

## Features

- Heat transfer through aluminium oxide ceramic isolated metal
- Hard soldered joints for high reliability
- Space and weight savings

## Typical Applications

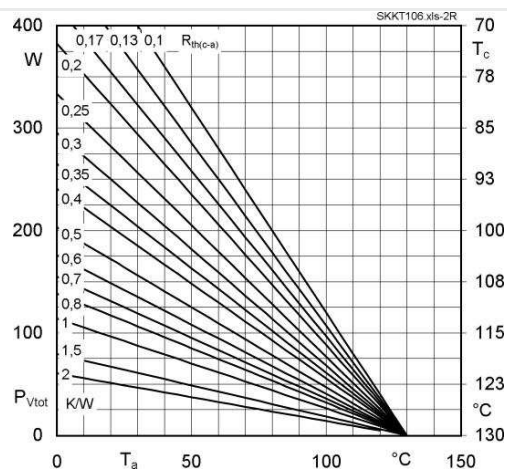
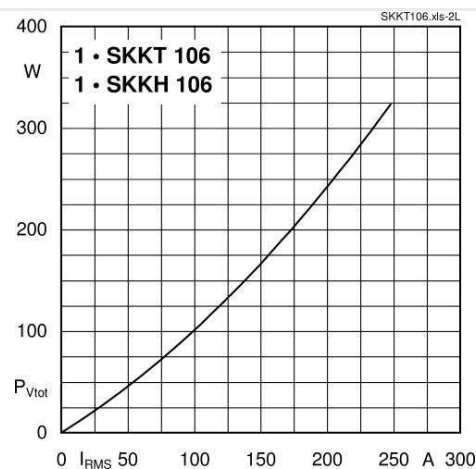
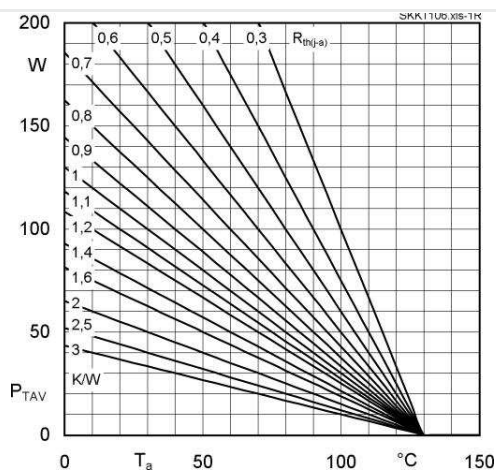
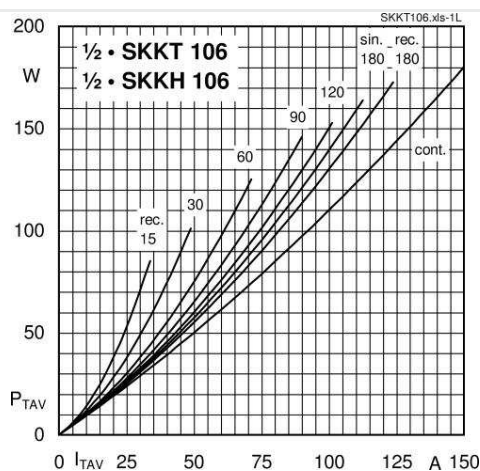
- Various rectifiers
- AC/DC Motor drives
- DC supply for PWM inverter



| Symbol             | $I_{RMS}=180A$ (maximum value for continuous operation)<br>$I_{TAV}=106A$ (sin.180; $T_c=85^\circ C$ ) |             |             |             |             |             | Units |
|--------------------|--------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------|
|                    | SKKT106/08E                                                                                            | SKKT106/12E | SKKT106/16E | SKKT106/18E | SKKH106/08E | SKKH106/18E |       |
| $V_{RRM}, V_{DRM}$ | 800                                                                                                    | 1200        | 1600        | 1800        | 800         | 1800        | V     |
| $V_{RSM}$          | 900                                                                                                    | 1300        | 1700        | 1900        | 900         | 1900        | V     |

