

| $V_{RSM}$ | $V_{RRM}$<br>$V_{DRM}$ | $I_d$ (P 3/120, $T_{amb} = 45^\circ C$ ) |
|-----------|------------------------|------------------------------------------|
| V         | V                      | 70 A                                     |
| 1300      | 1200                   | SKNH 56/12 E                             |
| 1500      | 1400                   | SKNH 56/14 E                             |
| 1700      | 1600                   | SKNH 56/16 E                             |
| 1900      | 1800                   | SKNH 56/18 E                             |

## SEMIKRON® 1

### Modules with Thyristor and Free-Wheeling Diode

SKNH 56

SKNH 91 <sup>1)</sup>

| Symbol              | Conditions                                                        | SKNH 56                   | Units            |
|---------------------|-------------------------------------------------------------------|---------------------------|------------------|
| $I_{TAV}$           | $T_{case} = 85^\circ C$                                           | 50                        | A                |
| $I_{TRMS}$          |                                                                   | max. 95                   | A                |
| $I_{TSM}$           | $T_{vj} = 25^\circ C$                                             | 1 500                     | A                |
|                     | $T_{vj} = 125^\circ C$                                            | 1 250                     | A                |
| $i^2t$              | $T_{vj} = 25^\circ C$                                             | 11 000                    | A <sup>2</sup> s |
|                     | $T_{vj} = 125^\circ C$                                            | 8 000                     | A <sup>2</sup> s |
| $t_{gd}$            | $T_{vj} = 25^\circ C$ $I_G = 1 A$                                 | 1                         | $\mu s$          |
| $t_{gr}$            | $V_D = 0,67 \cdot V_{DRM}$                                        | 2                         | $\mu s$          |
| $(di/dt)_{cr}$      | $T_{vj} = 125^\circ C$                                            | 100                       | A/ $\mu s$       |
| $(dv/dt)_{cr}$      | $T_{vj} = 125^\circ C$                                            | 1000                      | V/ $\mu s$       |
| $t_q$               | $T_{vj} = 125^\circ C$ ; typ.                                     | 50 ... 150                | $\mu s$          |
| $I_H$               | $T_{vj} = 25^\circ C$ ; max.                                      | 250                       | mA               |
| $I_L$               | $T_{vj} = 25^\circ C$ ; $R_G = 33 \Omega$ ; max.                  | 600                       | mA               |
| $V_T$               | $T_{vj} = 25^\circ C$ ; $I_T = 200 A$                             | 1,65                      | V                |
| $V_{T(TO)}$         | $T_{vj} = 125^\circ C$                                            | 0,9                       | V                |
| $r_T$               | $T_{vj} = 125^\circ C$                                            | 3,5                       | m $\Omega$       |
| $I_{DD}$ ; $I_{RD}$ | $T_{vj} = 125^\circ C$ ; $V_{RD} = V_{RRM}$<br>$V_{DD} = V_{DRM}$ | 15                        | mA               |
| $V_{GT}$            | $T_{vj} = 25^\circ C$ ; d.c.                                      | 3                         | V                |
| $I_{GT}$            | $T_{vj} = 25^\circ C$ ; d.c.                                      | 150                       | mA               |
| $V_{GD}$            | $T_{vj} = 125^\circ C$ ; d.c.                                     | 0,25                      | V                |
| $I_{GD}$            | $T_{vj} = 125^\circ C$ ; d.c.                                     | 6                         | mA               |
| $R_{thjc}$          | sin. 180; per thyristor/per diode                                 | 0,64                      | $^\circ C/W$     |
| $R_{thch}$          | sin. 180; per module                                              | 0,32                      | $^\circ C/W$     |
| $T_{vj}$            | per thyristor/per module                                          | 0,2 / 0,1                 | $^\circ C/W$     |
| $T_{stg}$           |                                                                   | - 40 ... + 125            | $^\circ C$       |
| $V_{isol}$          |                                                                   | - 40 ... + 125            | $^\circ C$       |
| $M_1$               | a. c. 50 Hz; r.m.s.; 1 s/1 min                                    | 3600 / 3000               | V~               |
| $M_2$               | to heatsink                                                       | 5 (44 lb. in.) $\pm$ 15 % | Nm               |
| $a$                 | to terminals                                                      | 5 (44 lb. in.) $\pm$ 15 % | Nm               |
| $w$                 | approx.                                                           | 5 · 9,81                  | m/s <sup>2</sup> |
|                     |                                                                   | 120                       | g                |
| Case                | → page B 1 – 95                                                   | A 7                       |                  |

