

## ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

| TYPE    | Breakdown Voltage @ It<br>( Note 1 ) |      |      | Working Peak<br>Reverse<br>Voltage | Maximum<br>Reverse Leakage<br>@ VRWM | Maximum<br>Reverse<br>Current | Maximum<br>Clamping<br>Voltage @ IRSM | Maximum<br>Voltage<br>Temperature<br>Variation of VBR |
|---------|--------------------------------------|------|------|------------------------------------|--------------------------------------|-------------------------------|---------------------------------------|-------------------------------------------------------|
|         | VBR (V)                              |      | It   | VRWM                               | IR                                   | IRSM                          | VRSM                                  |                                                       |
|         | Min.                                 | Max. | (mA) | (V)                                | (μA)                                 | (A)                           | (V)                                   | (mV / °C)                                             |
|         |                                      |      |      |                                    |                                      |                               |                                       |                                                       |
| SA5.0C  | 6.40                                 | 7.3  | 10   | 5.0                                | 1200                                 | 52.0                          | 9.6                                   | 5.0                                                   |
| SA5.0CA | 6.40                                 | 7.25 | 10   | 5.0                                | 1200                                 | 54.3                          | 9.2                                   | 5.0                                                   |
| SA6.0C  | 6.67                                 | 8.15 | 10   | 6.0                                | 1200                                 | 43.9                          | 11.4                                  | 5.0                                                   |
| SA6.0CA | 6.67                                 | 7.37 | 10   | 6.0                                | 1200                                 | 48.5                          | 10.3                                  | 5.0                                                   |
| SA6.5C  | 7.22                                 | 8.82 | 10   | 6.5                                | 800                                  | 40.7                          | 12.3                                  | 5.0                                                   |
| SA6.5CA | 7.22                                 | 7.98 | 10   | 6.5                                | 800                                  | 44.7                          | 11.2                                  | 5.0                                                   |
| SA7.0C  | 7.78                                 | 9.51 | 10   | 7.0                                | 300                                  | 37.8                          | 13.3                                  | 6.0                                                   |
| SA7.0CA | 7.78                                 | 8.60 | 10   | 7.0                                | 300                                  | 41.7                          | 12.0                                  | 6.0                                                   |
| SA7.5C  | 8.33                                 | 10.2 | 1.0  | 7.5                                | 100                                  | 35.0                          | 14.3                                  | 7.0                                                   |
| SA7.5CA | 8.33                                 | 9.21 | 1.0  | 7.5                                | 100                                  | 38.8                          | 12.9                                  | 7.0                                                   |
| SA8.0C  | 8.89                                 | 10.9 | 1.0  | 8.0                                | 50                                   | 33.3                          | 15.0                                  | 7.0                                                   |
| SA8.0CA | 8.89                                 | 9.30 | 1.0  | 8.0                                | 50                                   | 36.7                          | 13.6                                  | 7.0                                                   |
| SA8.5C  | 9.44                                 | 11.5 | 1.0  | 8.5                                | 10                                   | 31.4                          | 15.9                                  | 8.0                                                   |
| SA8.5CA | 9.44                                 | 10.4 | 1.0  | 8.5                                | 10                                   | 34.7                          | 14.4                                  | 8.0                                                   |
| SA9.0C  | 10.0                                 | 12.2 | 1.0  | 9.0                                | 2.0                                  | 29.5                          | 16.9                                  | 9.0                                                   |
| SA9.0CA | 10.0                                 | 11.1 | 1.0  | 9.0                                | 2.0                                  | 32.5                          | 15.4                                  | 9.0                                                   |
| SA10C   | 11.1                                 | 13.6 | 1.0  | 10.0                               | 2.0                                  | 26.6                          | 18.8                                  | 10.0                                                  |
| SA10CA  | 11.1                                 | 12.3 | 1.0  | 10.0                               | 2.0                                  | 29.4                          | 17.0                                  | 10.0                                                  |
| SA11C   | 12.2                                 | 14.9 | 1.0  | 11.0                               | 1.0                                  | 24.9                          | 20.1                                  | 11.0                                                  |
| SA11CA  | 12.2                                 | 13.5 | 1.0  | 11.0                               | 1.0                                  | 27.4                          | 18.2                                  | 11.0                                                  |
| SA12C   | 13.3                                 | 16.3 | 1.0  | 12.0                               | 1.0                                  | 22.7                          | 22.0                                  | 12.0                                                  |