## Electrical characteristics

| Symbol           | Conditions                                                 | Values      | Units            |
|------------------|------------------------------------------------------------|-------------|------------------|
| $I_{TAV}$        | sin.180; $T_c=85(100)^\circ C$ ;                           | 106 (78)    | A                |
| $I_D$            | P3/180; $T_a=35^\circ C$ ; B2/B6                           | 145/180     | A                |
|                  | P3/200F; $T_a=35^\circ C$ ; B2/B6                          | 19/260      | A                |
| $I_{RMS}$        | P3/180F; $T_a=35^\circ C$ ; W1/W3                          | 260/3 x 140 | A                |
| $I_{TSM}$        | $T_{vj}=25^\circ C$ ; 10ms                                 | 2250        | A                |
|                  | $T_{vj}=125^\circ C$ ; 10ms                                | 1250        | A                |
| $I^2t$           | $T_{vj}=25^\circ C$ ; 8.3...10ms                           | 25000       | A <sup>2</sup> s |
|                  | $T_{vj}=130^\circ C$ ; 8.3...10ms                          | 18000       | A <sup>2</sup> s |
| $V_T$            | $T_{vj}=25^\circ C$ , $I_T=300A$                           | max.1.65    | V                |
| $V_{T(TO)}$      | $T_{vj}=130^\circ C$                                       | max.0.9     | V                |
| $r_T$            | $T_{vj}=130^\circ C$                                       | max.2       | mΩ               |
| $I_{DD}, I_{RD}$ | $T_{vj}=130^\circ C$ , $V_{RD}=V_{RRM}$ , $V_{DD}=V_{DRM}$ | max.20      | mA               |
| $t_{gd}$         | $T_{vj}=25^\circ C$ ; $I_G=1A$ ; $di_G/dt=1A/\mu s$        | 1           | μs               |
| $t_{gr}$         | $V_D=0.67 \cdot V_{DRM}$                                   | 2           | μs               |
| (dv/dt)cr        | $T_{vj}=130^\circ C$                                       | max.1000    | V/μs             |
| (di/dt)cr        | $T_{vj}=130^\circ C$                                       | max.150     | A/μs             |
| $t_q$            | $T_{vj}=130^\circ C$                                       | 100         | μs               |
| $I_H$            | $T_{vj}=25^\circ C$ ; typ./max.                            | 150/250     | mA               |
| $I_L$            | $T_{vj}=25^\circ C$ ; $R_G=33\Omega$ ; typ./max.           | 300/600     | mA               |

02

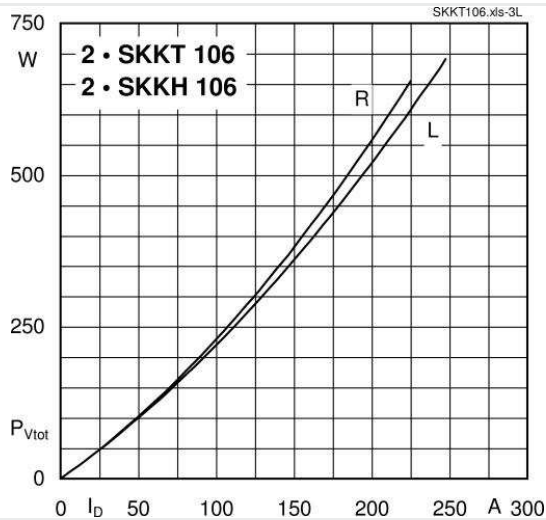


Fig. 3L Power dissipation of two modules vs. direct current

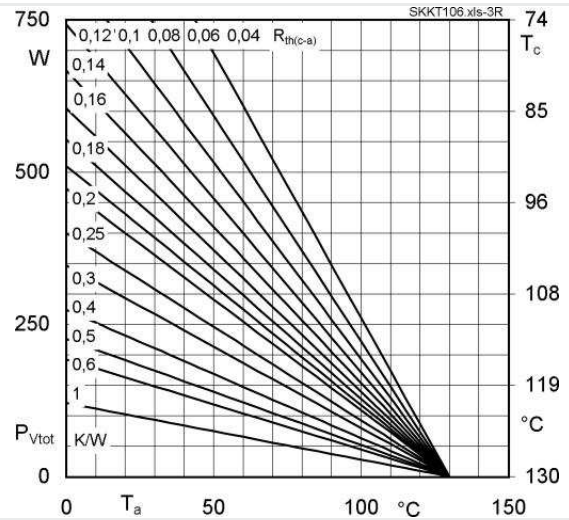


Fig. 3R Power dissipation of two modules vs. case temp.