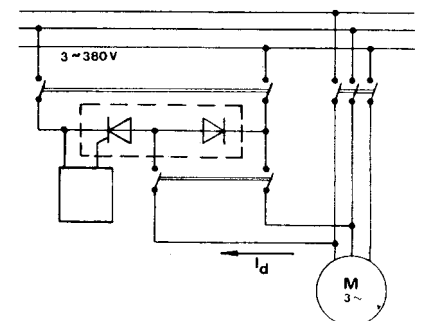


### Features

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

### Typical Applications

- Special modules for DC braking of AC induction motors



<sup>1)</sup> SKNH 91 available on request, electrical data see page B 1 – 51

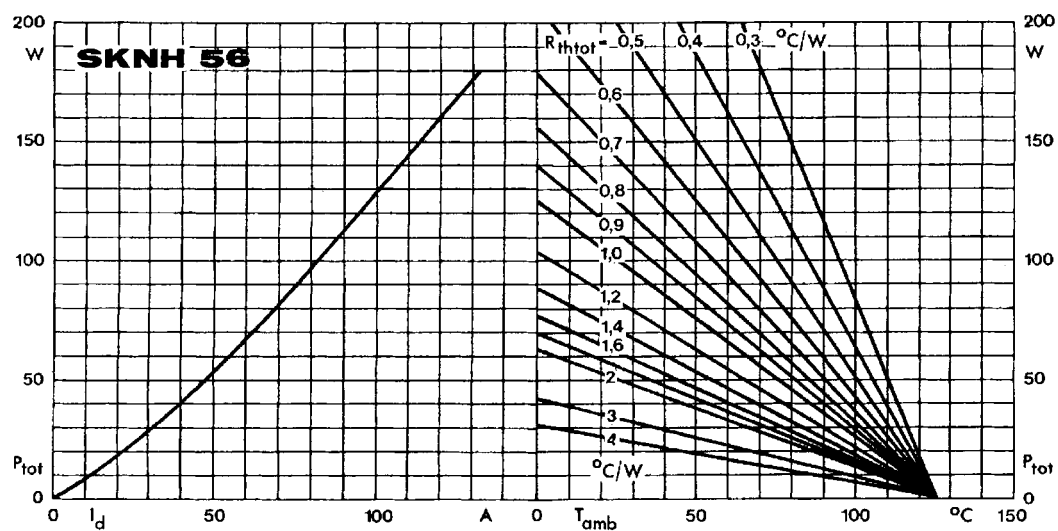


Fig. 17 Power dissipation vs. braking current and ambient temperature

Further diagrams see with type SKKT 56

## SKKT 19 ... 105

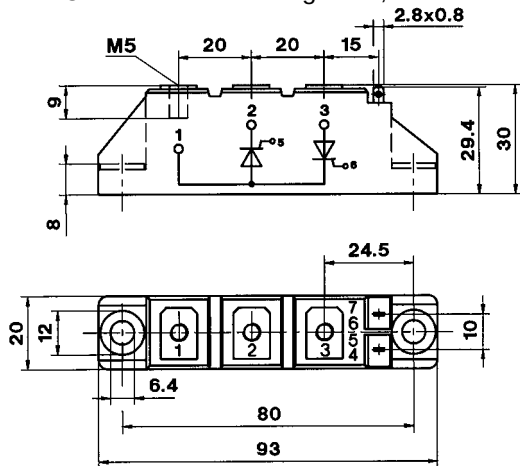
Case A 5

IEC 192-2: A 77 A

JEDEC: TO-240 AA

SEMIPACK® 1

UL recognized, file no. E 63 532



Dimensions in mm

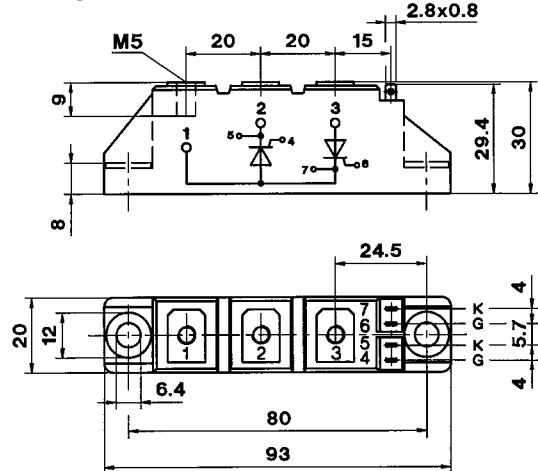
## SKKT 20/ ... 106/

Case A 46

IEC 192-2: A 77 A

JEDEC: TO-240 AA