| SA12CA  | 13.3                                 | 14.7 | 1.0  | 12.0                               | 1.0                                  | 25.1                          | 19.9                                  | 12.0                                                  |
| SA13C   | 14.4                                 | 17.6 | 1.0  | 13.0                               | 1.0                                  | 21.0                          | 23.8                                  | 13.0                                                  |
| SA13CA  | 14.4                                 | 15.9 | 1.0  | 13.0                               | 1.0                                  | 23.2                          | 21.5                                  | 13.0                                                  |
| SA14C   | 15.6                                 | 19.1 | 1.0  | 14.0                               | 1.0                                  | 19.4                          | 25.8                                  | 14.0                                                  |
| SA14CA  | 15.6                                 | 17.2 | 1.0  | 14.0                               | 1.0                                  | 21.5                          | 23.2                                  | 14.0                                                  |
| SA15C   | 16.7                                 | 20.4 | 1.0  | 15.0                               | 1.0                                  | 18.8                          | 26.9                                  | 16.0                                                  |
| SA15CA  | 16.7                                 | 18.5 | 1.0  | 15.0                               | 1.0                                  | 20.6                          | 24.4                                  | 16.0                                                  |
| SA16C   | 17.8                                 | 21.8 | 1.0  | 16.0                               | 1.0                                  | 17.6                          | 28.8                                  | 19.0                                                  |
| SA16CA  | 17.8                                 | 19.7 | 1.0  | 16.0                               | 1.0                                  | 19.2                          | 26.0                                  | 17.0                                                  |
| SA17C   | 18.9                                 | 23.1 | 1.0  | 17.0                               | 1.0                                  | 16.4                          | 30.5                                  | 20.0                                                  |
| SA17CA  | 18.9                                 | 20.9 | 1.0  | 17.0                               | 1.0                                  | 18.1                          | 27.6                                  | 19.0                                                  |
| SA18C   | 20.0                                 | 24.4 | 1.0  | 18.0                               | 1.0                                  | 15.5                          | 32.2                                  | 21.0                                                  |
| SA18CA  | 20.0                                 | 22.1 | 1.0  | 18.0                               | 1.0                                  | 17.2                          | 29.2                                  | 20.0                                                  |
| SA20C   | 22.2                                 | 27.1 | 1.0  | 20.0                               | 1.0                                  | 13.9                          | 35.8                                  | 25.0                                                  |
| SA20CA  | 22.2                                 | 24.5 | 1.0  | 20.0                               | 1.0                                  | 15.4                          | 32.4                                  | 23.0                                                  |
| SA22C   | 24.4                                 | 29.8 | 1.0  | 22.0                               | 1.0                                  | 12.7                          | 39.4                                  | 28.0                                                  |
| SA22CA  | 24.4                                 | 26.9 | 1.0  | 22.0                               | 1.0                                  | 14.1                          | 35.5                                  | 25.0                                                  |
| SA24C   | 26.7                                 | 32.6 | 1.0  | 24.0                               | 1.0                                  | 11.6                          | 43.0                                  | 31.0                                                  |
| SA24CA  | 26.7                                 | 29.5 | 1.0  | 24.0                               | 1.0                                  | 12.8                          | 38.9                                  | 28.0                                                  |
| SA26C   | 28.9                                 | 35.3 | 1.0  | 26.0                               | 1.0                                  | 10.7                          | 46.6                                  | 31.0                                                  |
| SA26CA  | 28.9                                 | 31.9 | 1.0  | 26.0                               | 1.0                                  | 11.9                          | 42.1                                  | 30.0                                                  |
| SA28C   | 31.1                                 | 38.0 | 1.0  | 28.0                               | 1.0                                  | 9.9                           | 50.0                                  | 35.0                                                  |
| SA28CA  | 31.1                                 | 34.4 | 1.0  | 28.0                               | 1.0                                  | 11.0                          | 45.4                                  | 31.0                                                  |
| SA30C   | 33.3                                 | 40.7 | 1.0  | 30.0                               | 1.0                                  | 9.3                           | 53.5                                  | 39.0                                                  |
| SA30CA  | 33.3                                 | 36.8 | 1.0  | 30.0                               | 1.0                                  | 10.3                          | 48.4                                  | 36.0                                                  |
| SA33C   | 36.7                                 | 44.9 | 1.0  | 33.0                               | 1.0                                  | 8.5                           | 59.0                                  | 42.0                                                  |
| SA33CA  | 36.7                                 | 40.6 | 1.0  | 33.0                               | 1.0                                  | 9.4                           | 53.3                                  | 39.0                                                  |

## ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

| TYPE    | Breakdown Voltage @ It<br>( Note 1 ) |      |      | Working Peak<br>Reverse<br>Voltage | Maximum<br>Reverse Leakage<br>@ VRWM | Maximum<br>Reverse<br>Current | Maximum<br>Clamping<br>Voltage @ IRSM | Maximum<br>Voltage<br>Temperature<br>Variation of VBR |
|---------|--------------------------------------|------|------|------------------------------------|--------------------------------------|-------------------------------|---------------------------------------|-------------------------------------------------------|
|         | VBR (V)                              |      | It   |                                    |                                      |                               |                                       |                                                       |
|         | Min.                                 | Max. | (mA) | (V)                                | (μA)                                 | (A)                           | (V)                                   | (mV / °C)                                             |
| SA36C   | 40.0                                 | 48.9 | 1.0  | 36.0                               | 1.0                                  | 7.8                           | 64.3                                  | 46.0                                                  |
| SA36CA  | 40.0                                 | 44.2 | 1.0  | 36.0                               | 1.0                                  | 8.6                           | 58.1                                  | 41.0                                                  |
| SA40C   | 44.4                                 | 54.3 | 1.0  | 40.0                               | 1.0                                  | 7.0                           | 71.4                                  | 51.0                                                  |
| SA40CA  | 44.4                                 | 49.1 | 1.0  | 40.0                               | 1.0                                  | 7.8                           | 64.5                                  | 46.0                                                  |
| SA43C   | 47.8                                 | 58.4 | 1.0  | 43.0                               | 1.0                                  | 6.5                           | 76.7                                  | 55.0                                                  |
| SA43CA  | 47.8                                 | 52.8 | 1.0  | 43.0                               | 1.0                                  | 7.2                           | 69.4                                  | 50.0                                                  |
| SA45C   | 50.0                                 | 61.1 | 1.0  | 45.0                               | 1.0                                  | 6.2                           | 80.3                                  | 58.0                                                  |
| SA45CA  | 50.0                                 | 55.3 | 1.0  | 45.0                               | 1.0                                  | 6.9                           | 72.7                                  | 52.0                                                  |
| SA48C   | 53.3                                 | 65.1 | 1.0  | 48.0                               | 1.0                                  | 5.8                           | 85.5                                  | 63.0                                                  |
| SA48CA  | 53.3                                 | 58.9 | 1.0  | 48.0                               | 1.0                                  | 6.5                           | 77.4                                  | 56.0                                                  |
| SA51C   | 56.7                                 | 69.3 | 1.0  | 51.0                               | 1.0                                  | 5.5                           | 91.1                                  | 66.0                                                  |
| SA51CA  | 56.7                                 | 62.7 | 1.0  | 51.0                               | 1.0                                  | 6.1                           | 82.4                                  | 61.0                                                  |
| SA54C   | 60.0                                 | 73.3 | 1.0  | 54.0                               | 1.0                                  | 5.2                           | 96.3                                  | 71.0                                                  |
| SA54CA  | 60.0                                 | 66.3 | 1.0  | 54.0                               | 1.0                                  | 5.7                           | 87.1                                  | 65.0                                                  |
| SA58C   | 64.4                                 | 78.7 | 1.0  | 58.0                               | 1.0                                  | 4.9                           | 103                                   | 78.0                                                  |
| SA58CA  | 64.4                                 | 71.2 | 1.0  | 58.0                               | 1.0                                  | 5.3                           | 93.6                                  | 70.0                                                  |
| SA60C   | 66.7                                 | 81.5 | 1.0  | 60.0                               | 1.0                                  | 4.7                           | 107                                   | 80.0                                                  |
| SA60CA  | 66.7                                 | 73.7 | 1.0  | 60.0                               | 1.0                                  | 5.2                           | 96.8                                  | 71.0                                                  |
| SA64C   | 71.1                                 | 86.9 | 1.0  | 64.0                               | 1.0                                  | 4.4                           | 114                                   | 86.0                                                  |
| SA64CA  | 71.1                                 | 78.6 | 1.0  | 64.0                               | 1.0                                  | 4.9                           | 103                                   | 76.0                                                  |
