



## SEMIPACK<sup>®</sup> 1

### Modules with Thyristor and Free-Wheeling Diode

#### SKNH 91

#### Features

- Heat transfer through ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- UL recognized, file no. E 63 532
- Electrical data see also data sheet SKKH 92

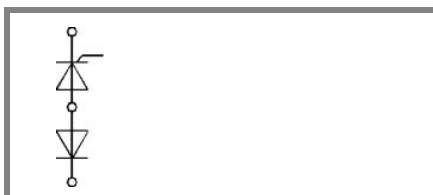
#### Typical Applications

- Special modules for DC braking of AC induction motor

1) available on request

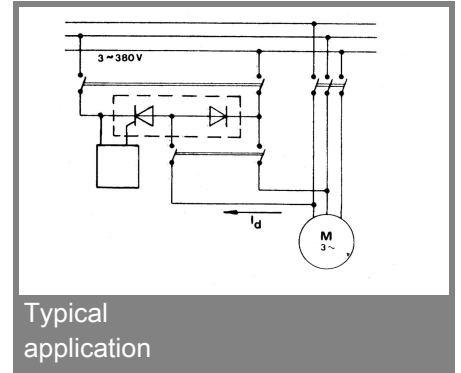
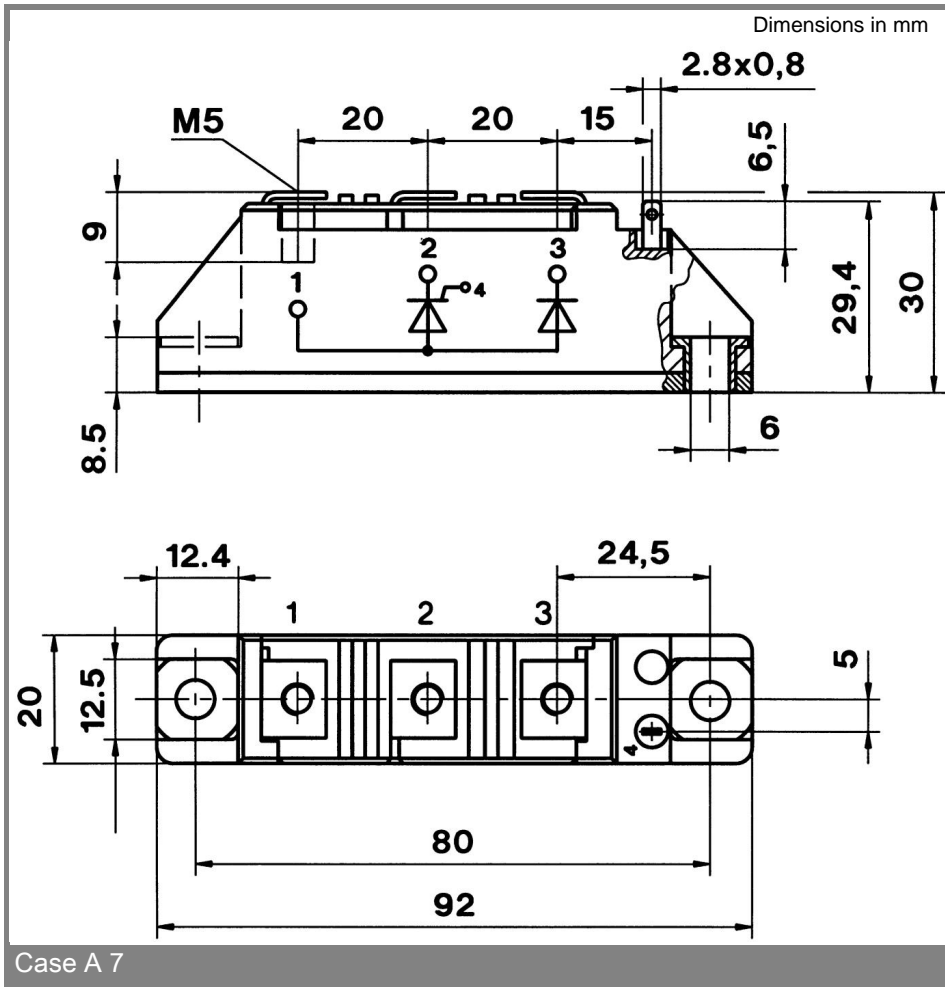
| $V_{RSM}$<br>V | $V_{RRM}, V_{DRM}$<br>V | $I_{TRMS} = 150$ A (maximum value for continuous operation)<br>$I_{TAV} = 95$ A (sin. 180; $T_c = 85$ °C) |  |
|----------------|-------------------------|---|--|
| 1300           | 1200                    | SKNH 91/12E   |  |
| 1500           | 1400                    | SKNH 91/14E   |  |
| 1700           | 1600                    | SKNH 91/16E   |  |
| 1900           | 1800                    | SKNH 91/18E <sup>1)</sup>   |  |

