

# SKMT 92, SKKL 92



## SEMIPACK<sup>®</sup> 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

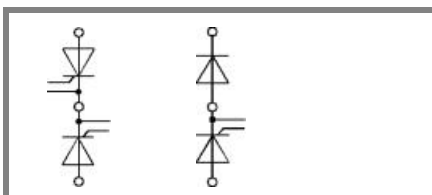
#### Typical Applications\*

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

1) See the assembly instructions

$V_{RSM}$ V	$V_{RRM}, V_{DRM}$ V	$I_{TRMS} = 150$ A (maximum value for continuous operation) $I_{TAV} = 95$ 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	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	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/s <sup>2</sup>
$m$	approx.	95	g
Case	SKMT	A 72	
	SKKL	A 59	



SKMT

SKKL

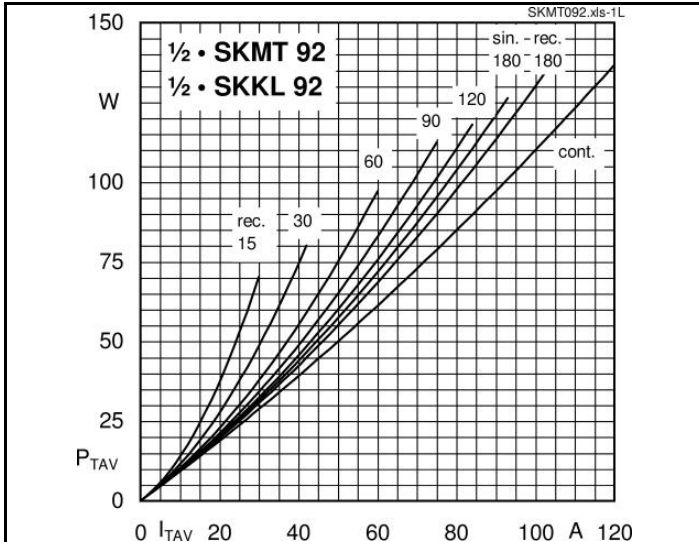


Fig. 1L Power dissipation per thyristor vs. on-state current

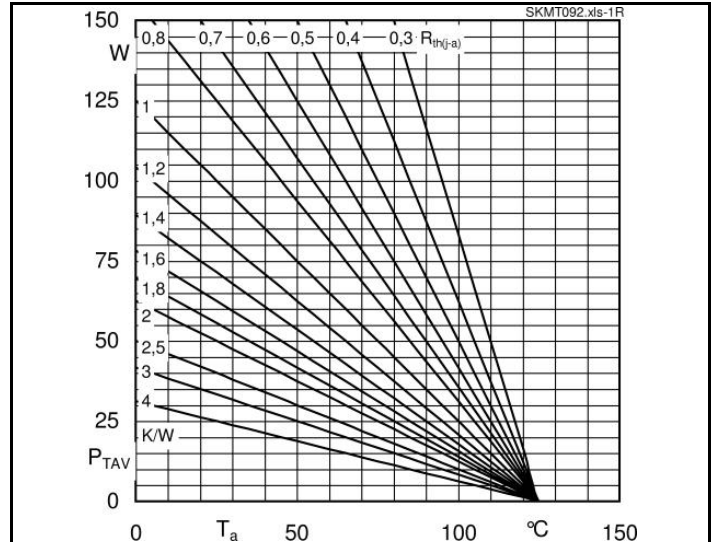


Fig. 1R Power dissipation per thyristor vs. ambient temp.