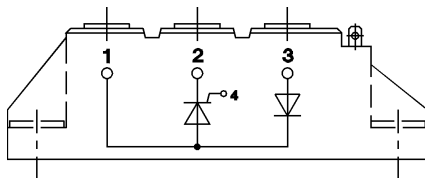
SEMIPACK® 1



Dimensions in mm

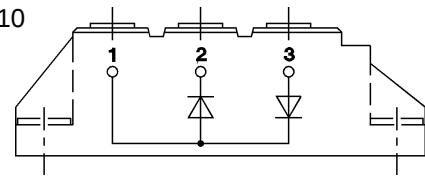
## SKKH 26 ... 105

Case A 6



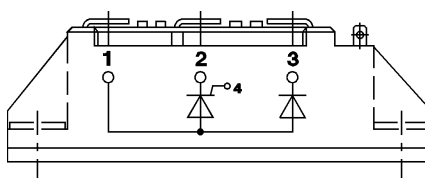
## SKKD 26 ... 100

Case A 10



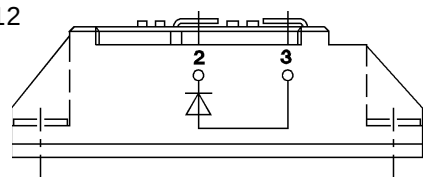
## SKNH 56 ... 91

Case A 7



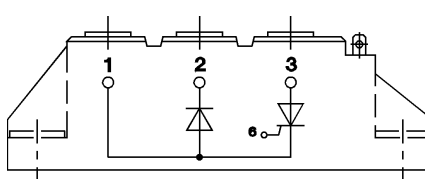
## SKKE 81

Case A 12



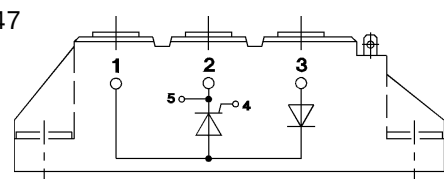
## SKKL 56 ... 105

Case A 9



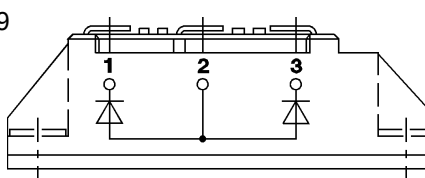
## SKKH 27 ... 106

Case A 47



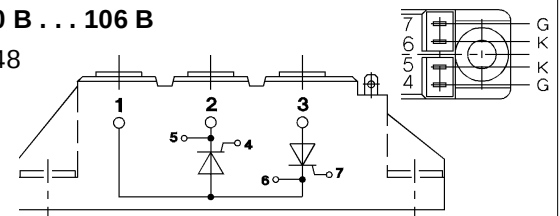
## SKND 46 ... 81

Case A 19



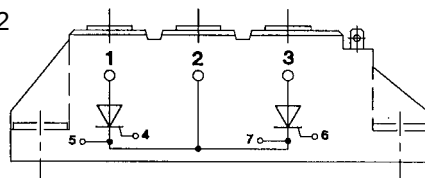
## SKKT 20 B ... 106 B

Case A 48



## SKMT 92

Case A 72



## SKKL 42 ... 106

Case A 59

