

| $V_{RSM}$ | $V_{RRM}$ | $(dv/dt)_{cr}$ | $I_{TRMS}$ (maximum value for continuous operation) |                             |               |               |
|-----------|-----------|----------------|-----------------------------------------------------|-----------------------------|---------------|---------------|
|           | $V_{DRM}$ |                | 180 A                                               |                             |               |               |
|           |           |                | $I_{TAV}$ (sin. 180; $T_{case} = 80\text{ °C}$ )    |                             |               |               |
| V         | V         | V/ $\mu$ s     | 115 A                                               |                             |               |               |
| 500       | 400       | 500            | –                                                   | –                           | SKKH 105/04 D | –             |
| 700       | 600       | 500            | SKKT 105/06 D                                       | SKKT 106/06 D               | –             | SKKH 106/06 D |
| 900       | 800       | 500            | SKKT 105/08 D                                       | SKKT 106/08 D <sup>1)</sup> | SKKH 105/08 D | SKKH 106/08 D |
| 1300      | 1200      | 1000           | SKKT 105/12 E                                       | SKKT 106/12 E <sup>1)</sup> | SKKH 105/12 E | SKKH 106/12 E |
| 1500      | 1400      | 1000           | SKKT 105/14 E                                       | SKKT 106/14 E <sup>1)</sup> | SKKH 105/14 E | SKKH 106/14 E |
| 1700      | 1600      | 1000           | SKKT 105/16 E                                       | SKKT 106/16 E <sup>1)</sup> | SKKH 105/16 E | SKKH 106/16 E |
| 1900      | 1800      | 1000           | SKKT 105/18 E                                       | SKKT 106/18 E <sup>1)</sup> | SKKH 105/18 E | SKKH 106/18 E |