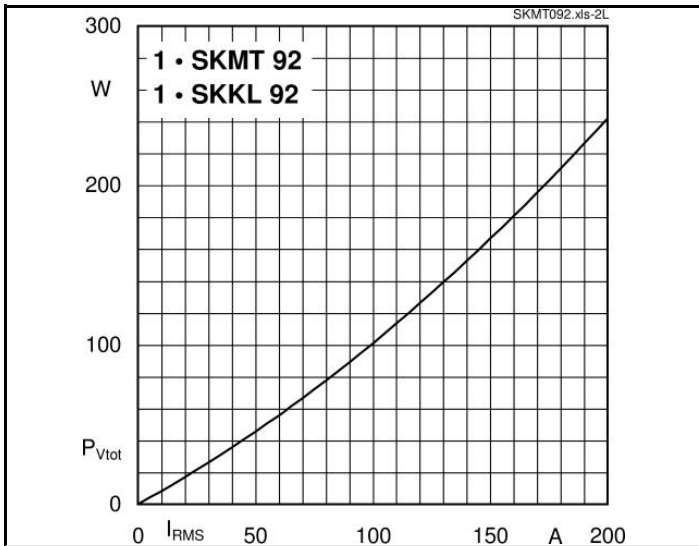


Fig. 2L Power dissipation per module vs. rms current

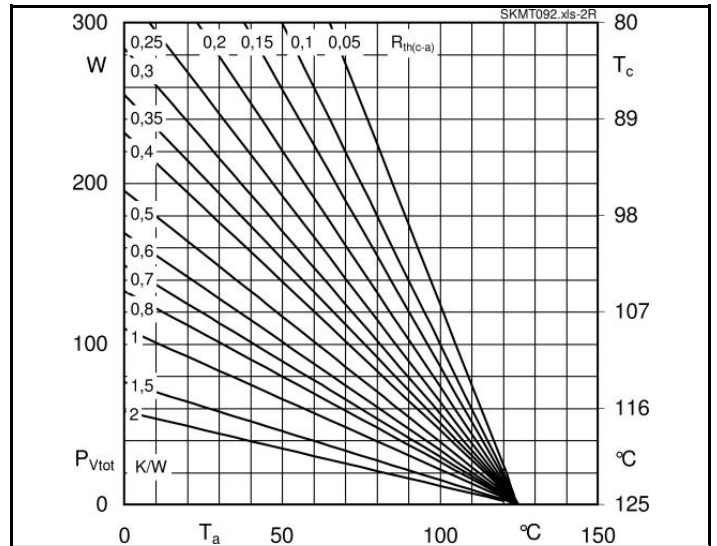


Fig. 2R Power dissipation per module vs. case temp.

