

# SKKT 330, SKKH 330



**SEMIPACK<sup>®</sup> 3**

## Thyristor / Diode Modules

**SKKH 330**

**SKKT 330**

### Features

- Heat transfer through aluminium nitride ceramic isolated metal baseplate
- Precious metal pressure contacts for high reliability
- Thyristor with amplifying gate
- UL recognized, file no. E 63 532

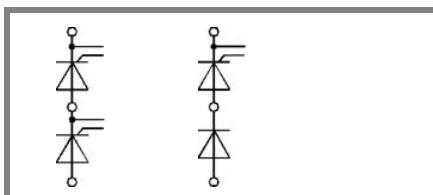
### Typical Applications

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

- 1) See the assembly instructions
- 2) The screws must be lubricated

$V_{RSM}$ V	$V_{RRM}, V_{DRM}$ V	$I_{TRMS} = 510$ A (maximum value for continuous operation) $I_{TAV} = 330$ A (sin. 180; $T_c = 80$ °C)	
900	800	SKKT 330/08E	SKKH 330/08E
1300	1200	SKKT 330/12E	SKKH 330/12E
1500	1400	SKKT 330/14E	SKKH 330/14E
1700	1600	SKKT 330/16E	SKKH 330/16E
1900	1800	SKKT 330/18E	SKKH 330/18E

Symbol	Conditions	Values	Units
$I_{TAV}$	sin. 180; $T_c = 85$ (100) °C	305 (225)	A
$I_D$	P16/200F; $T_a = 35$ °C; B2 / B6	520 / 650	A
$I_{RMS}$	P16/200F; $T_a = 35$ °C; W1 / W3	585 / 3 * 485	A
$I_{TSM}$	$T_{vj} = 25$ °C; 10 ms	9500	A
	$T_{vj} = 130$ °C; 10 ms	8000	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms	451000	A <sup>2</sup> s
	$T_{vj} = 130$ °C; 8,3 ... 10 ms	320000	A <sup>2</sup> s
$V_T$	$T_{vj} = 25$ °C; $I_T = 750$ A	max. 1,4	V
$V_{T(TO)}$	$T_{vj} = 130$ °C	0,8	V
$r_T$	$T_{vj} = 130$ °C	0,6	mΩ
$I_{DD}, I_{RD}$	$T_{vj} = 130$ °C; $V_{RD} = V_{RRM}, V_{DD} = V_{DRM}$	max. 50	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
$(di/dt)_{cr}$	$T_{vj} = 130$ °C	max. 250	A/μs
$(dv/dt)_{cr}$	$T_{vj} = 130$ °C	max. 1000	V/μs
$t_q$	$T_{vj} = 130$ °C	50 ... 150	μs
$I_H$	$T_{vj} = 25$ °C; typ. / max.	150 / 500	mA
$I_L$	$T_{vj} = 25$ °C $R_G = 33$ Ω; typ. / max.	300 / 2000	mA
$V_{GT}$	$T_{vj} = 25$ °C; d.c.	min. 3	V
$I_{GT}$	$T_{vj} = 25$ °C; d.c.	min. 200	mA
$V_{GD}$	$T_{vj} = 130$ °C; d.c.	max. 0,25	V
$I_{GD}$	$T_{vj} = 130$ °C; d.c.	max. 10	mA
$R_{th(j-c)}$	cont.; per thyristor / per module	0,11 / 0,055	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,116 / 0,058	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	0,13 / 0,065	K/W
$R_{th(c-s)}$	per thyristor / per module	0,04 / 0,02	K/W
$T_{vj}$		- 40 ... + 130	°C
$T_{stg}$		- 40 ... + 130	°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	9 ± 15 % <sup>2)</sup>	Nm
$a$		5 * 9,81	m/s <sup>2</sup>
$m$	approx.	750	g
Case	SKKT SKKH	A 73a A 76a	