| Symbol              | Conditions                                                                                                                                                       | SKKT 105<br>SKKH 105                            | SKKT 106<br>SKKT 106B<br>SKKH 106                   | Units                                                                                     |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------|
| $I_{TAV}$           | sin. 180; $T_{case} = 85\text{ °C}$                                                                                                                              | 106                                             |                                                     | A                                                                                         |
| $I_D$               | B2/B6 $T_{amb} = 35\text{ °C}$ ; P 3/180 F                                                                                                                       | 145 / 180                                       |                                                     | A                                                                                         |
|                     | P 16/200 F                                                                                                                                                       | 190 / 260                                       |                                                     | A                                                                                         |
| $I_{RMS}$           | W1/W3 $T_{amb} = 35\text{ °C}$ ; P 3/180 F                                                                                                                       | 200 / 3 x 140                                   |                                                     | A                                                                                         |
| $I_{TSM}$           | $T_{vj} = 25\text{ °C}$ ; 10 ms                                                                                                                                  | 2 250                                           |                                                     | A                                                                                         |
|                     | $T_{vj} = 130\text{ °C}$ ; 10 ms                                                                                                                                 | 1 900                                           |                                                     | A                                                                                         |
| $i^2t$              | $T_{vj} = 25\text{ °C}$ ; 8,3 ... 10 ms                                                                                                                          | 25 000                                          |                                                     | A <sup>2</sup> s                                                                          |
|                     | $T_{vj} = 130\text{ °C}$ ; 8,3 ... 10 ms                                                                                                                         | 18 000                                          |                                                     | A <sup>2</sup> s                                                                          |
| $t_{gd}$            | $T_{vj} = 25\text{ °C}$ ; $I_G = 1\text{ A}$                                                                                                                     | 1                                               |                                                     | $\mu$ s                                                                                   |
|                     | $di_G/dt = 1\text{ A}/\mu$ s                                                                                                                                     | 2                                               |                                                     | $\mu$ s                                                                                   |
| $t_{gr}$            | $V_D = 0,67 \cdot V_{DRM}$                                                                                                                                       |                                                 |                                                     |                                                                                           |
| $(di/dt)_{cr}$      | $T_{vj} = 130\text{ °C}$                                                                                                                                         | 150                                             |                                                     | A/ $\mu$ s                                                                                |
| $t_q$               | $T_{vj} = 130\text{ °C}$                                                                                                                                         | typ. 100                                        |                                                     | $\mu$ s                                                                                   |
| $I_H$               | $T_{vj} = 25\text{ °C}$ ; typ./max.                                                                                                                              | 150 / 250                                       |                                                     | mA                                                                                        |
| $I_L$               | $T_{vj} = 25\text{ °C}$ ; $R_G = 33\text{ }\Omega$ ; typ./max.                                                                                                   | 300 / 600                                       |                                                     | mA                                                                                        |
| $V_T$               | $T_{vj} = 25\text{ °C}$ ; $I_T = 300\text{ A}$                                                                                                                   | max. 1,65                                       |                                                     | V                                                                                         |
| $V_{T(TO)}$         | $T_{vj} = 130\text{ °C}$                                                                                                                                         | 0,9                                             |                                                     | V                                                                                         |
| $r_T$               | $T_{vj} = 130\text{ °C}$                                                                                                                                         | 2                                               |                                                     | m $\Omega$                                                                                |
| $I_{DD}$ ; $I_{RD}$ | $T_{vj} = 130\text{ °C}$ ; $V_{RD} = V_{RRM}$<br>$V_{DD} = V_{DRM}$                                                                                              | max. 20                                         |                                                     | mA                                                                                        |
| $V_{GT}$            | $T_{vj} = 25\text{ °C}$ ; d.c.                                                                                                                                   | 3                                               |                                                     | V                                                                                         |
| $I_{GT}$            | $T_{vj} = 25\text{ °C}$ ; d.c.                                                                                                                                   | 150                                             |                                                     | mA                                                                                        |
| $V_{GD}$            | $T_{vj} = 130\text{ °C}$ ; d.c.                                                                                                                                  | 0,25                                            |                                                     | V                                                                                         |
| $I_{GD}$            | $T_{vj} = 130\text{ °C}$ ; d.c.                                                                                                                                  | 6                                               |                                                     | mA                                                                                        |
| $R_{thjc}$          | cont. $\left. \begin{array}{l} \text{sin. 180} \\ \text{rec. 120} \end{array} \right\} \begin{array}{l} \text{per thyristor /} \\ \text{per module} \end{array}$ | 0,28 / 0,14<br>0,30 / 0,15<br>0,32 / 0,16       |                                                     | $^{\circ}\text{C}/\text{W}$<br>$^{\circ}\text{C}/\text{W}$<br>$^{\circ}\text{C}/\text{W}$ |
| $R_{thch}$          |                                                                                                                                                                  | 0,2 / 0,1                                       |                                                     | $^{\circ}\text{C}/\text{W}$                                                               |
| $T_{vj}$            |                                                                                                                                                                  | – 40 ... + 130                                  |                                                     | $^{\circ}\text{C}$                                                                        |
| $T_{stg}$           |                                                                                                                                                                  | – 40 ... + 125                                  |                                                     | $^{\circ}\text{C}$                                                                        |
| $V_{isol}$          | a. c. 50 Hz; r.m.s.; 1 s/1 min                                                                                                                                   | 3600 / 3000                                     |                                                     | V~                                                                                        |
| $M_1$               | to heatsink $\left. \begin{array}{l} \text{to heatsink} \\ \text{to terminals} \end{array} \right\} \text{SI (US) units}$                                        | 5 (44 lb. in.) $\pm 15\text{ \%}$ <sup>2)</sup> |                                                     | Nm                                                                                        |
| $M_2$               |                                                                                                                                                                  | 3 (26 lb. in.) $\pm 15\text{ \%}$ <sup>2)</sup> |                                                     | Nm                                                                                        |
| a                   |                                                                                                                                                                  | 5 · 9,81                                        |                                                     | m/s <sup>2</sup>                                                                          |
| w                   | approx.                                                                                                                                                          | 95                                              |                                                     | g                                                                                         |
| Case                | → page B 1 – 95                                                                                                                                                  | SKKT 105: A 5<br>SKKH 105: A 6                  | SKKT 106: A 46<br>SKKT 106B: A 48<br>SKKH 106: A 47 |                                                                                           |