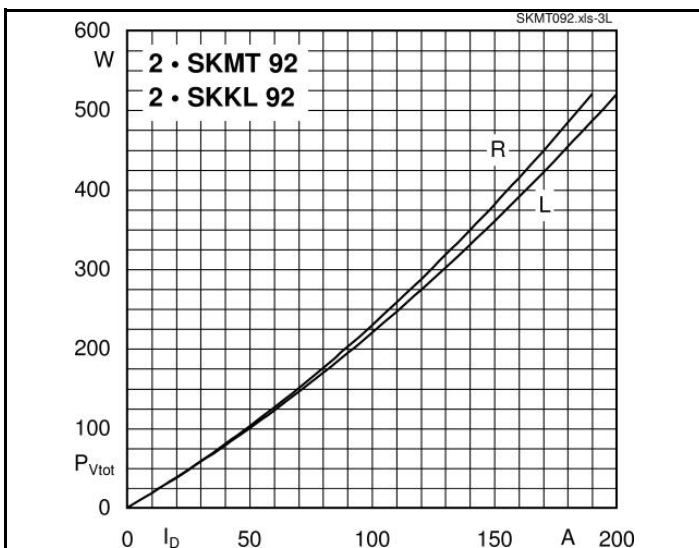


Fig. 3L Power dissipation of two modules vs. direct current

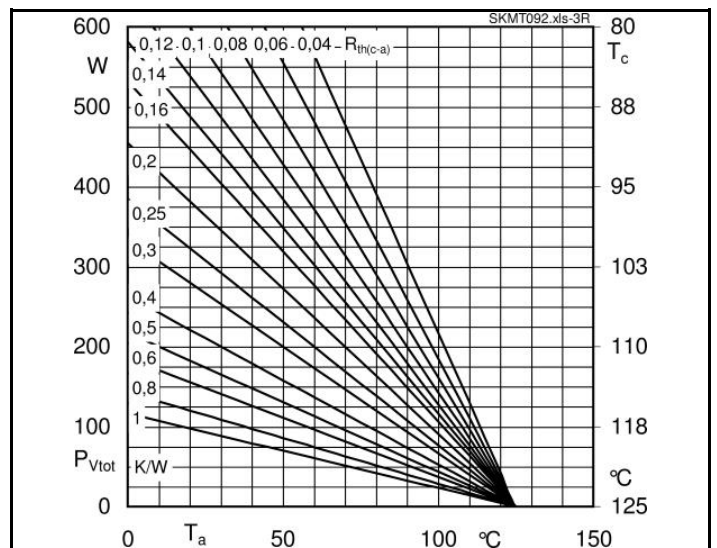
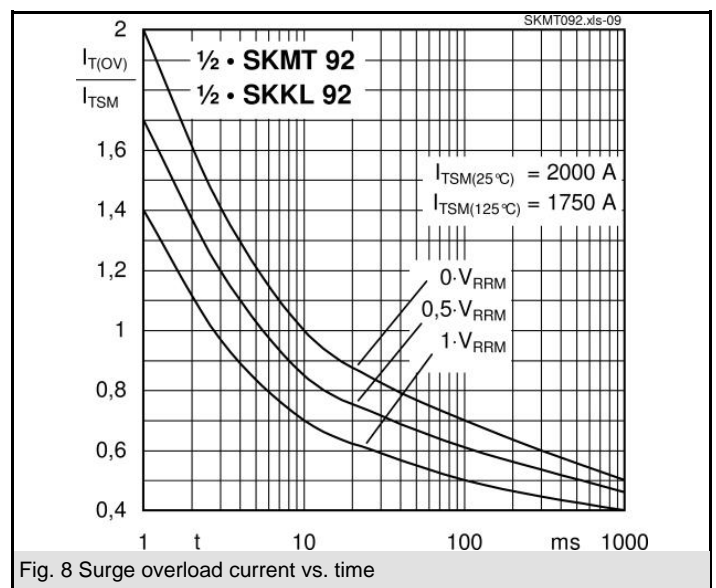
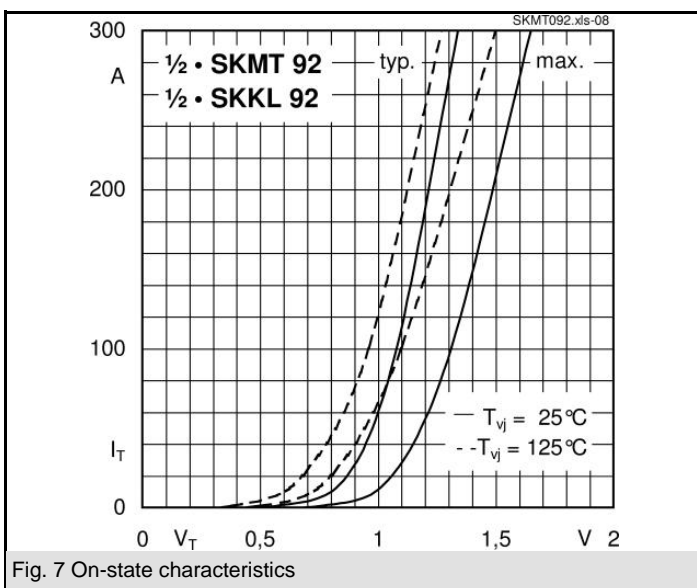
