

# Thyristors

## Phase Control Type

470-1420 Amps RMS

**International**  
**Rectifier**

| Part Number                                                                                                                                                                                | VRRM<br>VDRM<br>(V)                                                                                                                  | I <sub>T</sub> (RMS)<br>(A)                                                                                                       | I <sub>T</sub> (AV) @ T <sub>C</sub>                                                                                |      | I <sub>TSM</sub> (1)                                                                                                                               |                                                                                                                                                    | V <sub>GT</sub><br>(2)<br>(V) | I <sub>GT</sub><br>(2)<br>(mA) | V <sub>TM</sub><br>(3)<br>(V)                                                                                                        | dv/dt<br>(4)<br>(V/μs) | R <sub>th</sub> JC DC<br>(5)<br>(°C/W) | Case Outline Number (8)                      | Notes                                                                                 | Case Style          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------------------------|----------------------------------------------|---------------------------------------------------------------------------------------|---------------------|
|                                                                                                                                                                                            |                                                                                                                                      |                                                                                                                                   | (A)                                                                                                                 | (°C) | 50 Hz<br>(A)                                                                                                                                       | 60 Hz<br>(A)                                                                                                                                       |                               |                                |                                                                                                                                      |                        |                                        |                                              |                                                                                       |                     |
| ST230C02C<br>ST230C04C<br>ST230C06C<br>ST230C08C<br>ST230C10C<br>ST230C12C<br>ST230C14C<br>ST230C16C                                                                                       | 200<br>400<br>600<br>800<br>1000<br>1200<br>1400<br>1600                                                                             | 810                                                                                                                               | 410                                                                                                                 | 55   | 4890                                                                                                                                               | 5120                                                                                                                                               | 3.0                           | 150                            | 1.90                                                                                                                                 | 400                    | 0.095                                  | T13 A                                        |                                                                                       | TO-200AB<br>(A-PUK) |
| S23A2A<br>S23A2B<br>S23A4A<br>S23A4B<br>S23A6A<br>S23A6B<br>S23A8A<br>S23A8B<br>S23A10A<br>S23A10B<br>S23A12A<br>S23A12B<br>S23A14A<br>S23A14B<br>S23A16A<br>S23A16B<br>S23A18A<br>S23A20A | 200<br>200<br>400<br>400<br>600<br>600<br>800<br>800<br>1000<br>1000<br>1200<br>1200<br>1400<br>1400<br>1600<br>1600<br>1800<br>2000 | 660<br>590<br>660<br>590<br>590<br>540<br>590<br>540<br>540<br>510<br>540<br>510<br>510<br>470<br>510<br>470<br>470               | 420<br>375<br>420<br>375<br>375<br>345<br>375<br>345<br>345<br>325<br>345<br>325<br>325<br>300<br>325<br>300<br>300 | 70   | 6600<br>6100<br>6600<br>6100<br>6100<br>5350<br>6100<br>5350<br>5350<br>4950<br>5350<br>4950<br>4950<br>4600<br>4950<br>4600<br>4600               | 6900<br>6400<br>6900<br>6400<br>6400<br>5600<br>6400<br>5600<br>5200<br>5600<br>5200<br>5200<br>4800<br>5200<br>4800<br>4800                       | 2.5                           | 150                            | 1.40<br>1.53<br>1.40<br>1.53<br>1.53<br>1.64<br>1.53<br>1.64<br>1.73<br>1.64<br>1.73<br>1.73<br>1.84<br>1.73<br>1.84<br>1.84         | 500                    | 0.085                                  | (6) (13)<br>(7) (13)<br>(6) (13)<br>(7) (13) |    |                     |
| ST280C02C<br>ST280C04C<br>ST280C06C<br>ST280C08C<br>ST280C10C<br>ST280C12C<br>ST280C14C<br>ST280C16C                                                                                       | 200<br>400<br>600<br>800<br>1000<br>1200<br>1400<br>1600                                                                             | 1010                                                                                                                              | 505                                                                                                                 | 55   | 6160                                                                                                                                               | 6450                                                                                                                                               | 3.0                           | 150                            | 1.36                                                                                                                                 | 400                    | 0.095                                  | T13 A                                        |                                                                                       |                     |