SEMIPACK® 1

Thyristor / Diode Modules

SKKT 105

SKKH 105

SKKT 106

SKKH 106

SKKT 106B



SKKT 105

SKKH 105



SKKT 106

SKKH 106

SKKT 106B

Features

- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- UL recognized, file no. E 63 532

Typical Applications

- DC motor control (e.g. for machine tools)
- AC motor soft starters
- Temperature control (e.g. for ovens, chemical processes)
- Professional light dimming (studios, theaters)

1)

Also available in SKKT 106 B configuration (case A 48)

2)

See the assembly instructions



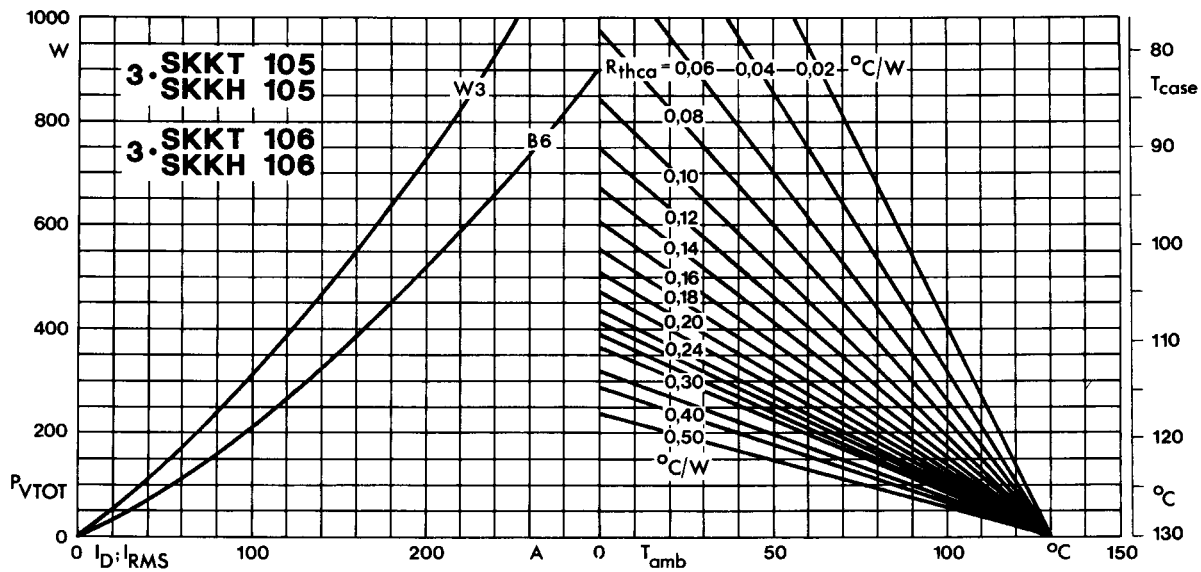


Fig. 4 Power dissipation of three modules vs. direct and rms current and case temperature