**SKKT**

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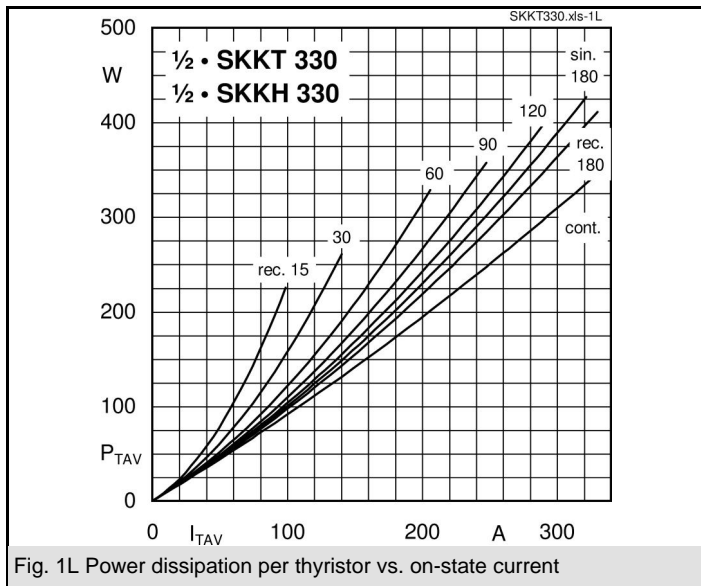


Fig. 1L Power dissipation per thyristor vs. on-state current

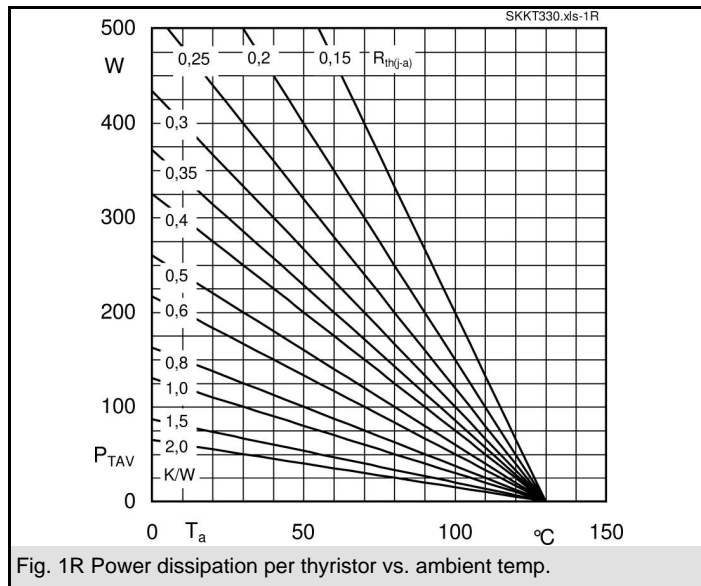


Fig. 1R Power dissipation per thyristor vs. ambient temp.