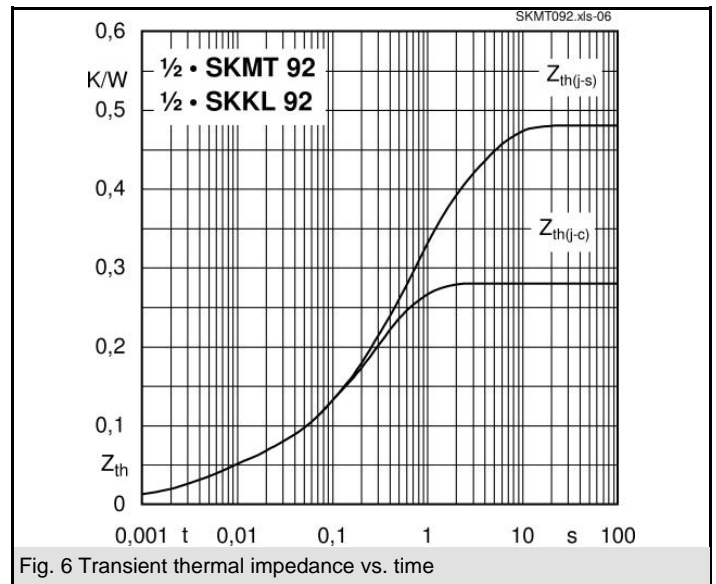
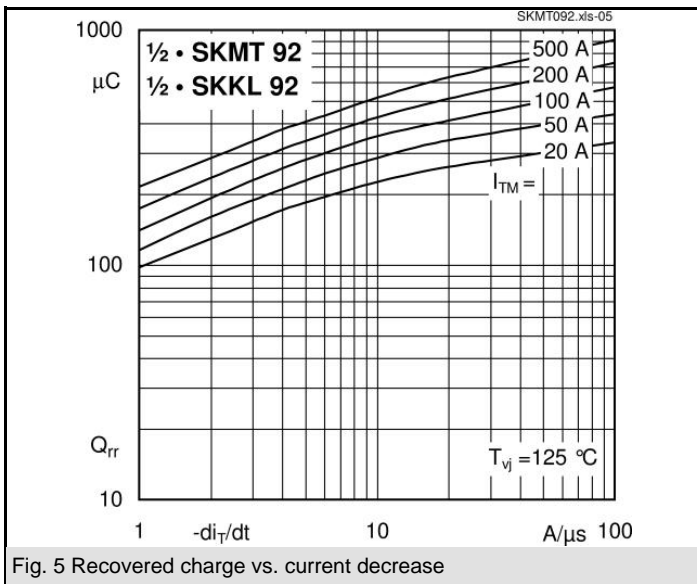
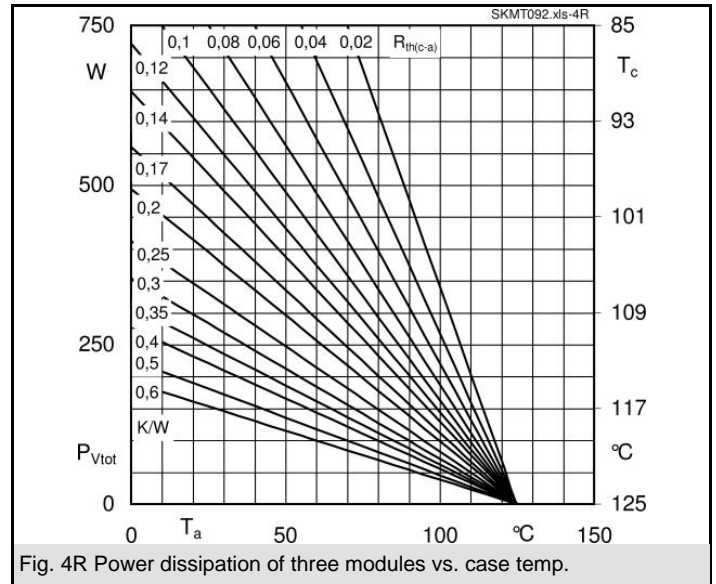
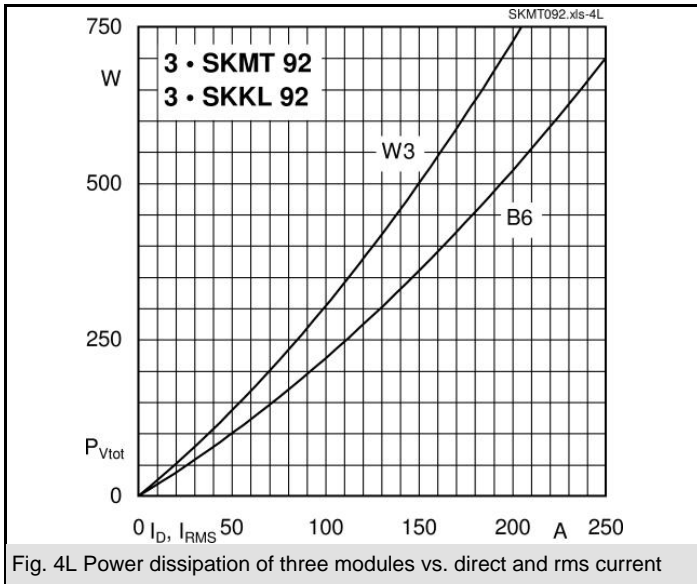
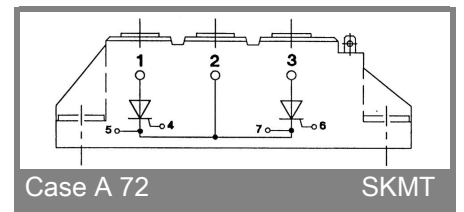
