



# THE DATASHEET OF SCHS10000



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## HIGH VOLTAGE, HIGH DENSITY, STANDARD RECOVERY LEADED SILICON RECTIFIER ASSEMBLY

## QUICK REFERENCE DATA

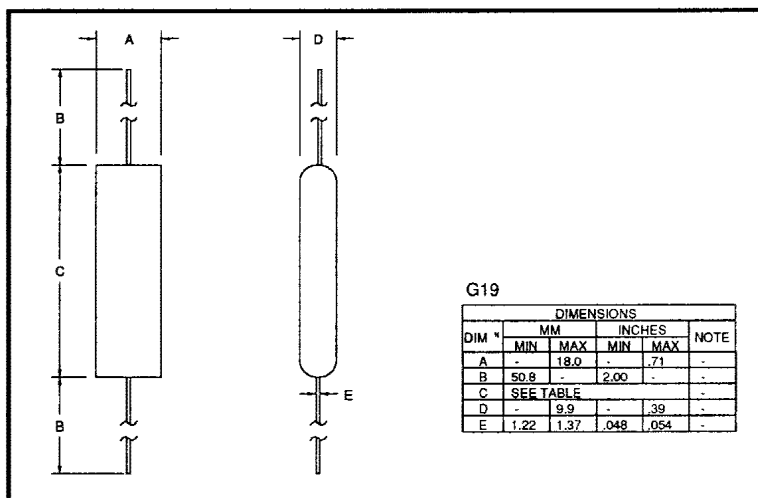
- Low reverse leakage current
- Low forward voltage drop
- High thermal shock resistance
- Corona free construction
- Low distributed capacitance

- $V_R = 2500V - 15000V$
- $I_F = 2.0A$
- $I_R = 1.0 \mu A$
- $I_{FSM} = 80A$

### ABSOLUTE MAXIMUM RATINGS

| Device Type | Working Reverse Voltage $V_{RWM}$ | Average Rectified Current $I_{F(AV)}$ |          |                            |                         | 1 Cycle Surge Current $I_{FSM}$<br>$t_p = 8.3mS$<br>@ $T_j$ MAX | $I^2t$<br>$t_p = 8.3mS$<br>@ $T_j$ MAX | Repetitive Surge Current<br>@ 25°C | Case Length dim. C<br>Max |
|-------------|-----------------------------------|---------------------------------------|----------|----------------------------|-------------------------|---|--|------------------------------------|---------------------------|
|             |                                   | @ 55 °C                               | @ 100 °C | Forced air<br>600CFM, 25°C | in still oil<br>@ 55 °C |   |  |                                    |                           |
|             |                                   | Volts                                 | Amps     | Amps                       | Amps                    |   |  |                                    |                           |
| SCHS2500    | 2500                              | ↑                                     | ↑        | ↑                          | ↑                       | ↑   | ↑                                      | 1.53                               |                           |
| SCHS5000    | 5000                              | ↑                                     | ↑        | ↑                          | ↑                       | ↑   | ↑                                      | 2.53                               |                           |
| SCHS7500    | 7500                              | 2.0                                   | 1.2      | 2.0                        | 4.0                     | 80  | 31                                     | 3.53                               |                           |
| SCHS10000   | 10000                             | ↓                                     | ↓        | ↓                          | ↓                       | ↓   | ↓                                      | 4.53                               |                           |
| SCHS12500   | 12500                             | ↓                                     | ↓        | ↓                          | ↓                       | ↓   | ↓                                      | 5.53                               |                           |
| SCHS15000   | 15000                             | ↓                                     | ↓        | ↓                          | ↓                       | ↓   | ↓                                      | 6.53                               |                           |

