

# SKKT 41, SKKH 41



## SEMIPACK<sup>®</sup> 1

### Thyristor / Diode Modules

SKKT 41

SKKH 41

#### Features

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

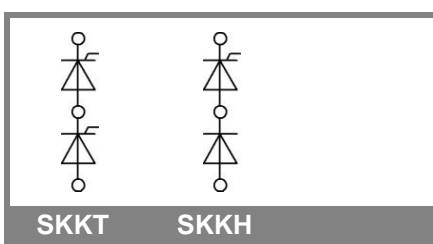
#### Typical Applications

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

1) See the assembly instructions

$V_{RSM}$ V	$V_{RRM}, V_{DRM}$ V	$I_{TRMS} = 75$ A (maximum value for continuous operation)	
		$I_{TAV} = 40$ A (sin. 180; $T_c = 85$ °C)	
500	400		SKKH 41/04D
700	600	SKKT 41/06E	SKKH 41/06D
900	800	SKKT 41/08E	SKKH 41/08D
1300	1200	SKKT 41/12E	SKKH 41/12E
1500	1400	SKKT 41/14E	SKKH 41/14E
1700	1600	SKKT 41/16E	SKKH 41/16E
1900	1800	SKKT 41/18E	SKKH 41/18E

Symbol	Conditions	Values	Units
$I_{TAV}$	sin. 180; $T_c = 85$ (100) °C;	40 (28)	A
$I_D$	P3/180; $T_a = 45$ °C; B2 / B6	50 / 60	A
	P3/180F; $T_a = 35$ °C; B2 / B6	85 / 110	A
$I_{RMS}$	P3/180; $T_a = 45$ °C; W1 / W3	110 / 3 * 85	A
$I_{TSM}$	$T_{vj} = 25$ °C; 10 ms	1000	A
	$T_{vj} = 125$ °C; 10 ms	850	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms	5000	A <sup>2</sup> s
	$T_{vj} = 125$ °C; 8,3 ... 10 ms	3600	A <sup>2</sup> s
$V_T$	$T_{vj} = 25$ °C; $I_T = 200$ A	max. 1,95	V
$V_{T(TO)}$	$T_{vj} = 125$ °C	max. 1	V
$r_T$	$T_{vj} = 125$ °C	max. 4,5	mΩ
$I_{DD}, I_{RD}$	$T_{vj} = 125$ °C; $V_{RD} = V_{RRM}, V_{DD} = V_{DRM}$	max. 15	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; SKK ...D / SKK ...E	max. 500 / 1000	V/μs
$t_q$	$T_{vj} = 125$ °C,	80	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	0,65 / 0,33	K/W
$R_{th(j-c)}$	sin. 180; per thyristor / per module	0,69 / 0,35	K/W
$R_{th(j-c)}$	rec. 120; per thyristor / per module	0,73 / 0,37	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	$5 \pm 15$ % <sup>1)</sup>	Nm
$M_t$	to terminals	$3 \pm 15$ %	Nm
$a$		$5 * 9,81$	m/s <sup>2</sup>
$m$	approx.	95	g
Case	SKKT	A 5	
	SKKH	A 6	