| ST260C02C<br>ST260C04C<br>ST260C06C<br>ST260C08C<br>ST260C10C<br>ST260C12C<br>ST260C14C<br>ST260C16C                                                                                       | 200<br>400<br>600<br>800<br>1000<br>1200<br>1400<br>1600                                                                             | 1080                                                                                                                              | 550                                                                                                                 | 55   | 6320                                                                                                                                               | 6620                                                                                                                                               | 3.0                           | 200                            | 2.60                                                                                                                                 | 400                    | 0.050                                  | T14 A                                        |                                                                                       | TO-200AB<br>(E-PUK) |
| ST300C02C<br>ST300C04C<br>ST300C06C<br>ST300C08C<br>ST300C10C<br>ST300C12C<br>ST300C14C<br>ST300C16C                                                                                       | 200<br>400<br>600<br>800<br>1000<br>1200<br>1400<br>1600                                                                             | 1280                                                                                                                              | 650                                                                                                                 | 55   | 7110                                                                                                                                               | 7445                                                                                                                                               | 3.0                           | 200                            | 2.25                                                                                                                                 | 400                    | 0.050                                  |                                              |                                                                                       |                     |
| ST330C02C<br>ST330C04C<br>ST330C06C<br>ST330C08C<br>ST330C10C<br>ST330C12C<br>ST330C14C<br>ST330C16C                                                                                       | 200<br>400<br>600<br>800<br>1000<br>1200<br>1400<br>1600                                                                             | 1420                                                                                                                              | 720                                                                                                                 | 55   | 7900                                                                                                                                               | 8270                                                                                                                                               | 3.0                           | 200                            | 2.00                                                                                                                                 | 400                    | 0.050                                  |                                              |                                                                                       |                     |
| S30E2A<br>S30E2B<br>S30E4A<br>S30E4B<br>S30E6A<br>S30E6B<br>S30E8A<br>S30E8B<br>S30E10A<br>S30E10B<br>S30E12A<br>S30E12B<br>S30E14A<br>S30E14B<br>S30E16A<br>S30E16B<br>S30E18A<br>S30E20A | 200<br>200<br>400<br>400<br>600<br>600<br>800<br>800<br>1000<br>1000<br>1200<br>1200<br>1400<br>1400<br>1600<br>1600<br>1800<br>2000 | 1360<br>1220<br>1360<br>1220<br>1220<br>1115<br>1220<br>1115<br>1115<br>1050<br>1115<br>1050<br>1050<br>975<br>1050<br>975<br>975 | 865<br>775<br>865<br>775<br>775<br>710<br>775<br>710<br>710<br>665<br>710<br>665<br>665<br>620<br>665<br>620<br>620 | 70   | 13350<br>11950<br>13350<br>11950<br>11950<br>11000<br>11950<br>11000<br>11000<br>10050<br>11000<br>10050<br>10050<br>9050<br>10050<br>9050<br>9050 | 14000<br>12500<br>14000<br>12500<br>12500<br>11500<br>12500<br>11500<br>11500<br>10500<br>11500<br>10500<br>10500<br>9500<br>10500<br>9500<br>9500 | 2.5                           | 150                            | 1.41<br>1.53<br>1.41<br>1.53<br>1.53<br>1.64<br>1.53<br>1.64<br>1.64<br>1.73<br>1.64<br>1.73<br>1.73<br>1.84<br>1.73<br>1.84<br>1.84 | 500                    | 0.040                                  | (6) (13)<br>(7) (13)<br>(6) (13)<br>(7) (13) |  |                     |

(1) 100% VRRM reapplied Tj = 125°C.

(2) Tj = 25°C.

(3) π x IT(AV) @ Tj = 25°C.

(4) Linear to 0.8 VDRM; Tj = 125°C.

(5) Double side cooled.

(6) Max. Tj = 125°C for standard types; High temperature types available with max. Tj = 150°C for VRRM ≤ 1200V.

Insert "H" before voltage code: S23AH2A.

(7) Max. Tj = 125°C.

(13) U.S. Standard.

(8) For case outline drawing see page 154.