0.016                    | 29.0 to 44.0              | 12               | 16   |
| 2.4 x 10 <sup>6</sup>                 | 3.0   | 4000                  | 1.2                      | 10                    | 30                    | 500                         | 1000          | 0.016                    | 29.0 to 44.0              | 12               | 16   |
| 1.2 x 10 <sup>6</sup>                 | 4.0   | 4000                  | 1.5                      | 10                    | 30                    | 500                         | 1000          | 0.016                    | 29.0 to 44.0              | 12               | 16   |
| 1.2 x 10 <sup>6</sup>                 | 4.0   | 4000                  | 1.5                      | 10                    | 30                    | 500                         | 1000          | 0.016                    | 29.0 to 44.0              | 12               | 16   |
| 1.2 x 10 <sup>6</sup>                 | 4.0   | 4000                  | 1.5                      | 10                    | 30                    | 500                         | 1000          | 0.016                    | 29.0 to 44.0              | 12               | 16   |
| 3.75 x 10 <sup>6</sup>                | 3.5   | 5000                  | 1.5                      | 10                    | 30                    | 500                         | 1000          | 0.013                    | 45.0 to 60.0              | 16               | 17   |
| 3.75 x 10 <sup>6</sup>                | 3.5   | 5000                  | 1.5                      | 10                    | 30                    | 500                         | 1000          | 0.013                    | 45.0 to 60.0              | 16               | 17   |
| 1.7 x 10 <sup>6</sup>                 | 4.3   | 4000                  | 1.5                      | 10                    | 30                    | 500                         | 1000          | 0.013                    | 45.0 to 60.0              | 16               | 17   |
| 1.7 x 10 <sup>6</sup>                 | 4.3   | 4000                  | 1.5                      | 10                    | 30                    | 500                         | 1000          | 0.013                    | 45.0 to 60.0              | 16               | 17   |
| 1.7 x 10 <sup>6</sup>                 | 4.3   | 4000                  | 1.5                      | 10                    | 30                    | 500                         | 1000          | 0.013                    | 45.0 to 60.0              | 16               | 17   |