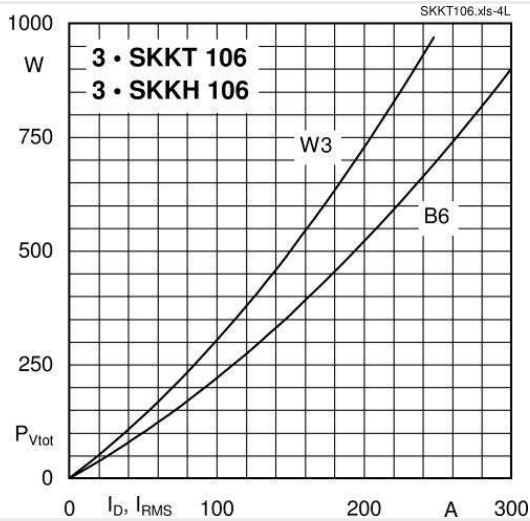


Fig. 4L Power dissipation of three modules vs. direct and rms current

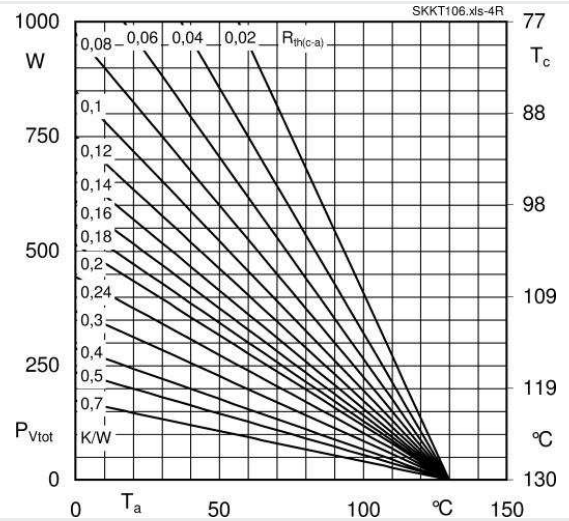


Fig. 4R Power dissipation of three modules vs. case temp.