### MECHANICAL



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## ELECTRICAL CHARACTERISTICS

| Device Type | Maximum Reverse Leakage Current<br>$I_R$ @ $V_{RWM}$ |                | Maximum Forward Voltages<br>$V_F$ @ 3.0A<br>@ 25°C | Maximum Reverse Recovery Time <sup>(1)</sup><br>@ 25°C |
|-------------|--|----------------|--|--|
|             | @ 25 °C  | @ 100 °C       |  |  |
|             | µA   | µA             | Volts  | µS   |
| SCHS2500    | ↑<br>1.00<br>↓                                       | ↑<br>10.0<br>↓ | 3.45   | ↑<br>2.5<br>↓  |
| SCHS5000    |  |                | 5.75   |  |
| SCHS7500    |  |                | 9.20   |  |
| SCHS10000   |  |                | 11.50  |  |
| SCHS12500   |  |                | 14.95  |  |
| SCHS15000   |  |                | 18.40  |  |

1. Measured on discrete devices prior to assembly.

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

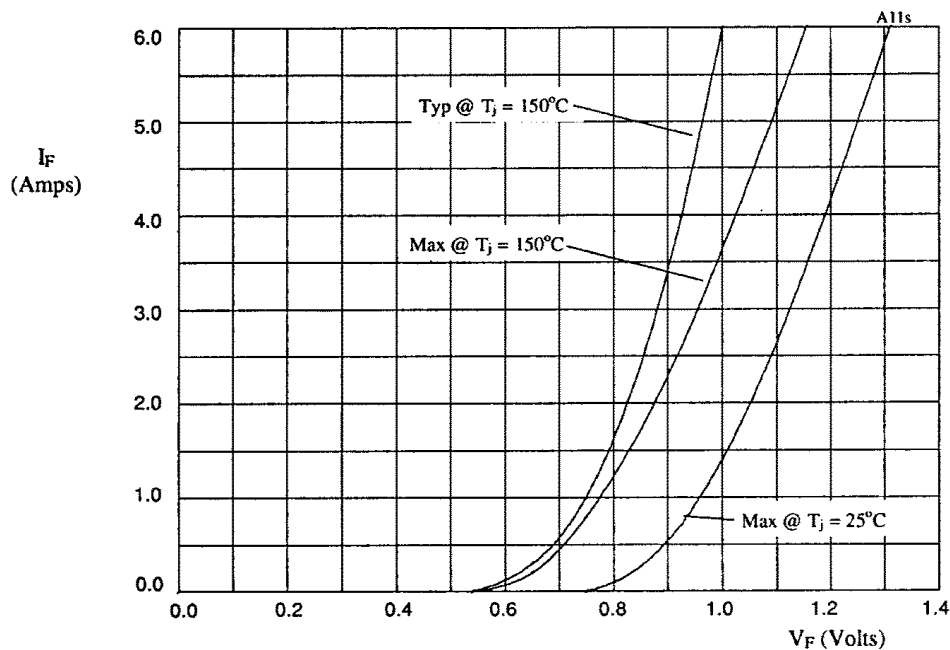


Figure 1. Forward voltage drop as a function of forward current.

TABLE 1

| DEVICE    | X-AXIS |
|-----------|--------|
| SCHS2500  | x3     |
| SCHS5000  | x6     |
| SCHS7500  | x8     |
| SCHS10000 | x10    |
| SCHS12500 | x13    |
| SCHS15000 | x16    |

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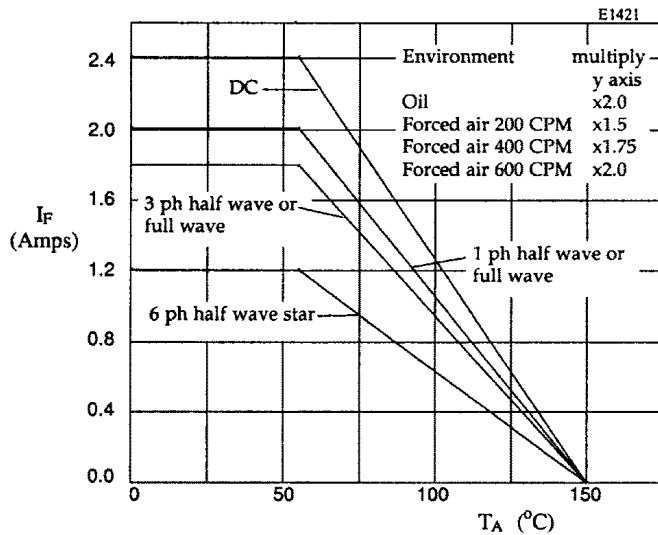