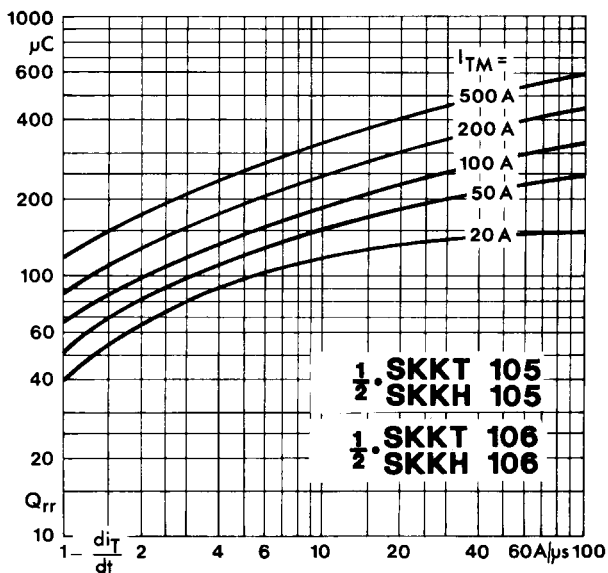


Fig. 5 Recovered charge vs. current decrease

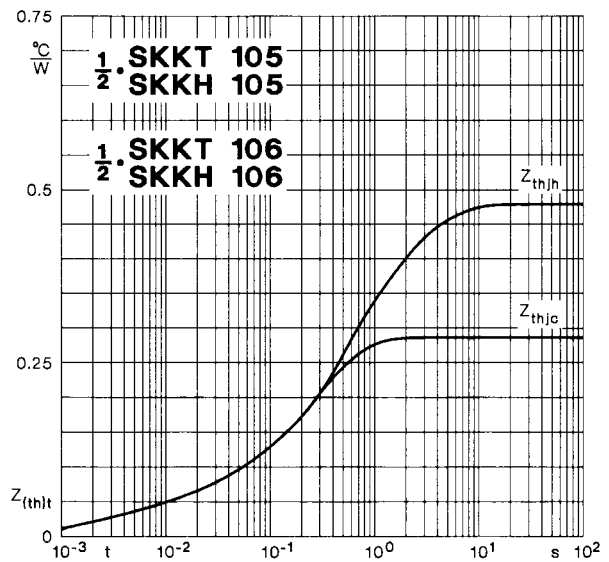


Fig. 6 Transient thermal impedance vs. time

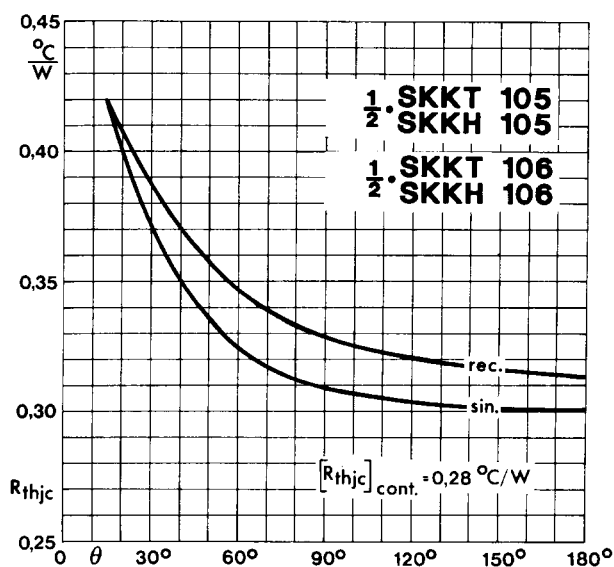


Fig. 7 Thermal resistance vs. conduction angle

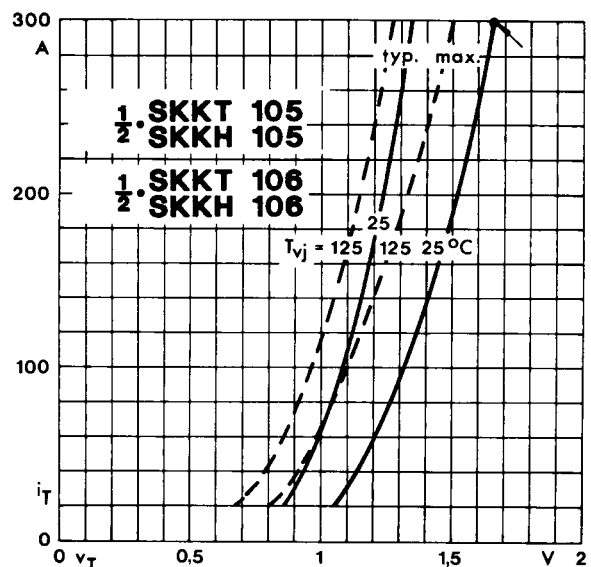


Fig. 8 On-state characteristics

