

# SKMT 92, SKKL 92



SEMIPACK® 1

## Thyristor / Diode Modules

SKKL 92

SKMT 92

### Features

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

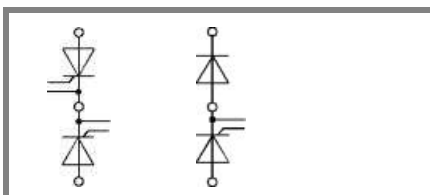
### Typical Applications\*

- Line rectifiers for transistorized AC motor controllers (SKKL)
- DC braking of AC motor (SKMT)

1) See the assembly instructions

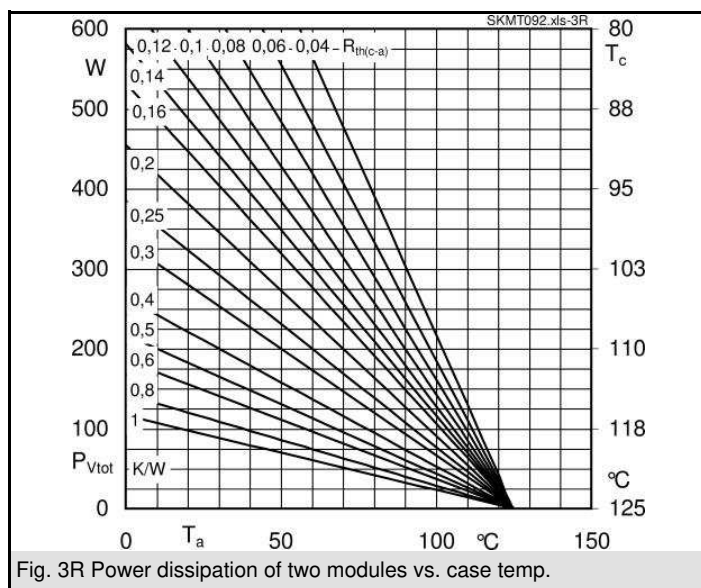
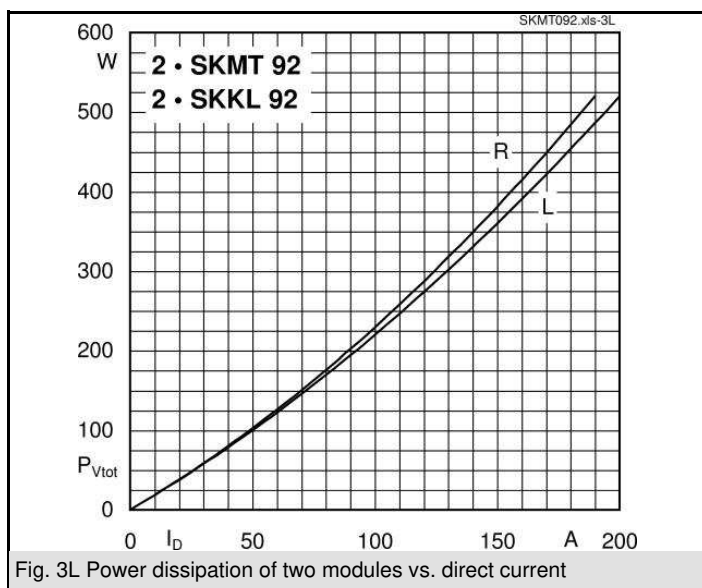
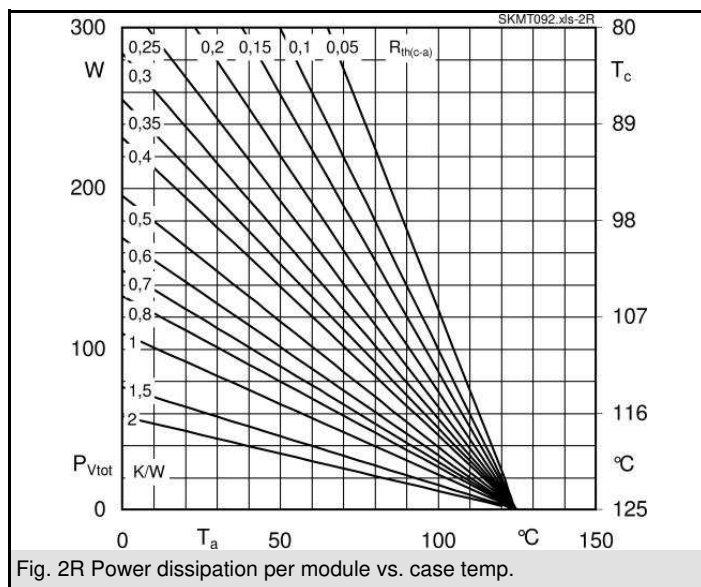
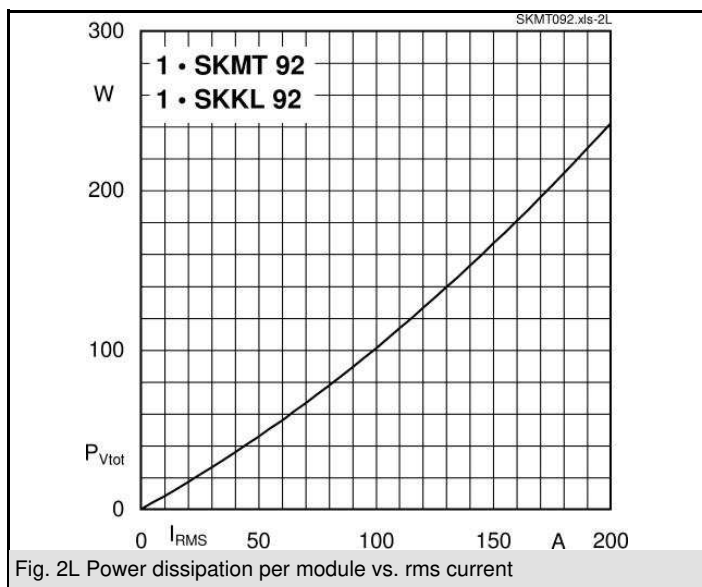
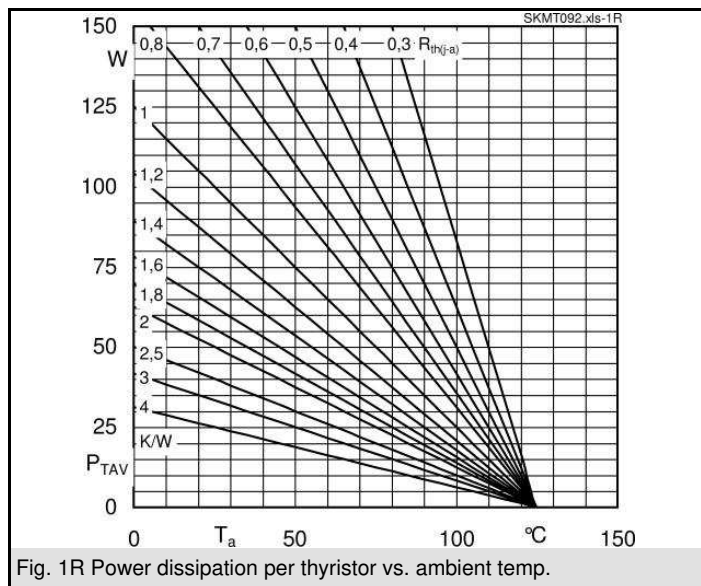
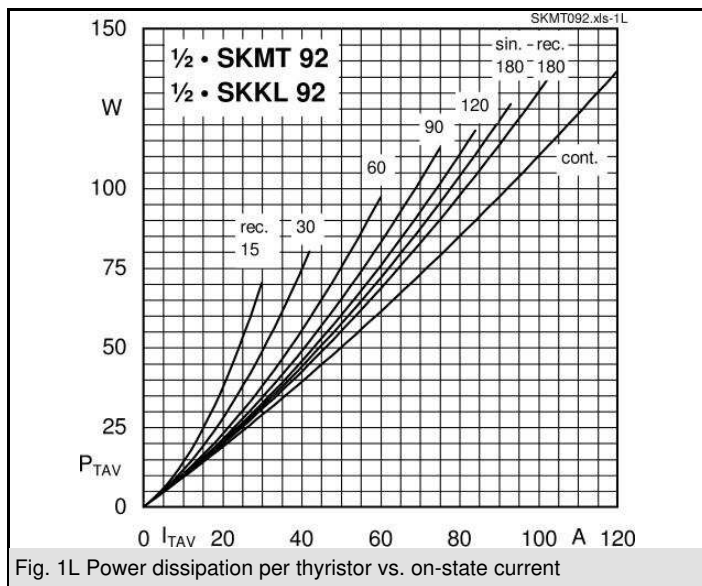
| $V_{RSM}$<br>V | $V_{RRM}, V_{DRM}$<br>V | $I_{TRMS} = 150$ A (maximum value for continuous operation)<br>$I_{TAV} = 95$ A (sin. 180; $T_c = 85$ °C) |             |  |
|----------------|-------------------------|-----------------------------------------------------------------------------------------------------------|-------------|--|
| 900            | 800                     | SKMT 92/08E                                                                                               |             |  |
| 1300           | 1200                    |                                                                                                           | SKKL 92/12E |  |
| 1500           | 1400                    | SKMT 92/14E                                                                                               |             |  |
| 1700           | 1600                    | SKMT 92/16E                                                                                               | SKKL 92/16E |  |
| 1900           | 1800                    | SKMT 92/18E                                                                                               |             |  |

