

# PHASE CONTROL SCRs

| NATIONAL TYPE NO.                                                                                                          |      |    | C701           | C702           | C451            | C451-2          | C450-2          | C451-1          | C450           | C450-1          |
|----------------------------------------------------------------------------------------------------------------------------|------|----|----------------|----------------|-----------------|-----------------|-----------------|-----------------|----------------|-----------------|
| JEDEC NO.                                                                                                                  |      |    |                |                |                 |                 |                 |                 |                |                 |
| RMS on state current (A) max.                                                                                              |      |    | 2000           | 1900           | 1900            | 2100            | 2200            | 2200            | 2400           | 2400            |
| VOLTAGE RANGE                                                                                                              |      |    | 500-1700       | 1400-2900      | 500-2600        | 500-1800        | 500-1500        | 500-1800        | 500-1500       | 500-1400        |
| $I_{T(AV)}$ Amps @ 180°<br>conduction @ $T_c$                                                                              |      |    | 1250<br>@ 72°  | 1200<br>@ 55°  | 1300<br>@ 65°   | 1300<br>@ 70°   | 1360<br>@ 70°   | 1390<br>@ 70°   | 1500<br>@ 66°  | 1500<br>@ 70°   |
| $I_{TSM}$ Peak one cycle<br>surge current (A)                                                                              |      |    | 20000          | 16400          | 20000           | 21000           | 25000           | 23000           | 28500          | 28500           |
| $I^2t$ For fusing at 8.3 msec<br>(A <sup>2</sup> sec)                                                                      |      |    | 1,660,000      | 1,100,000      | 1,660,000       | 1,830,000       | 2,600,000       | 2,200,000       | 3,370,000      | 3,370,000       |
| $V_{TM}$ Max. peak on-state volts @<br>peak amps, $T_J = 25^\circ C$                                                       |      |    | 1.7<br>@ 3000A | 2.1<br>@ 3000A | 1.95<br>@ 3000A | 1.85<br>@ 3000A | 1.75<br>@ 4000A | 1.65<br>@ 3000A | 1.6<br>@ 4000A | 1.55<br>@ 4000A |
| $di/dt$ Max. rate-of-current<br>rise (A/ $\mu$ sec)                                                                        |      |    | 100            | 100            | 100             | 100             | 100             | 100             | 100            | 100             |
| $dv/dt$ Min. rate-of-voltage<br>rise (V/ $\mu$ sec)                                                                        |      |    | 200            | 200            | 300             | 300             | 400             | 300             | 400            | 400             |
| $I_{GT}$ Max. gate trigger<br>current (MA) @ 25°C                                                                          |      |    | 150            | 200            | 150             | 150             | 150             | 150             | 150            | 150             |
| $V_{GT}$ Max. gate trigger<br>voltage (V) @ 25°C                                                                           |      |    | 3.0            | 3.0            | 3.5             | 3.5             | 3.5             | 3.5             | 3.5            | 3.5             |
| $R_{\theta JC}$ Max thermal resistance,<br>junction-to-case ( $^\circ C/W$ )                                               |      |    | .023           | .023           | .025            | .025            | .025            | .025            | .025           | .025            |
| $T_J$ Max. junction operating<br>temperature ( $^\circ C$ )                                                                |      |    | 125            | 125            | 125             | 125             | 125             | 125             | 125            | 125             |
| REPETITIVE<br>PEAK<br>FORWARD<br>( $V_{DRM}$ )<br><br>AND<br><br>REPETITIVE<br>PEAK<br>REVERSE<br>( $V_{RRM}$ )<br>VOLTAGE | 500  | E  | C701E          |                | C451E           | C451E2          | C450E2          | C451E1          | C450E          | C450E1          |
|                                                                                                                            | 600  | M  | C701M          |                | C451M           | C451M2          | C450M2          | C451M1          | C450M          | C450M1          |
|                                                                                                                            | 700  | S  | C701S          |                | C451S           | C451S2          | C450S2          | C451S1          | C450S          | C450S1          |
|                                                                                                                            | 800  | N  | C701N          |                | C451N           | C451N2          | C450N2          | C451N1          | C450N          | C450N1          |
|                                                                                                                            | 900  | T  | C701T          |                | C451T           | C451T2          | C450T2          | C451T1          | C450T          | C450T1          |
|                                                                                                                            | 1000 | P  | C701P          |                | C451P           | C451P2          | C450P2          | C451P1          | C450P          | C450P1          |
|                                                                                                                            | 1100 | PA | C701PA         |                | C451PA          | C451PA2         | C450PA2         | C451PA1         | C450PA         | C450PA1         |
|                                                                                                                            | 1200 | PB | C701PB         |                | C451PB          | C451PB2         | C450PB2         | C451PB1         | C450PB         | C450PB1         |
|                                                                                                                            | 1300 | PC | C701PC         |                | C451PC          | C451PC2         | C450PC2         | C451PC1         | C450PC         | C450PC1         |
|                                                                                                                            | 1400 | PD | C701PD         | C702PD         | C451PD          | C451PD2         | C450PD2         | C451PD1         | C450PD         | C450PD1         |
|                                                                                                                            | 1500 | PE | C701PE         | C702PE         | C451PE          | C451PE2         | C451PE2         | C451PE1         | C451PE         |                 |
|                                                                                                                            | 1600 | PM | C701PM         | C702PM         | C451PM          | C451PM2         |                 | C451PM1         |                |                 |
|                                                                                                                            | 1700 | PS | C701PS         | C702PS         | C451PS          | C451PS2         |                 | C451PS1         |                |                 |
|                                                                                                                            | 1800 | PN |                | C702PN         | C451PN          | C451PN2         |                 | C451PN1         |                |                 |
|                                                                                                                            | 1900 | PT |                | C702PT         | C451PT          |                 |                 |                 |                |                 |
|                                                                                                                            | 2000 | L  |                | C702L          | C451L           |                 |                 |                 |                |                 |
|                                                                                                                            | 2100 | LA |                | C702LA         | C451LA          |                 |                 |                 |                |                 |
|                                                                                                                            | 2200 | LB |                | C702LB         | C451LB          |                 |                 |                 |                |                 |
|                                                                                                                            | 2300 | LC |                | C702LC         | C451LC          |                 |                 |                 |                |                 |
|                                                                                                                            | 2400 | LD |                | C702LD         | C451LD          |                 |                 |                 |                |                 |
|                                                                                                                            | 2500 | LE |                | C702LE         | C451LE          |                 |                 |                 |                |                 |
|                                                                                                                            | 2600 | LM |                | C702LM         | C451LM          |                 |                 |                 |                |                 |
|                                                                                                                            | 2700 | LS |                | C702LS         |                 |                 |                 |                 |                |                 |
|                                                                                                                            | 2800 | LN |                | C702LN         |                 |                 |                 |                 |                |                 |
|                                                                                                                            | 2900 | LT |                | C702LT         |                 |                 |                 |                 |                |                 |
| Mounting Force (lbs) required                                                                                              |      |    | 5000           | 5000           | 5000            | 5000            | 5000            | 5000            | 5000           | 5000            |
| Package Type                                                                                                               |      |    | 1" P.P.        | 1" P.P.        | 1" P.P.         | 1" P.P.         | 1" P.P.         | 1" P.P.         | 1" P.P.        | 1" P.P.         |
| Package Outline Number                                                                                                     |      |    | P-4            | P-4            | P-4             | P-4             | P-4             | P-4             | P-4            | P-4             |