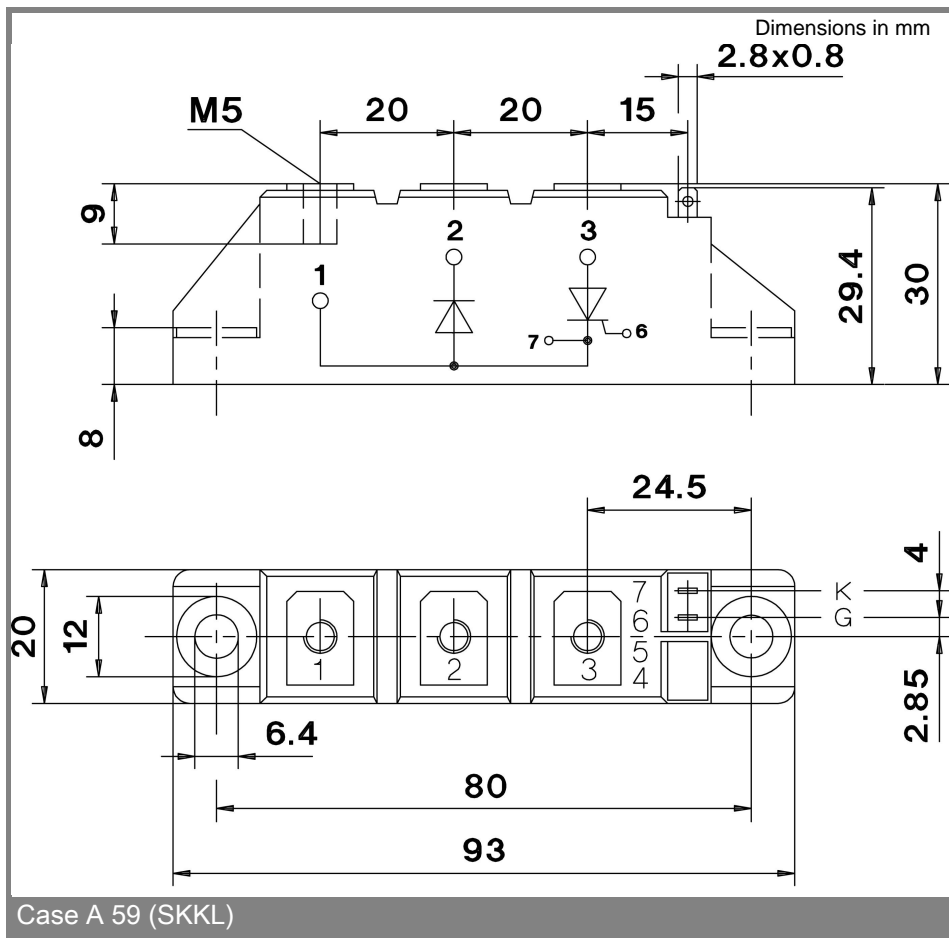
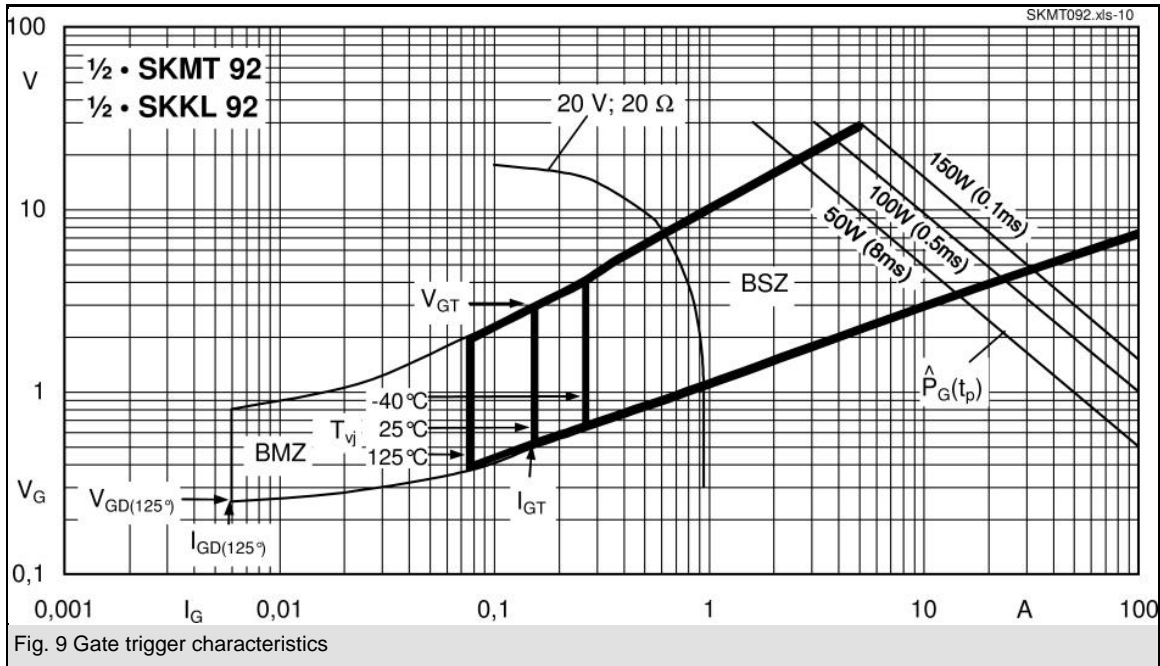


Fig. 3R Power dissipation of two modules vs. case temp.





\* 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.