| Symbol           | Conditions  | Values         | Units            |
|------------------|---|----------------|------------------|
| $I_{TAV}$        | sin. 180; $T_c = 85$ (100) °C                           | 95 (68)        | A                |
| $I_{TSM}$        | $T_{vj} = 25$ °C; 10 ms                                 | 2000           | A                |
|                  | $T_{vj} = 125$ °C; 10 ms                                | 1750           | A                |
| $i^2t$           | $T_{vj} = 25$ °C; 8,3 ... 10 ms                         | 20000          | A <sup>2</sup> s |
|                  | $T_{vj} = 125$ °C; 8,3 ... 10 ms                        | 15000          | A <sup>2</sup> s |
| $V_T$            | $T_{vj} = 25$ °C; $I_T = 300$ A                         | max. 1,65      | V                |
| $V_{T(TO)}$      | $T_{vj} = 125$ °C                                       | 0,9            | V                |
| $r_T$            | $T_{vj} = 125$ °C                                       | 2              | mΩ               |
| $I_{DD}, I_{RD}$ | $T_{vj} = 125$ °C; $V_{RD} = V_{RRM}; V_{DD} = V_{DRM}$ | max. 20        | mA               |
| $t_{gd}$         | $T_{vj} = 25$ °C; $I_G = 1$ A; $di_G/dt = 1$ A/μs       | 1              | μs               |
| $t_{gr}$         | $V_D = 0,67 * V_{DRM}$                                  | 2              | μs               |
| $(di/dt)_{cr}$   | $T_{vj} = 125$ °C                                       | max. 150       | A/μs             |
| $(dv/dt)_{cr}$   | $T_{vj} = 125$ °C                                       | max. 1000      | V/μs             |
| $t_q$            | $T_{vj} = 125$ °C                                       | 100            | μs               |
| $I_H$            | $T_{vj} = 25$ °C; typ. / max.                           | / 250          | mA               |
| $I_L$            | $T_{vj} = 25$ °C; $R_G = 33$ Ω; typ. / max.             | / 600          | mA               |
| $V_{GT}$         | $T_{vj} = 25$ °C; d.c.                                  | min. 3         | V                |
| $I_{GT}$         | $T_{vj} = 25$ °C; d.c.                                  | min. 150       | mA               |
| $V_{GD}$         | $T_{vj} = 125$ °C; d.c.                                 | max. 0,25      | V                |
| $I_{GD}$         | $T_{vj} = 125$ °C; d.c.                                 | max. 6         | mA               |
| $R_{th(j-c)}$    | cont.; per thyristor / per module                       | 0,28 / 0,14    | K/W              |
| $R_{th(j-c)}$    | sin. 180; per thyristor / per module                    | 0,3 / 0,15     | K/W              |
| $R_{th(j-c)}$    | rec. 120; per thyristor / per module                    | 0,32 / 0,16    | K/W              |
| $R_{th(c-s)}$    | per thyristor / per module                              | 0,2 / 0,1      | K/W              |
| $T_{vj}$         |   | - 40 ... + 125 | °C               |
| $T_{stg}$        |   | - 40 ... + 125 | °C               |
| $V_{isol}$       | a. c. 50 Hz; r.m.s.; 1 s / 1 min.                       | 3600 / 3000    | V~               |
| $M_s$            | to heatsink   | 5 ± 15 %       | Nm               |
| $M_t$            | to terminals  | 5 ± 15 %       | Nm               |
| $a$              |   | 5 * 9,81       | m/s <sup>2</sup> |
| $m$              | approx.   | 120            | g                |
| Case             |   | A 7            |                  |



SKNH

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