

# PHASE CONTROL SCRs

| NATIONAL TYPE NO.                                                                                                          |         | C137          | C147         | NL-578<br>NL-579     | C45<br>C46     | C50                    | C52             | C50X500<br>C52X500   | C60<br>C62     |
|----------------------------------------------------------------------------------------------------------------------------|---------|---------------|--------------|----------------------|----------------|------------------------|-----------------|----------------------|----------------|
| JEDEC NO.                                                                                                                  |         |               |              |                      |                | 2N1911-16<br>2N1805-07 | 2N1793-<br>1804 |                      | 2N2025-30      |
| RMS on state current (A) max.                                                                                              |         | 35            | 63           | 63                   | 80             | 110                    | 110             | 110                  | 110            |
| VOLTAGE RANGE                                                                                                              |         | 500-1200      | 100-1200     | 100-1200             | 100-1200       | 100-1200               | 100-1200        | 100-700              | 100-500        |
| $I_{T(AV)}$ Amps @ 180°<br>conduction @ $T_c$                                                                              |         | 22.3<br>@ 66° | 40<br>@ 102° | 40<br>@ 102°         | 62<br>@ 75°    | 70<br>@ 62°            | 70<br>@ 62°     | 70<br>@ 95°          | 70<br>@ 88°    |
| $I_{TSM}$ Peak one cycle<br>surge current (A)                                                                              |         | 160           | 1000         | 1000                 | 800            | 1000                   | 1000            | 1500                 | 1000           |
| $I_{FT}$ For fusing at 8.3 msec<br>(A <sup>2</sup> sec)                                                                    |         | 340           | 4150         | 4150                 | 2600           | 4150                   | 4150            | 9340                 | 4150           |
| $V_{TM}$ Max. peak on-state volts @<br>peak amps., $T_J = 25^\circ\text{C}$                                                |         | 2.3<br>@ 70   | 3.0<br>@ 500 | 3.0<br>@ 500         | 3.1<br>@ 500   | 2.5<br>@ 500           | 2.5<br>@ 500    | 1.8<br>@ 500         | 2.5<br>@ 500   |
| $di/dt$ Max. rate-of-current<br>rise (A/ $\mu\text{sec}$ )                                                                 |         | 150           | 100          | 100                  | 100            | 100                    | 100             | 100                  | 30             |
| $dv/dt$ Min. rate-of-voltage<br>rise (V/ $\mu\text{sec}$ )                                                                 |         | 200           | 200          | 50/200               | 100            | 200                    | 200             | 200                  | 30 TYP         |
| $I_{GT}$ Max. gate trigger<br>current (mA) @ 25°C                                                                          |         | 40            | 150          | 150                  | 75             | 75                     | 75              | 150                  | 70             |
| $V_{GT}$ Max. gate trigger<br>voltage (V) @ 25°C                                                                           |         | 2.2           | 3.0          | 3.0                  | 2.5            | 2.5                    | 2.5             | 3.0                  | 2.5            |
| $R_{\theta JC}$ Max. thermal resistance,<br>junction-to-case (°C/W)                                                        |         | 1.0           | .35          | .35                  | .4             | .4                     | .4              | .3                   | .3             |
| $T_J$ Max. junction operating<br>temperature (°C)                                                                          |         | 125           | 125          | 125                  | 125            | 125                    | 125             | 120                  | 150            |
| REPETITIVE<br>PEAK<br>FORWARD<br>( $V_{DRM}$ )<br><br>AND<br><br>REPETITIVE<br>PEAK<br>REVERSE<br>( $V_{RRM}$ )<br>VOLTAGE | 100 A   | C137A         | C147A        | NL-578A<br>NL-579A   | C45A<br>C46A   | 2N1911<br>C50A         | 2N1793<br>C52A  | C50AX500<br>C52AX500 | 2N2025<br>C62A |
|                                                                                                                            | 150 G   | C137G         |              |                      | C45G<br>C46G   | 2N1912<br>C50G         | 2N1794<br>C52G  |                      | 2N2026<br>C62G |
|                                                                                                                            | 200 B   | C137B         | C147B        | NL-578B<br>NL-579B   | C45B<br>C46B   | 2N1913<br>C50B         | 2N1795<br>C52B  | C50BX500<br>C52BX500 | 2N2027<br>C62B |
|                                                                                                                            | 250 H   | C137H         |              |                      | C45H<br>C46H   | 2N1914<br>C50H         | 2N1796<br>C52H  |                      | 2N2028<br>C62H |
|                                                                                                                            | 300 C   | C137C         | C147C        | NL-578C<br>NL-579C   | C45C<br>C46C   | 2N1915<br>C50C         | 2N1797<br>C52C  | C50CX500<br>C52CX500 | 2N2029<br>C62C |
|                                                                                                                            | 400 D   | C137D         | C147D        | NL-578D<br>NL-579D   | C45D<br>C46D   | 2N1916<br>C50D         | 2N1798<br>C52D  | C50DX500<br>C52DX500 | 2N2030<br>C62D |
|                                                                                                                            | 500 E   | C137E         | C147E        | NL-578E<br>NL-579E   | C45E<br>C46E   | 2N1805<br>C50E         | 2N1799<br>C52E  | C50EX500<br>C52EX500 | C60E<br>C62E   |
|                                                                                                                            | 600 M   | C137M         | C147M        | NL-578M<br>NL-579M   | C45M<br>C46M   | 2N1806<br>C50M         | 2N1800<br>C52M  | C50MX500<br>C52MX500 |                |
|                                                                                                                            | 700 S   | C137S         | C147S        | NL-578S<br>NL-579S   | C45S<br>C46S   | 2N1807<br>C50S         | 2N1801<br>C52S  | C50SX500             |                |
|                                                                                                                            | 800 N   | C137N         | C147N        | NL-578N<br>NL-579N   | C45N<br>C46N   | C50N                   | 2N1802<br>C52N  |                      |                |
|                                                                                                                            | 900 T   | C137T         | C147T        | NL-578T<br>NL-579T   | C45T<br>C46T   | C50T                   | 2N1803<br>C52T  |                      |                |
|                                                                                                                            | 1000 P  | C137P         | C147P        | NL-578P<br>NL-579P   | C45P<br>C46P   | C50P                   | 2N1804<br>C52P  |                      |                |
|                                                                                                                            | 1100 PA | C137PA        | C147PA       | NL-578PA<br>NL-579PA | C45PA<br>C46PA | C50PA                  | C52PA           |                      |                |
|                                                                                                                            | 1200 PB | C137PB        | C147PB       | NL-578PB<br>NL-579PB | C45PB<br>C46PB | C50PB                  | C52PB           |                      |                |
| Stud Torque (in-lbs)                                                                                                       |         | 30            | 30           | 30                   | 150            | 150                    | 150             | 150                  | 150            |
| Package Type                                                                                                               |         | ¼" stud       | ¼" stud      | ¼" stud              | ½" stud        | ½" stud                | ½" stud         | ½" stud              | ½" stud        |
| Package Outline Number                                                                                                     |         | TO-48         | TO-65        | TO-65                | TO-83, 94      | TO-94                  | TO-83           | TO-94, 83            | TO-94, 83      |