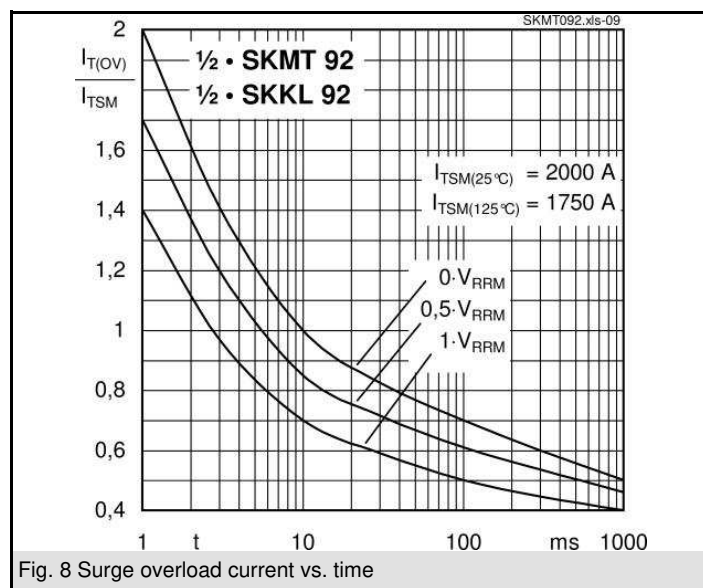
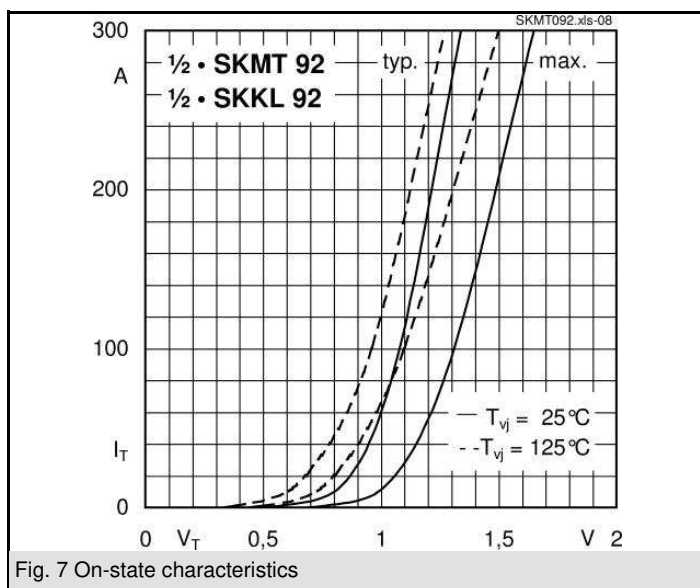
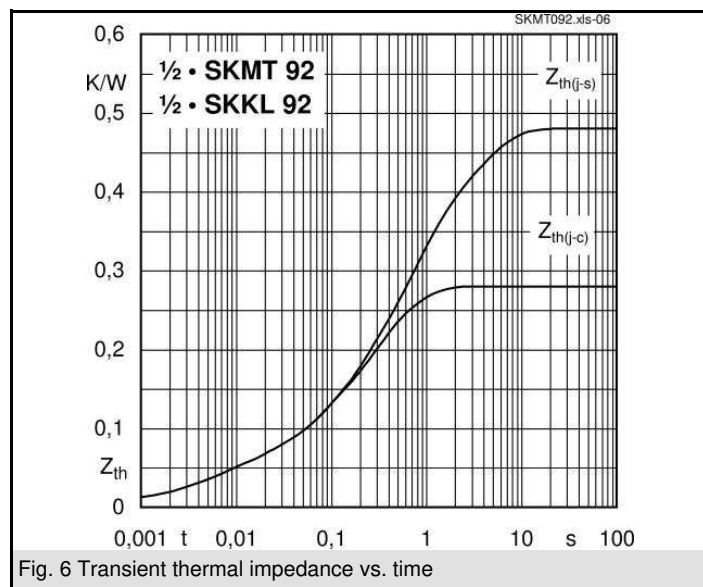
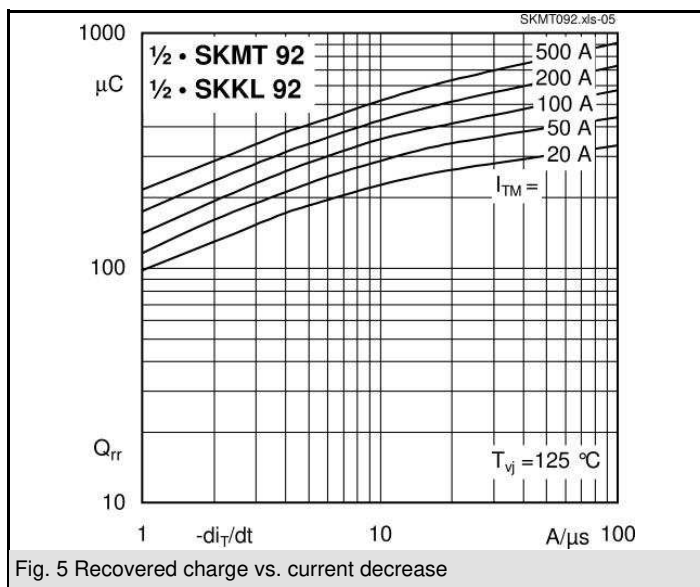
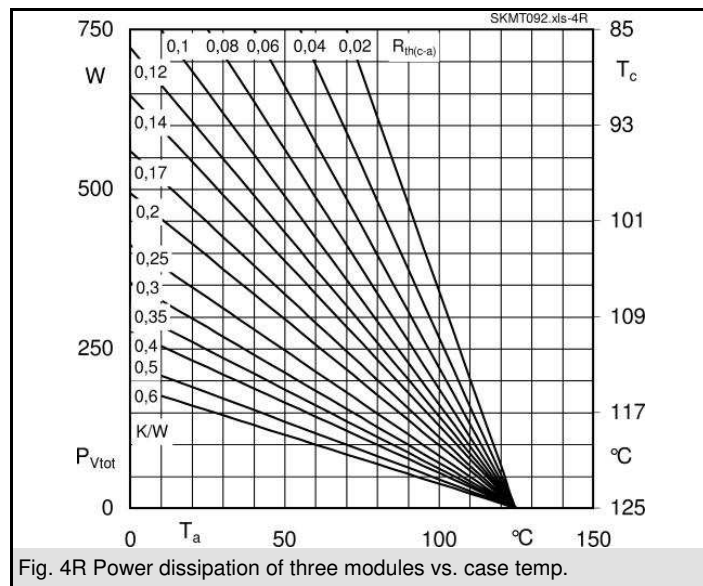
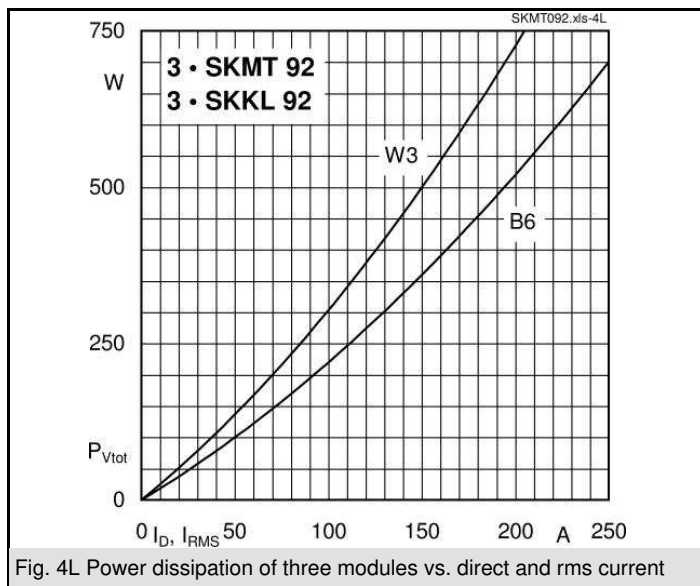
| Symbol           | Conditions                                              | Values                 | Units |
|------------------|---------------------------------------------------------|------------------------|-------|
| $I_{TAV}$        | sin. 180; $T_c = 85$ (100) °C;                          | 95 (68)                | A     |
| $I_D$            | P3/180; $T_a = 45$ °C; B2 / B6                          | 70 / 85                | A     |
|                  | P3/180F; $T_a = 35$ °C; B2 / B6                         | 140 / 175              | A     |
| $I_{RMS}$        | P3/180F; $T_a = 35$ °C; W1 / W3                         | 190 / 3 * 135          | 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                  | A²s   |
|                  | $T_{vj} = 125$ °C; 8,3 ... 10 ms                        | 15000                  | A²s   |
| $V_T$            | $T_{vj} = 25$ °C; $I_T = 300$ A                         | max. 1,65              | V     |
| $V_{T(TO)}$      | $T_{vj} = 125$ °C                                       | max. 0,9               | V     |
| $r_T$            | $T_{vj} = 125$ °C                                       | max. 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.                           | 150 / 250              | mA    |
| $I_L$            | $T_{vj} = 25$ °C; $R_G = 33$ Ω; typ. / max.             | 300 / 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 % <sup>1)</sup> | Nm    |
| $M_t$            | to terminals                                            | 3 ± 15 %               | Nm    |
| $a$              |                                                         | 5 * 9,81               | m/s²  |
| $m$              | approx.                                                 | 95                     | g     |
| Case             | SKMT                                                    | A 72                   |       |
|                  | SKKL                                                    | A 59                   |       |