SKKT

SKKH

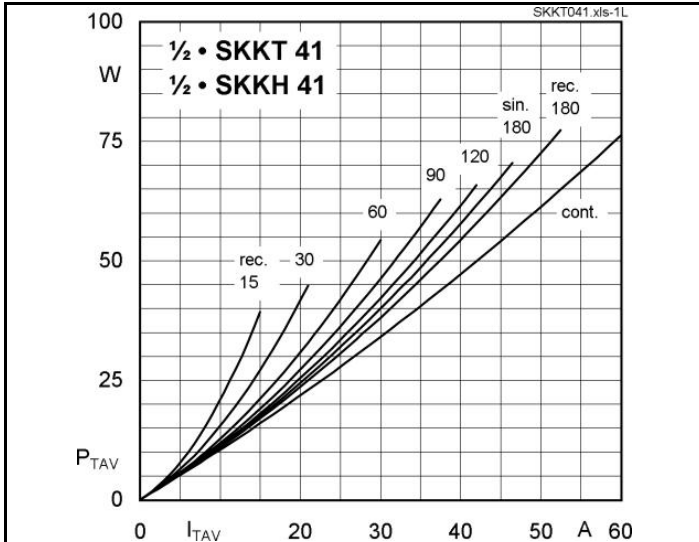


Fig. 1L Power dissipation per thyristor vs. on-state current

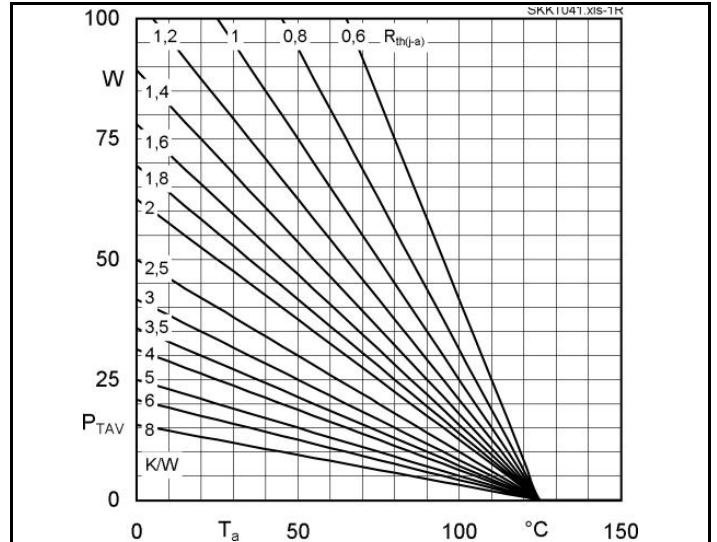


Fig. 1R Power dissipation per thyristor vs. ambient temp.

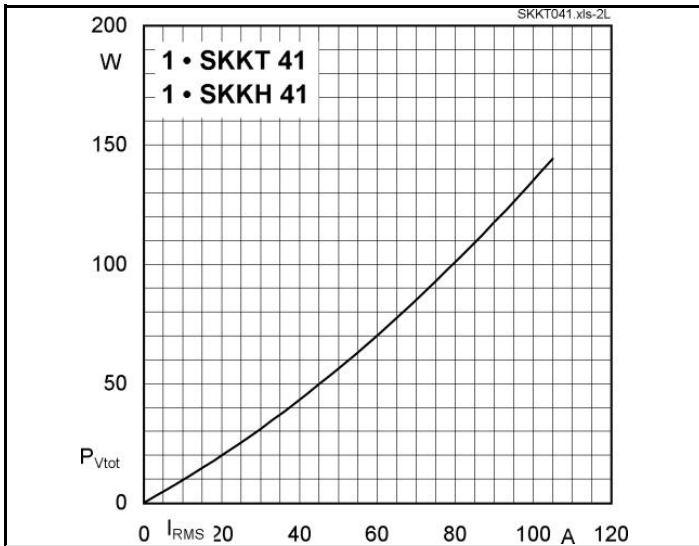


Fig. 2L Power dissipation per module vs. rms current

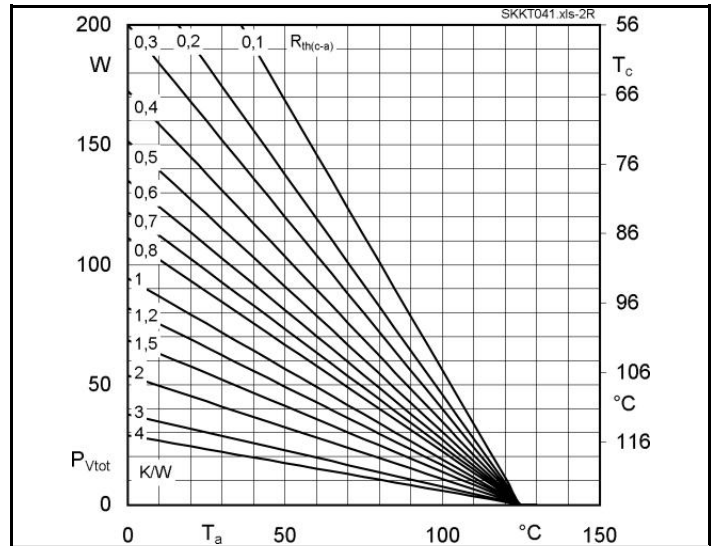


Fig. 2R Power dissipation per module vs. case temp.