Figure 2. Maximum forward current against ambient temperature.

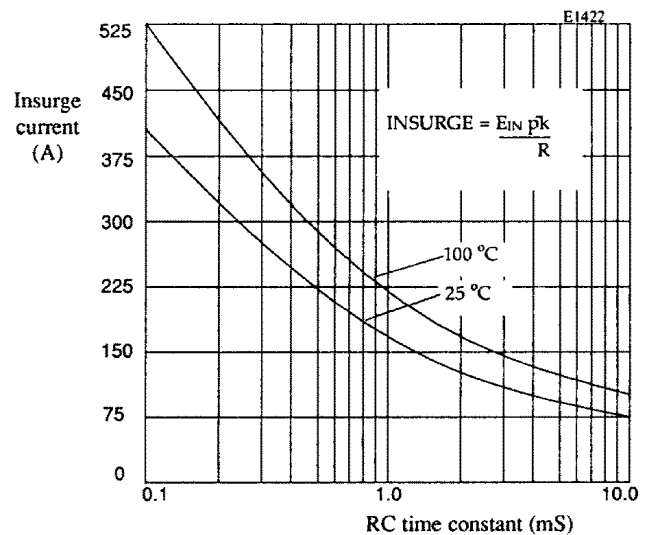


Figure 3. Maximum ratings for capacitive loads. Insurge current versus RC time constant

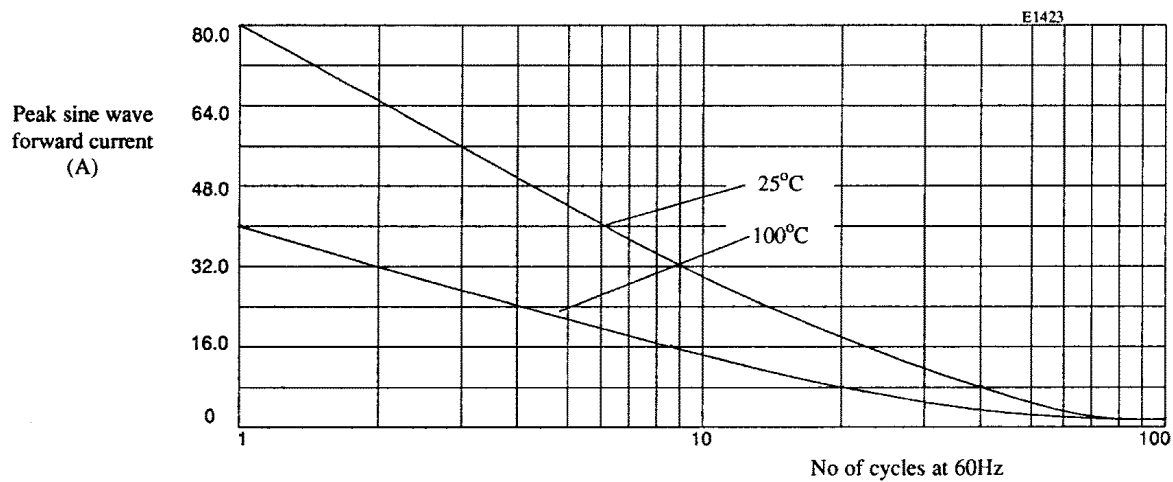




Figure 4. Non repetitive forward current surge curves.

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