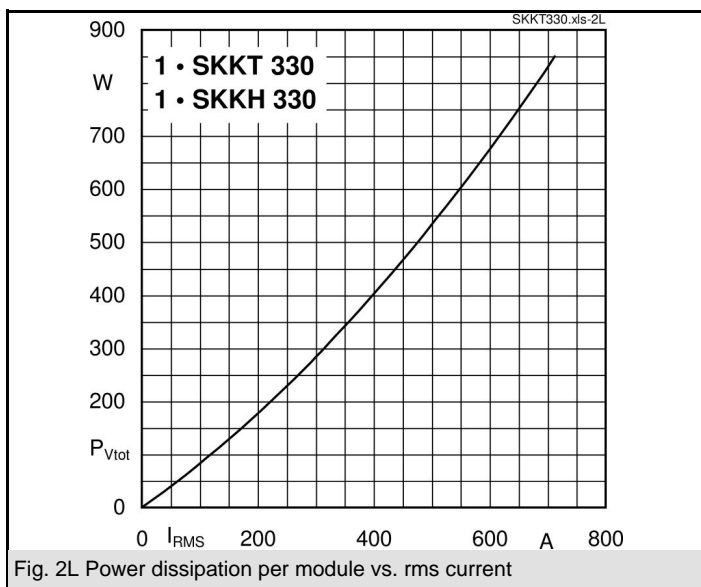


Fig. 2L Power dissipation per module vs. rms current

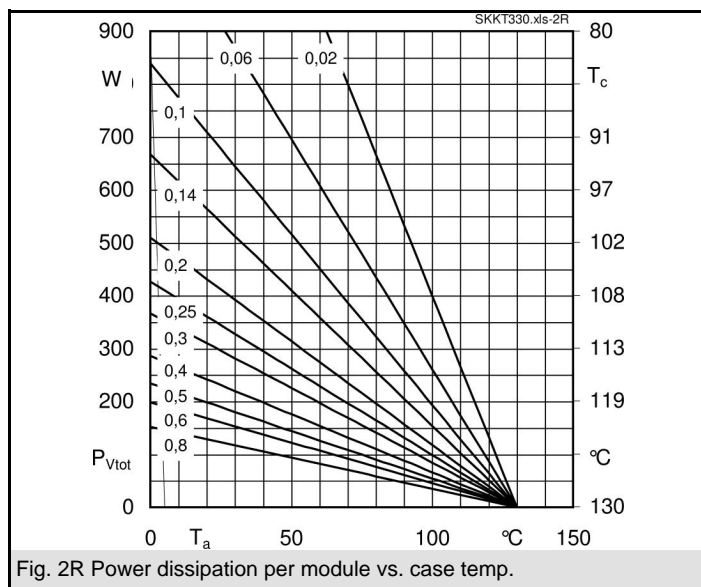


Fig. 2R Power dissipation per module vs. case temp.