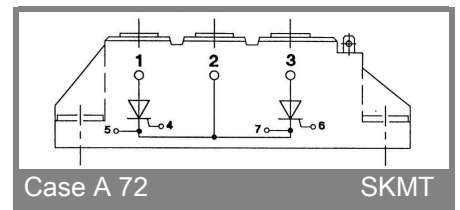
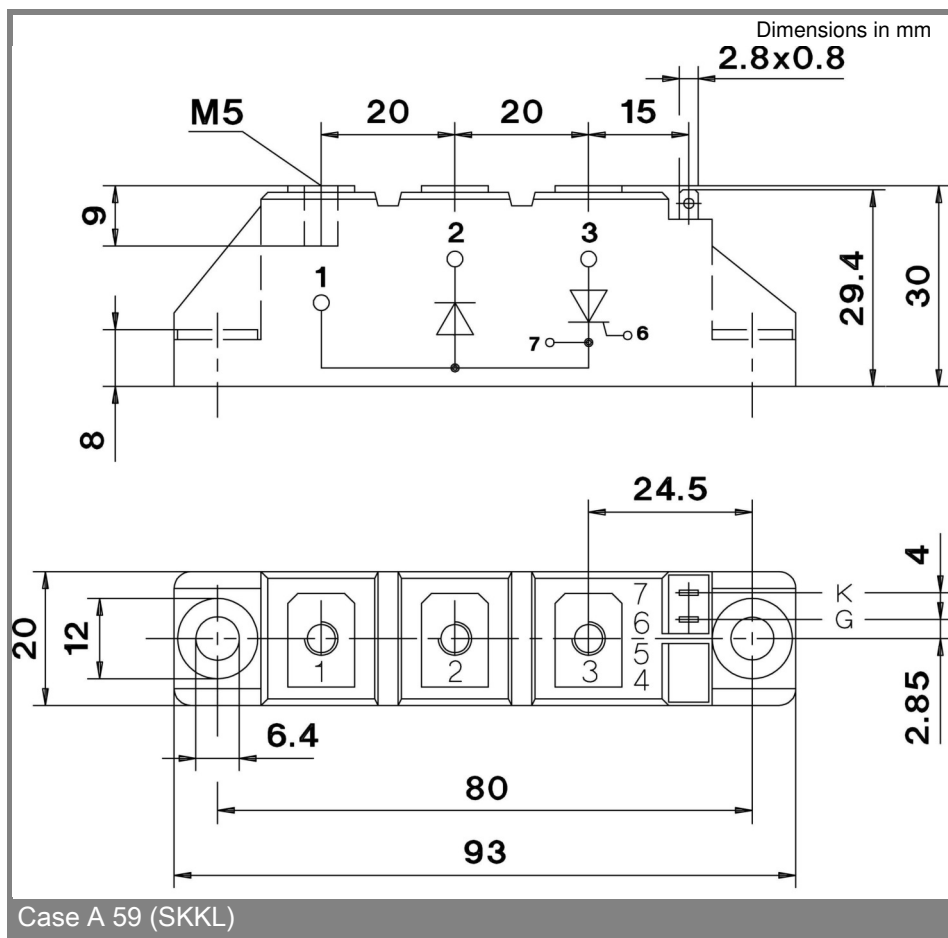
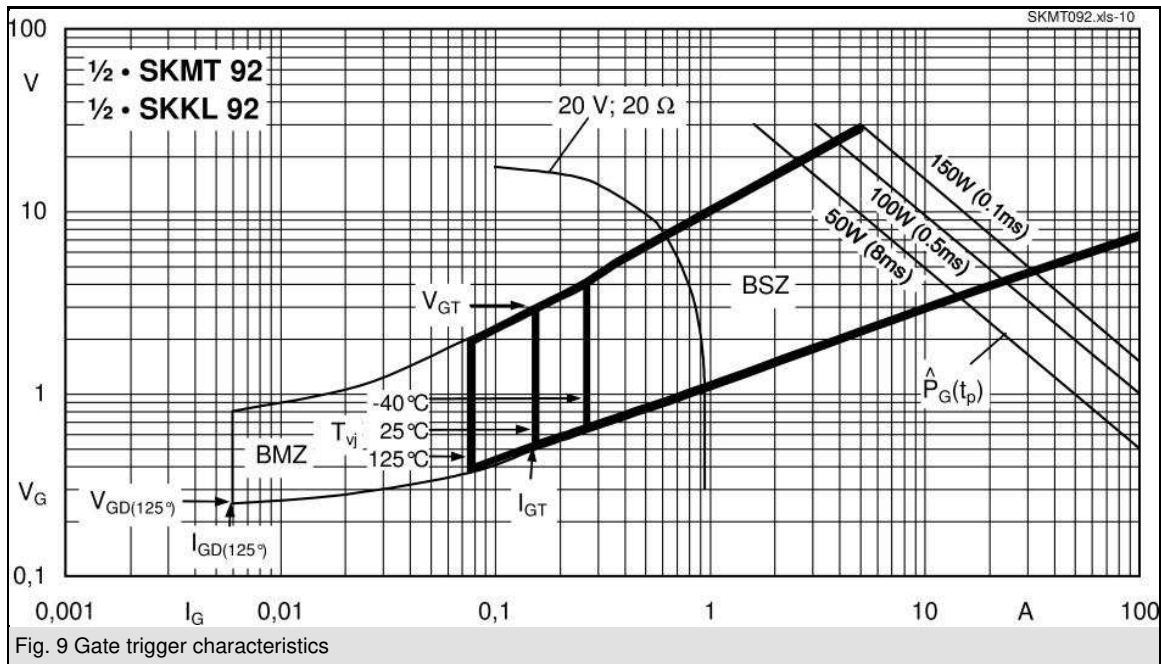


SKMT

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\* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.