

## HIGH VOLTAGE, HIGH CURRENT, STANDARD RECOVERY DOUBLER AND CENTER TAPS

- Up to 24kV reverse voltage
- Air or oil environment
- High reverse surge current
- High thermal shock resistance
- Integral cooling fins

## QUICK REFERENCE DATA

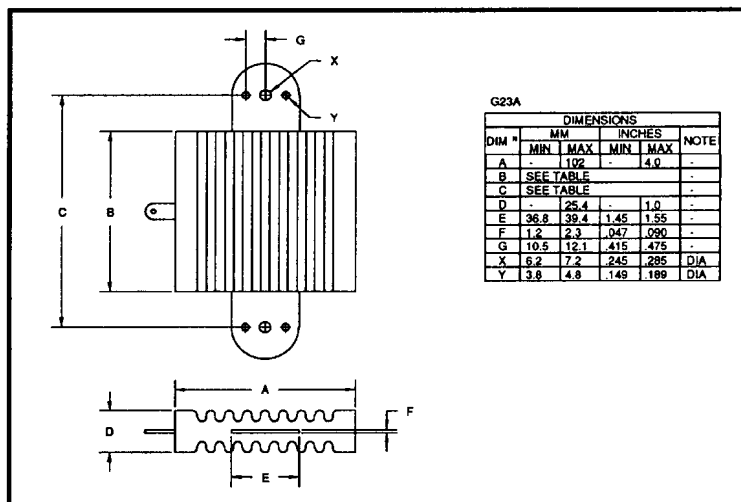
- $V_R = 4kV - 24kV$
- $I_F = 15 - 20A$  (in oil)
- $I_R = 2.0\mu A$
- $I_{FSM} = 250A$

### ABSOLUTE MAXIMUM RATINGS (apply per leg)

| Device Type | Working Reverse Voltage $V_{RWM}$<br>Volts | Average Rectified Current |            |                          |               | 1 Cycle Surge Current $t_p = 8.3mS$ |         | Repetitive Surge Current | $I^2t$<br>$t_p = 8.3mS$ |
|-------------|--|---------------------------|------------|--------------------------|---------------|-------------------------------------|---------|--------------------------|-------------------------|
|             |  | air @ 25°C                | air @ 65°C | forced air 600CFM @ 55°C | in oil @ 25°C | @ 25°C                              | @ 100°C | @ 25°C                   | @ 25°C                  |
|             |  | Amps                      | Amps       | Amps                     | Amps          | Amps                                | Amps    | Amps                     | A <sup>2</sup> S        |
| S2KW4C-1*   | 4000                                       | 8.0                       | 5.5        | 16                       | 20            | ↑                                   | ↑       | ↑                        | ↑                       |
| S2KW8C-2*   | 8000                                       | 6.0                       | 4.1        | 12                       | 15            |                                     |         |                          |                         |
| S2KW12C-3*  | 12000                                      | 6.0                       | 4.1        | 12                       | 15            | 250                                 | 150     | 45.0                     | 240                     |
| S2KW16C-4*  | 16000                                      | 6.0                       | 4.1        | 12                       | 15            | ↓                                   | ↓       | ↓                        | ↓                       |
| S2KW20C-5*  | 20000                                      | 6.0                       | 4.1        | 12                       | 15            |                                     |         |                          |                         |
| S2KW24C-6*  | 24000                                      | 6.0                       | 4.1        | 12                       | 15            |                                     |         |                          |                         |

\* add suffix for desired circuit arrangement  
D = doubler, N = Negative center tap, P = positive center tap  
(  $I_o \times 0.5$  for doubler)

### MECHANICAL



| Dimensions (see drawing) |           |
|--------------------------|-----------|
| B ±0.030"                | C ±0.030" |
| inches                   | inches    |
| 4.78                     | 6.48      |
| 7.98                     | 9.68      |
| 11.18                    | 12.88     |
| 14.38                    | 16.08     |
| 17.58                    | 19.28     |
| 20.78                    | 22.48     |

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**CHARACTERISTICS** (apply per leg)

| Device Type | Reverse Current @ VRWM |              | Maximum Forward Voltage<br>$V_F @ 6.0A @ 25^\circ C$ | Maximum Reverse Recovery Time <sup>1</sup><br>$t_{rr} @ 25^\circ C$ |
|-------------|------------------------|--------------|--|---|
|             | @ 25 °C                | @ 100 °C     |  |   |
|             | μA                     | μA           | Volts  | μS  |
| S2KW4C-1*   | ↑<br>2.0<br>↓          | ↑<br>40<br>↓ | 4.0  | ↑<br>2.0<br>↓   |
| S2KW8C-2*   |                        |              | 8.0  |   |
| S2KW12C-3*  |                        |              | 12   |   |
| S2KW16C-4*  |                        |              | 16   |   |
| S2KW20C-5*  |                        |              | 20   |   |
| S2KW24C-6*  |                        |              | 24   |   |

<sup>1</sup> Measured on discrete devices prior to assembly

Operating temperature range      -55 °C to +150 °C  
Storage temperature range        -55 °C to +150 °C

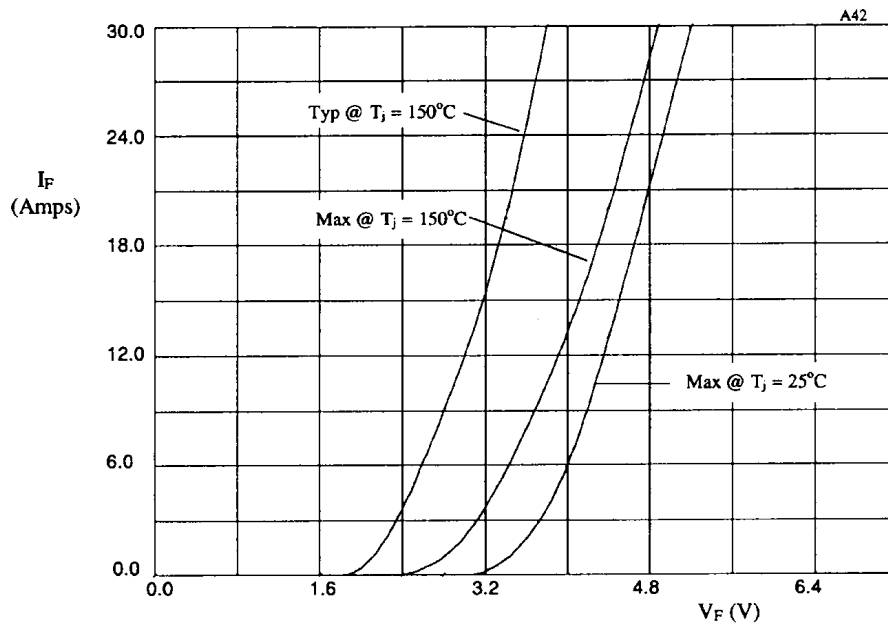


Figure 1. Forward voltage drop per leg as a function of forward current for use with table 1.

TABLE 1

| DEVICE     | X-axis |
|------------|--------|
| S2KW4C-1*  | x1     |
| S2KW8C-2*  | x2     |
| S2KW12C-3* | x3     |
| S2KW16C-4* | x4     |
| S2KW20C-5* | x5     |
| S2KW24C-6* | x6     |