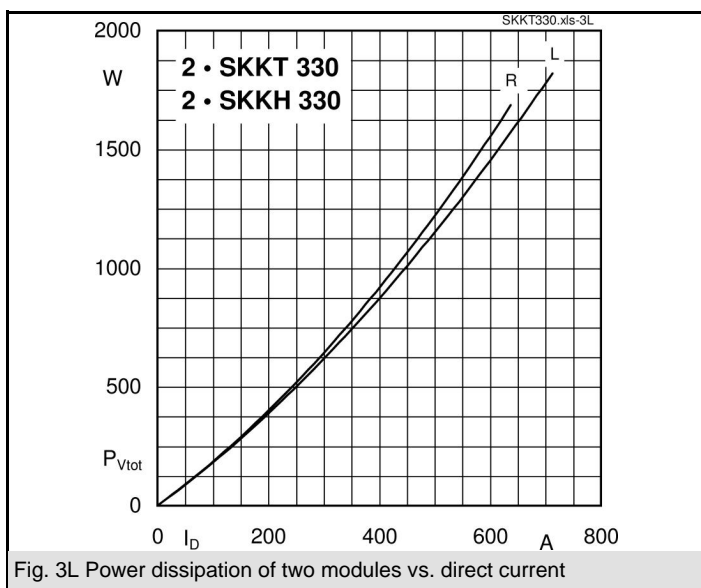


Fig. 3L Power dissipation of two modules vs. direct current

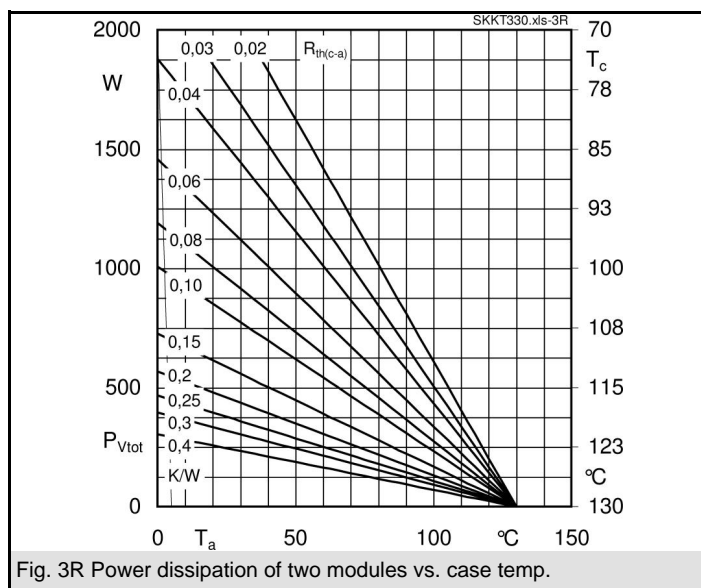
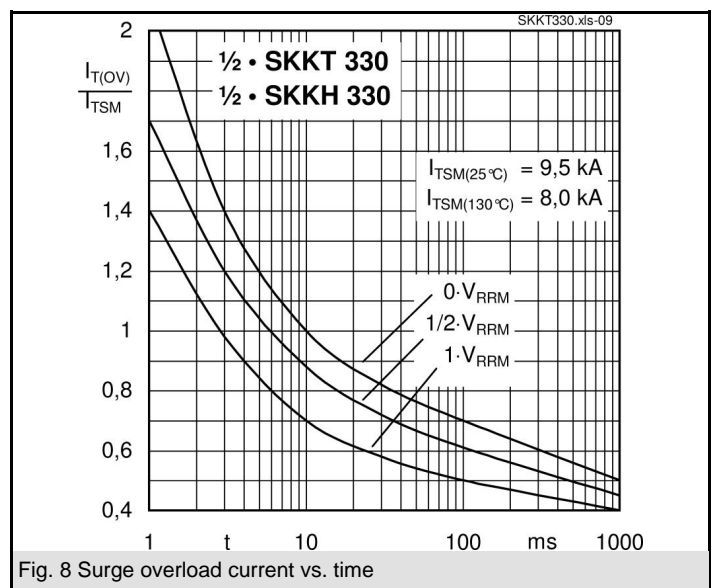
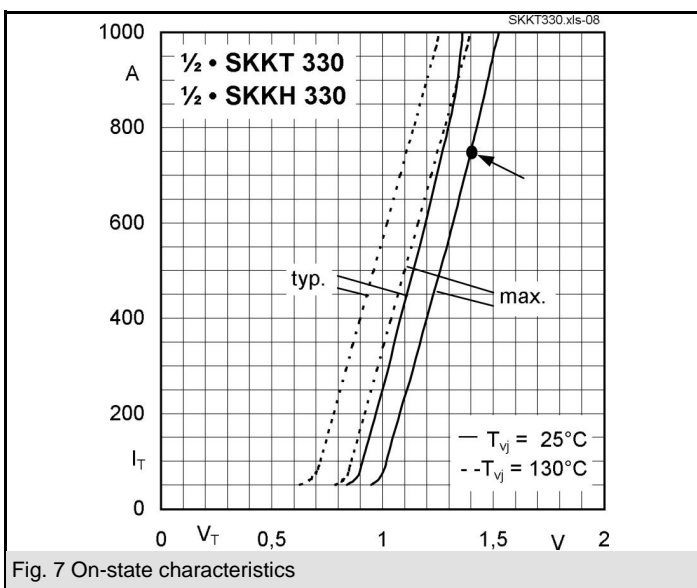