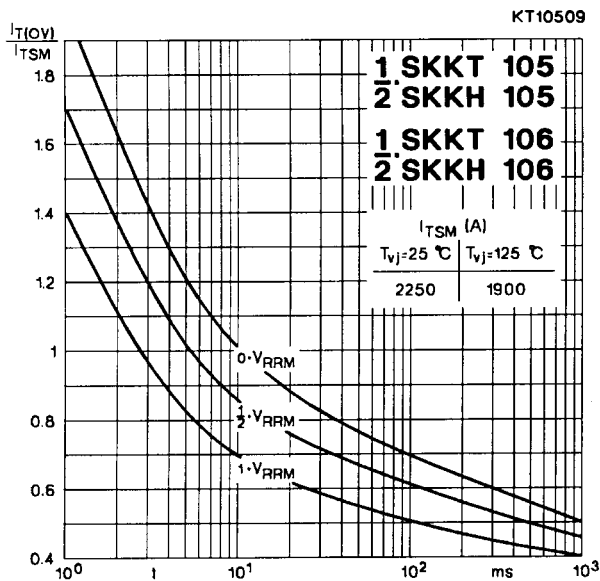


Fig. 9 Surge overload current vs. time

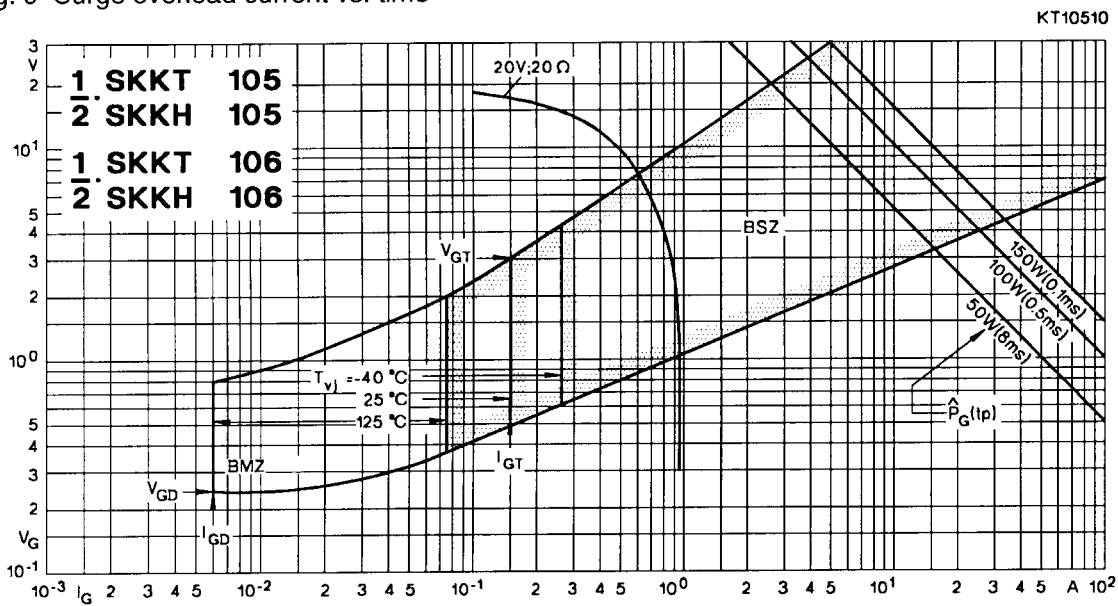


Fig. 10 Gate trigger characteristics

## SKKT 19 ... 105

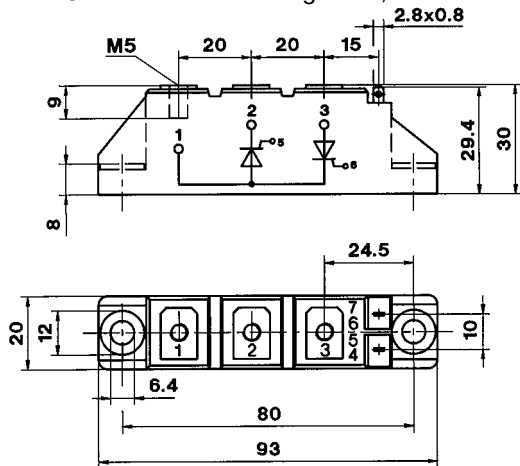
Case A 5

IEC 192-2: A 77 A

JEDEC: TO-240 AA

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UL recognized, file no. E 63 532