| SA70C   | 77.8                                 | 95.1 | 1.0  | 70.0                               | 1.0                                  | 4.0                           | 125                                   | 94.0                                                  |
| SA70CA  | 77.8                                 | 86.0 | 1.0  | 70.0                               | 1.0                                  | 4.4                           | 113                                   | 85.0                                                  |
| SA75C   | 83.3                                 | 102  | 1.0  | 75.0                               | 1.0                                  | 3.7                           | 134                                   | 101                                                   |
| SA75CA  | 83.3                                 | 92.1 | 1.0  | 75.0                               | 1.0                                  | 4.1                           | 121                                   | 91.0                                                  |
| SA78C   | 86.7                                 | 106  | 1.0  | 78.0                               | 1.0                                  | 3.6                           | 139                                   | 105                                                   |
| SA78CA  | 86.7                                 | 95.8 | 1.0  | 78.0                               | 1.0                                  | 4.0                           | 126                                   | 95.0                                                  |
| SA85C   | 94.4                                 | 115  | 1.0  | 85.0                               | 1.0                                  | 3.3                           | 151                                   | 114                                                   |
| SA85CA  | 94.4                                 | 104  | 1.0  | 85.0                               | 1.0                                  | 3.6                           | 137                                   | 103                                                   |
| SA90C   | 100                                  | 122  | 1.0  | 90.0                               | 1.0                                  | 3.1                           | 160                                   | 121                                                   |
| SA90CA  | 100                                  | 111  | 1.0  | 90.0                               | 1.0                                  | 3.4                           | 146                                   | 110                                                   |
| SA100C  | 111                                  | 136  | 1.0  | 100                                | 1.0                                  | 2.8                           | 179                                   | 135                                                   |
| SA100CA | 111                                  | 123  | 1.0  | 100                                | 1.0                                  | 3.1                           | 162                                   | 123                                                   |
| SA110C  | 122                                  | 149  | 1.0  | 110                                | 1.0                                  | 2.6                           | 196                                   | 148                                                   |
| SA110CA | 122                                  | 135  | 1.0  | 110                                | 1.0                                  | 2.8                           | 177                                   | 133                                                   |
| SA120C  | 133                                  | 163  | 1.0  | 120                                | 1.0                                  | 2.3                           | 214                                   | 162                                                   |
| SA120CA | 133                                  | 147  | 1.0  | 120                                | 1.0                                  | 2                             | 193                                   | 146                                                   |
| SA130C  | 144                                  | 176  | 1.0  | 130                                | 1.0                                  | 2.2                           | 231                                   | 175                                                   |
| SA130CA | 144                                  | 159  | 1.0  | 130                                | 1.0                                  | 2.4                           | 209                                   | 158                                                   |
| SA150C  | 167                                  | 204  | 1.0  | 150                                | 1.0                                  | 1.9                           | 268                                   | 203                                                   |
| SA150CA | 167                                  | 185  | 1.0  | 150                                | 1.0                                  | 2.1                           | 243                                   | 184                                                   |
| SA160C  | 178                                  | 218  | 1.0  | 160                                | 1.0                                  | 1.7                           | 287                                   | 217                                                   |
| SA160CA | 178                                  | 197  | 1.0  | 160                                | 1.0                                  | 1.9                           | 259                                   | 196                                                   |
| SA170C  | 189                                  | 231  | 1.0  | 170                                | 1.0                                  | 1.6                           | 304                                   | 230                                                   |
| SA170CA | 189                                  | 209  | 1.0  | 170                                | 1.0                                  | 1.8                           | 275                                   | 208                                                   |