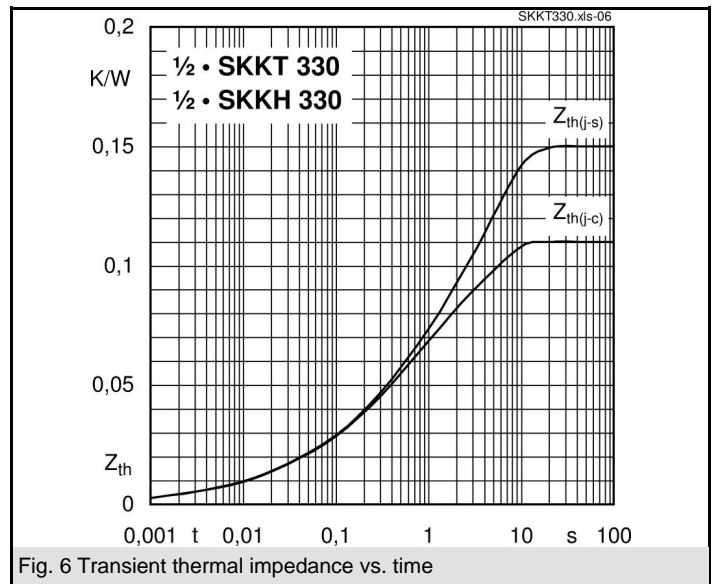
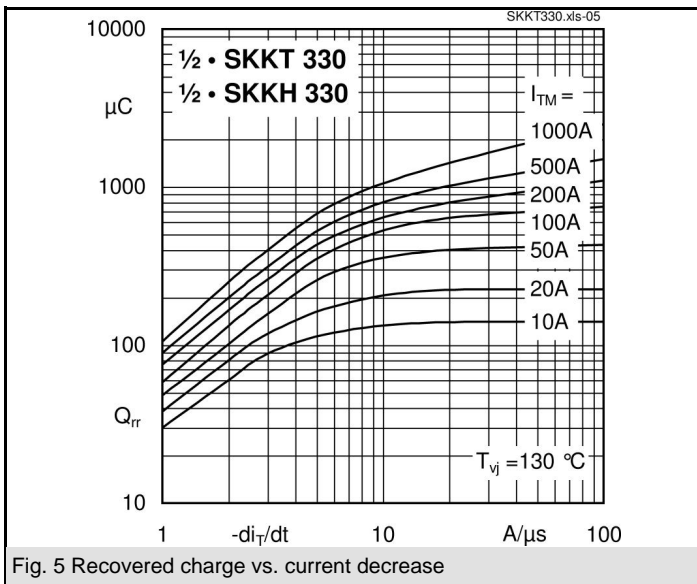
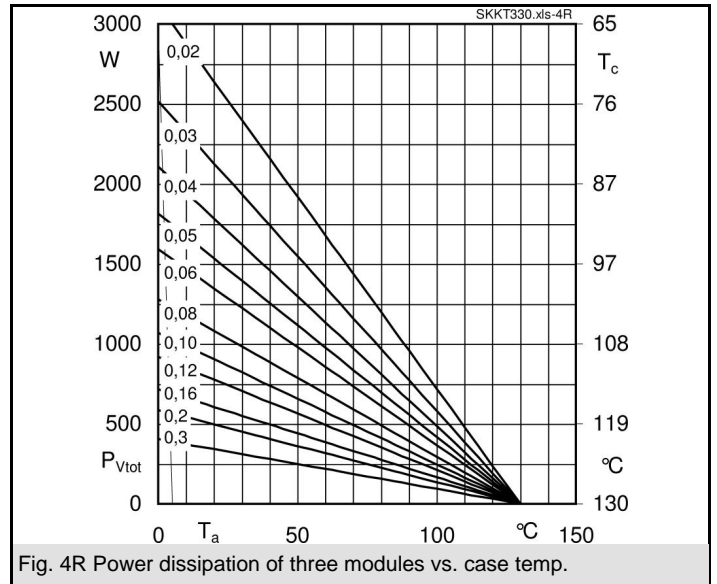
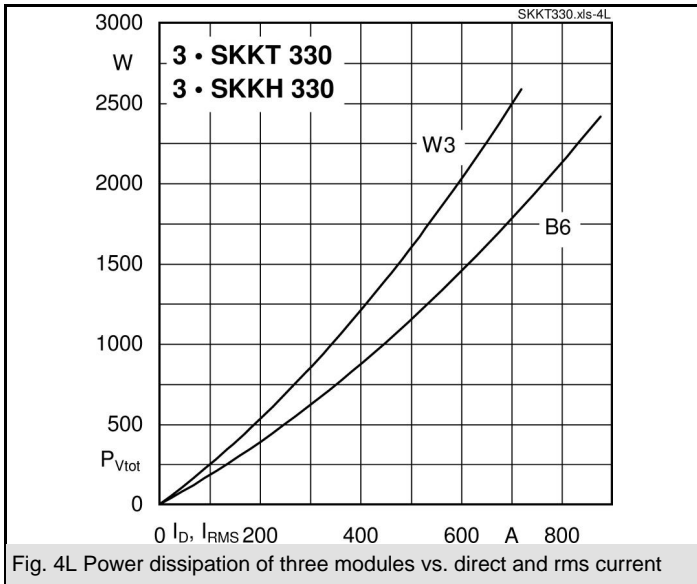
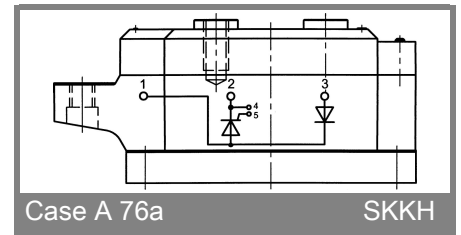