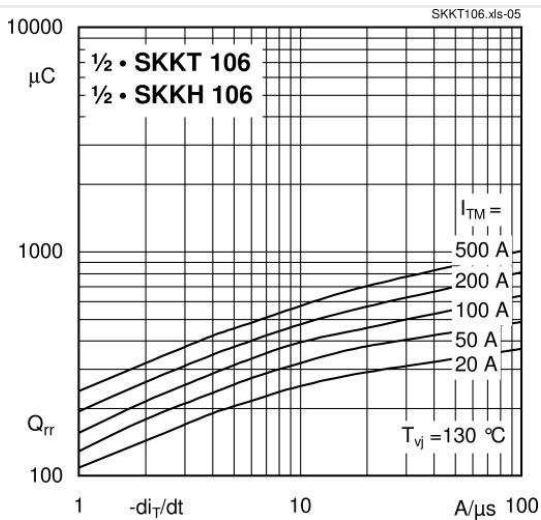


Fig. 5 Recovered charge vs. current decrease

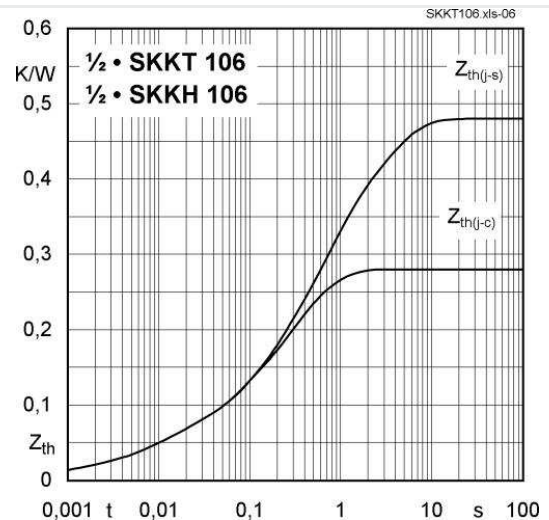


Fig. 6 Transient thermal impedance vs. time

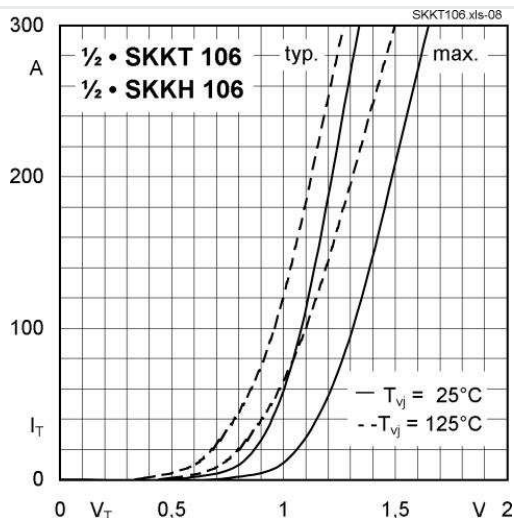


Fig. 7 On-state characteristics

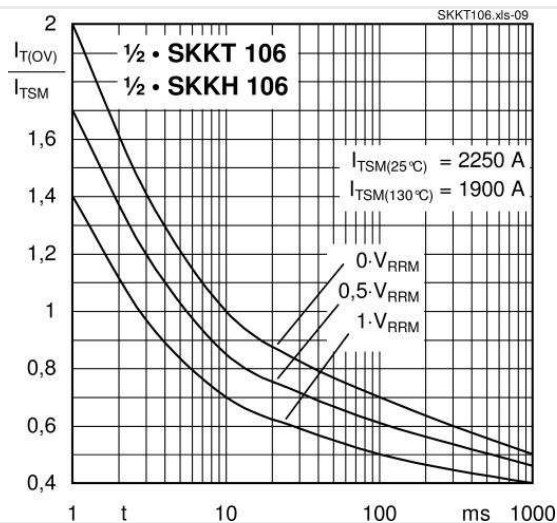


Fig. 8 Surge overload current vs. time