Dimensions in mm

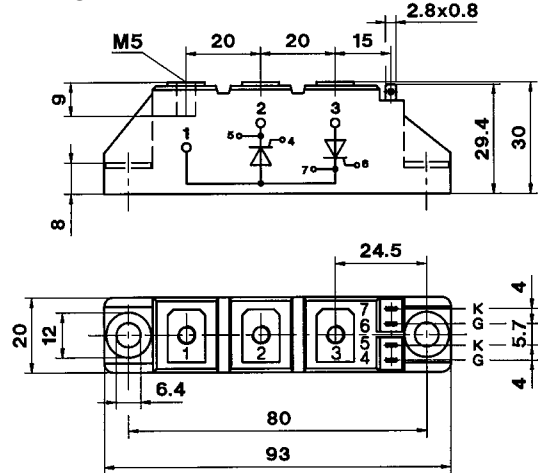
## SKKT 20/ ... 106/

Case A 46

IEC 192-2: A 77 A

JEDEC: TO-240 AA

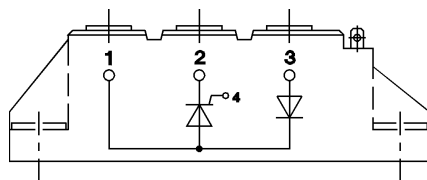
SEMIPACK® 1



Dimensions in mm

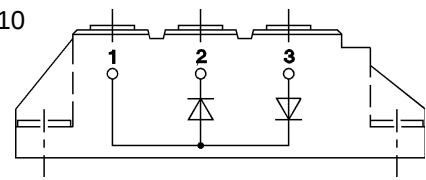
## SKKH 26 ... 105

Case A 6



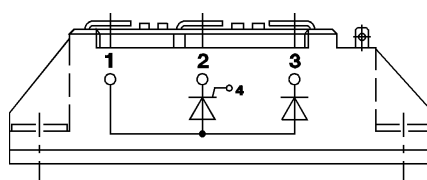
## SKKD 26 ... 100

Case A 10



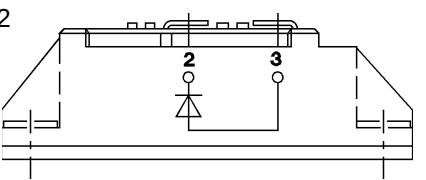
## SKNH 56 ... 91

Case A 7



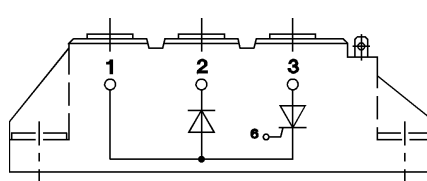
## SKKE 81

Case A 12



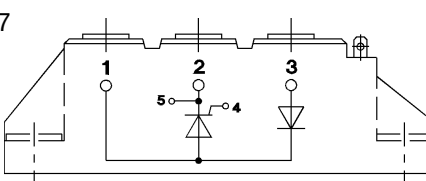
## SKKL 56 ... 105

Case A 9



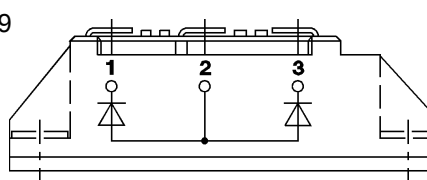
## SKKH 27 ... 106

Case A 47



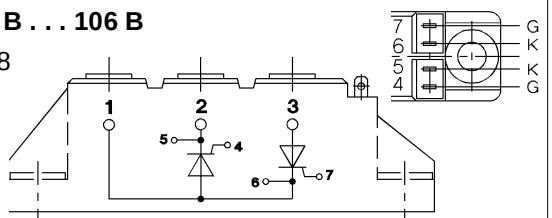
## SKND 46 ... 81

Case A 19



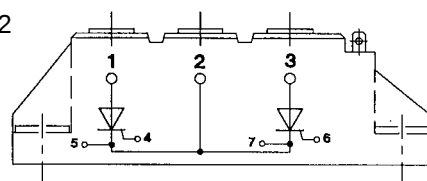
## SKKT 20 B ... 106 B

Case A 48



## SKMT 92

Case A 72



## SKKL 42 ... 106

Case A 59