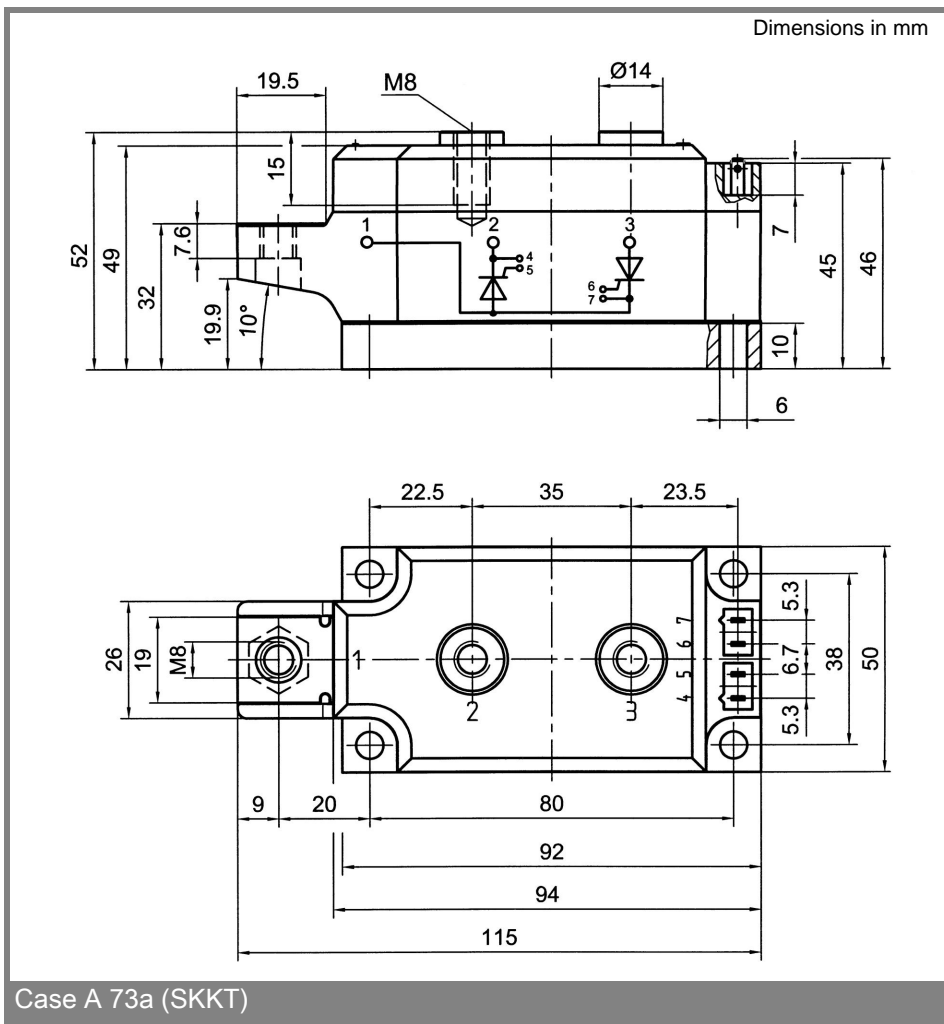
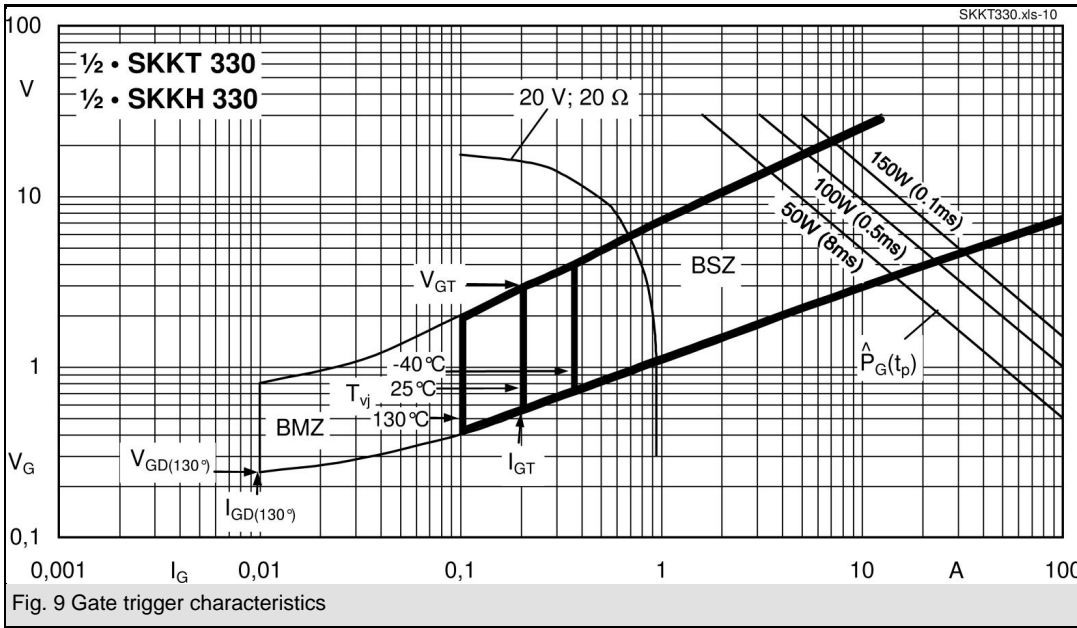


Fig. 3R Power dissipation of two modules vs. case temp.

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