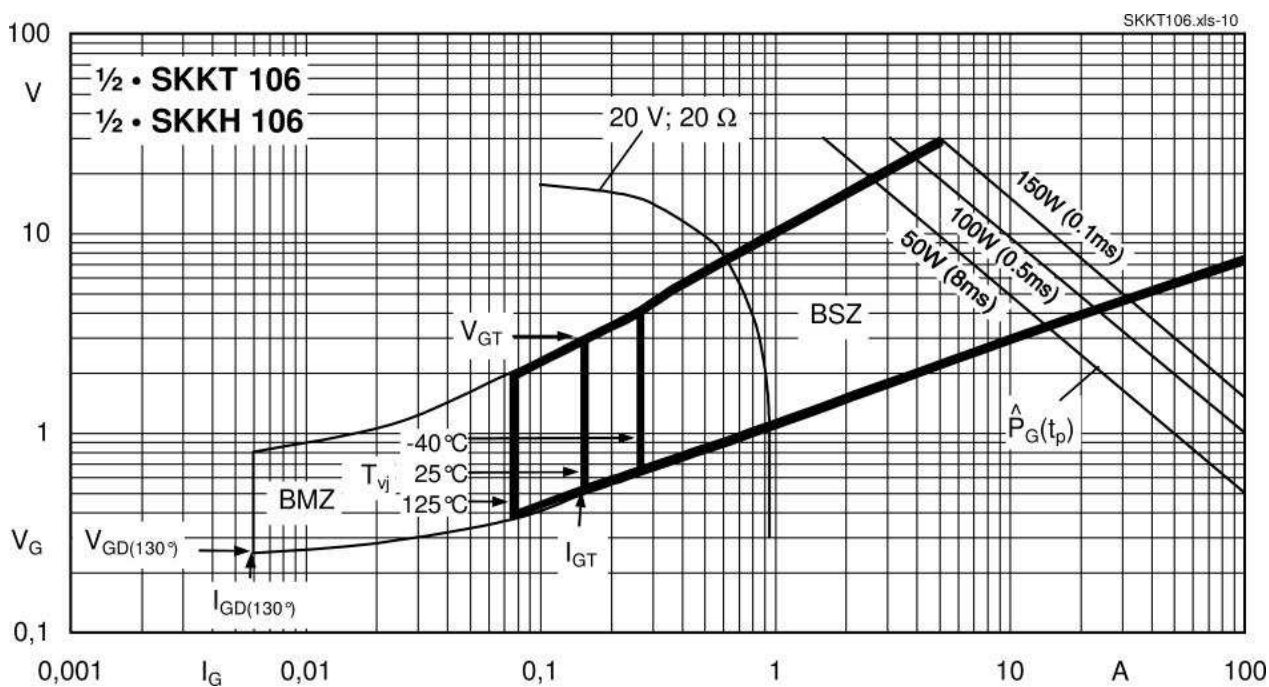
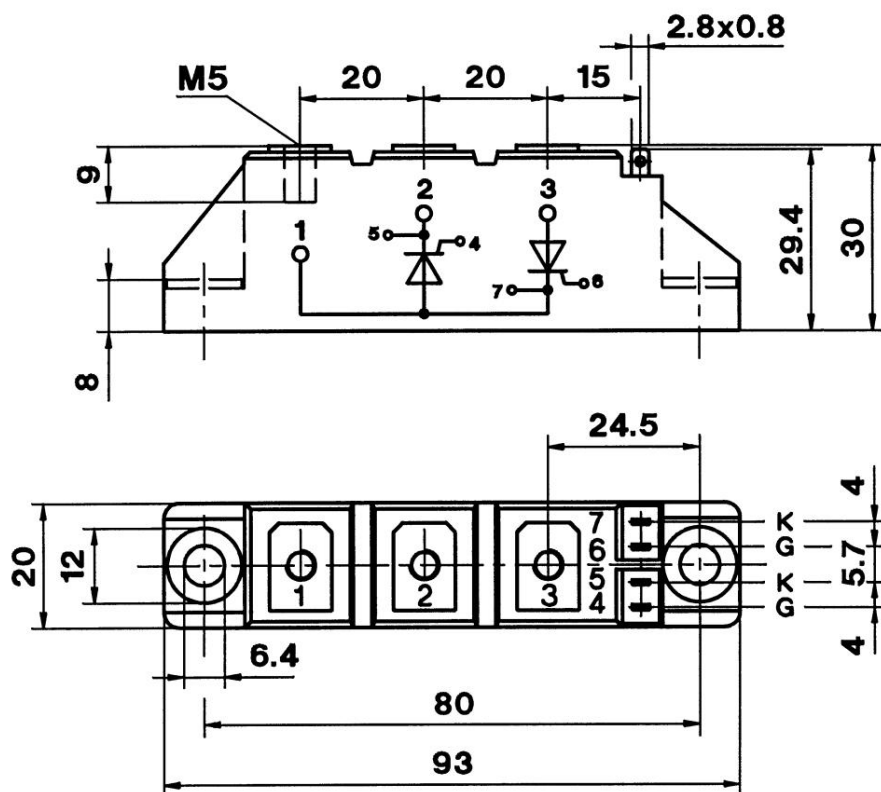
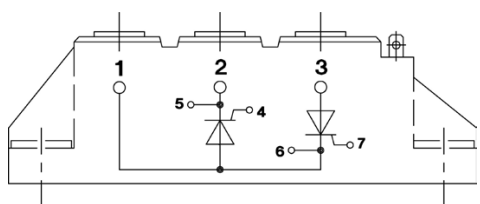


Fig. 9 Gate trigger characteristics

05

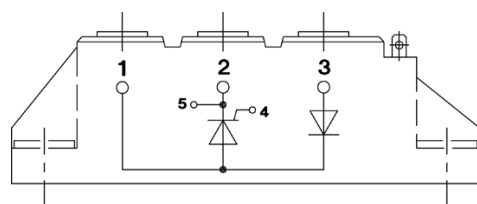


Case A 46 (SKKT)



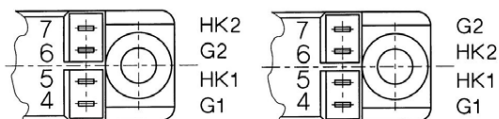
Case A 48

SKKT.. B



Case A 47

SKKH



SKKT

SKKT...B