Note:

( 1 )  $V_{BR}$  measured after  $I_t$  applied for 300 μs.,  $I_t$  = square wave pulse or equivalent.

## RATING AND CHARACTERISTIC CURVES ( SA5.0C - SA170CA )

FIG.1 - PULSE DERATING CURVE

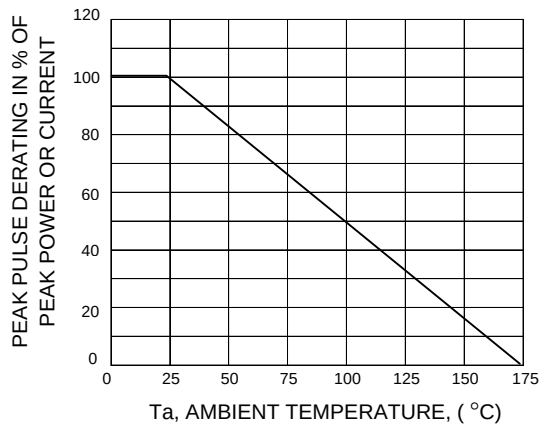


FIG.2 - PULSE WAVEFORM

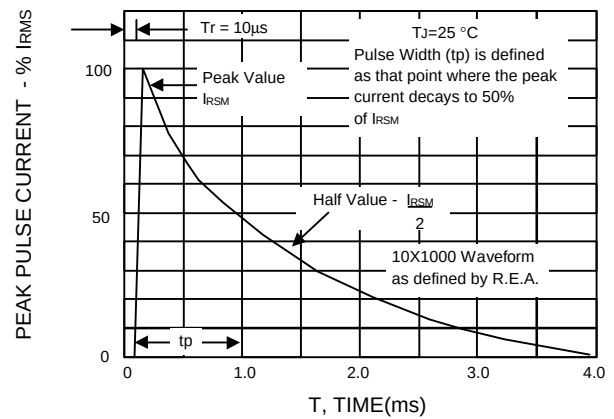


FIG.3 - STEADY STATE POWER DERATING

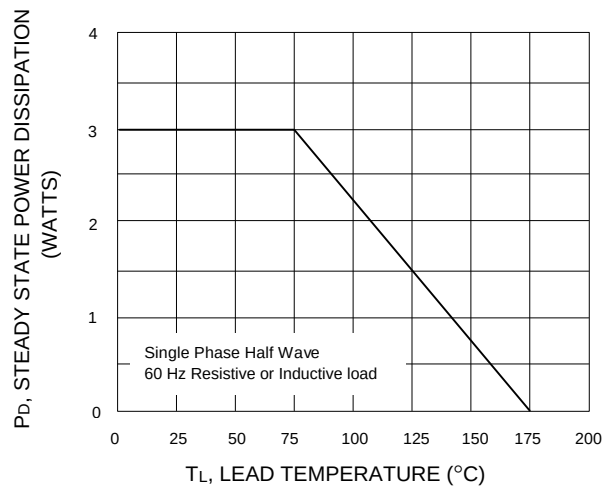


FIG.4 - PULSE RATING CURVE

