

### FEATURES

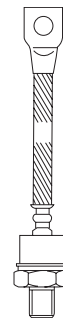
- 1). Reverse voltages up to 3000V
- 2). Hermetic metal case with ceramic insulator with extra long creepage distances
- 3). Threaded stud ISO M24 × 1.5
- 4). SKN: anode to stud

### MAJOR RATINGS AND CHARACTERISTICS

| $V_{RSM}$ | $V_{RRM}$ | $I_{FRMS}=700A$ (maximum value for continuous operation)<br>$I_{FAV}=400A$ (sin. 180° ; $T_C=100^{\circ}C$ ) |
|-----------|-----------|--|
| V         | V         |  |
| 1800      | 1800      | SKN 400/18   |
| 2400      | 2400      | SKN 400/24   |
| 2700      | 2700      | SKN 400/27   |
| 3000      | 3000      | SKN 400/30   |

### TYPICAL APPLICATIONS

- 1). High voltage rectifier diodes, especially for traction applications
- 2). Cooling via heatsinks
- 3). Non-controllable and half-controllable rectifiers
- 4). Free-wheeling diodes
- 5). Recommended snubber network:  
RC: 1  $\mu$ F, 20  $\Omega$  ( $P_R=2W$ ),  
 $R_p=25K\Omega$  ( $P_R=20W$ )



### ELECTRICAL SPECIFICATIONS

| Symbol        | Conditions                                   | Values       | V                |
|---------------|--|--------------|------------------|
| $I_{FAV}$     | sin. 180; $T_C=85(100)^{\circ}C$             | 445(400)     | A                |
| $I_D$         | K 0.55; $T_a=45^{\circ}C$ ; B2/B6            | 310/450      | A                |
|               | K 0.55F; $T_a=35^{\circ}C$ ; B2/B6           | 700/1000     | A                |
| $I_{FSM}$     | $T_{vj}=25^{\circ}C$ ; 10ms                  | 9000         | A                |
|               | $T_{vj}=160^{\circ}C$ ; 10ms                 | 7500         | A                |
| $I^2t$        | $T_{vj}=25^{\circ}C$ ; 8,3 ... 10ms          | 400000       | A <sub>2</sub> S |
|               | $T_{vj}=160^{\circ}C$ ; 8,3 ... 10ms         | 280000       | A <sub>2</sub> S |
| $V_F$         | $T_{vj}=25^{\circ}C$ ; $I_F=1200A$           | max. 1.45    | V                |
| $V_{(TO)}$    | $T_{vj}=160^{\circ}C$                        | max. 0.9     | V                |
| $r_T$         | $T_{vj}=160^{\circ}C$                        | max. 0.5     | m $\Omega$       |
| $I_{RD}$      | $T_{vj}=160^{\circ}C$ ; $V_{RD}=V_{RRM}$     | max. 60      | mA               |
| $Q_{rr}$      | $T_{vj}=160^{\circ}C$ ; $-di_F/dt=10A \mu s$ | 400          | $\mu C$          |
| $R_{th(j-c)}$ |  | 0.11         | K/W              |
| $R_{th(c-s)}$ |  | 0.01         | K/W              |
| $T_{vj}$      |  | -40 ... +160 | $^{\circ}C$      |
| $T_{stg}$     |  | -55 ... +160 | $^{\circ}C$      |

| Symbol     | Conditions  | Values | V                |
|------------|-------------|--------|------------------|
| $V_{isol}$ |             | -      | V~               |
| $M_s$      | to heatsink | 60     | Nm               |
| a          |             | 5*9.81 | m/s <sup>2</sup> |
| m          | approx.     | 500    | g                |
| Case       |             | E17    |                  |

**PERFORMANCE CURVES FIGURE**

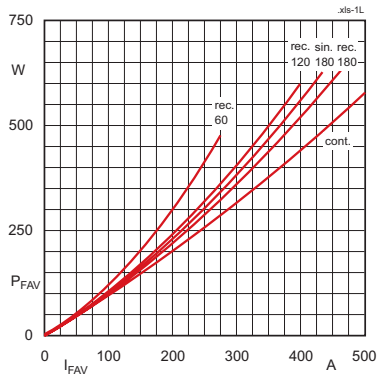


Fig. 1L Power dissipation vs. forward current

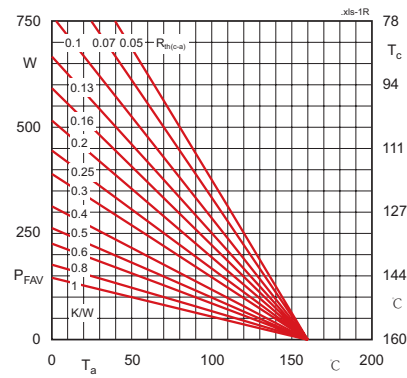


Fig. 1R Power dissipation vs. ambient temperature

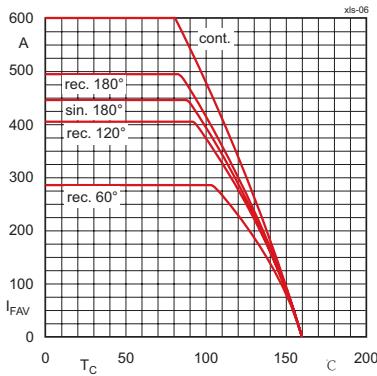


Fig. 2 Forward current vs. case temperature

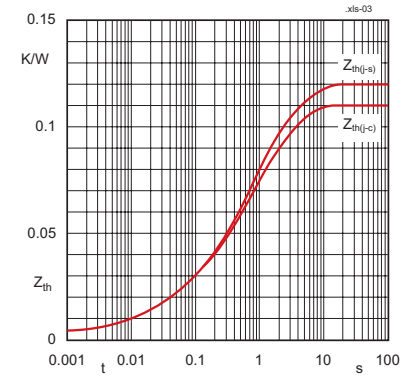


Fig. 4 Transient thermal impedance vs. time

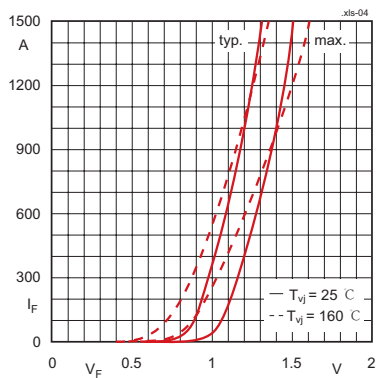


Fig. 5 Forward characteristics

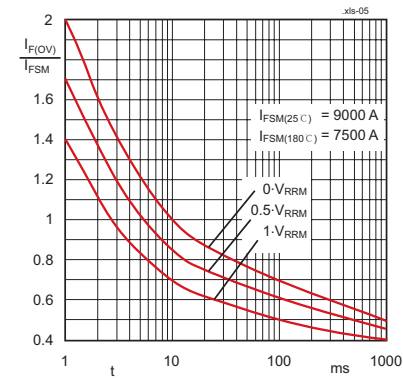
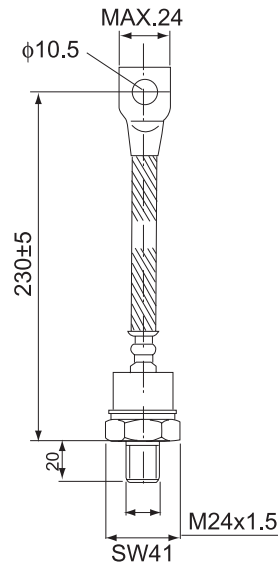


Fig. 6 Surge overload current vs. time

## OUTLINE



**SKD10**

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