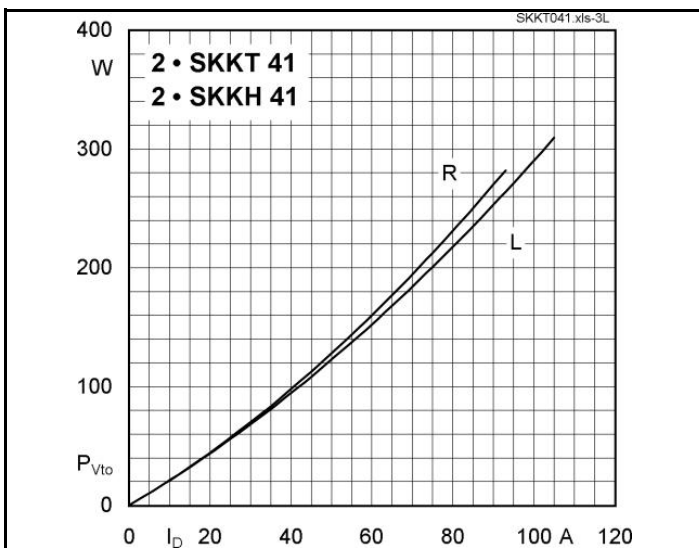


Fig. 3L Power dissipation of two modules vs. direct current

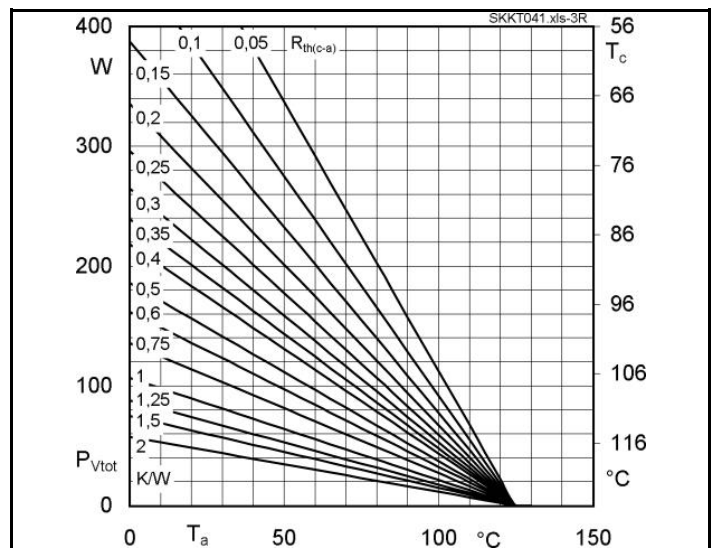
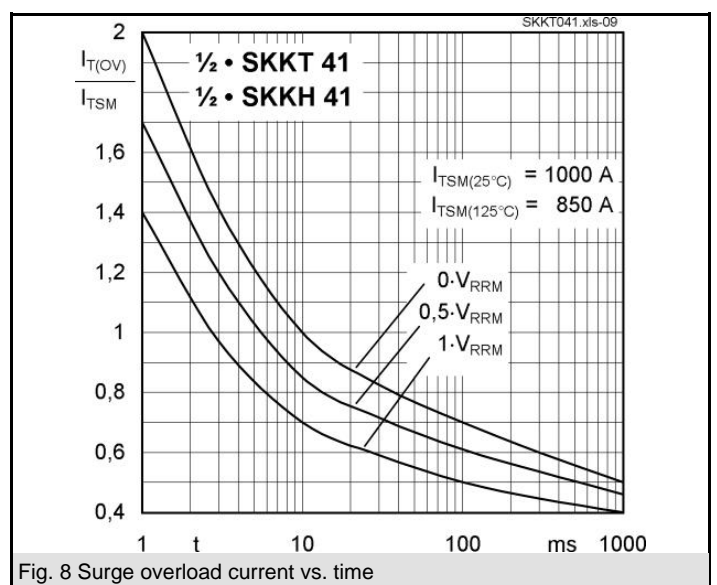
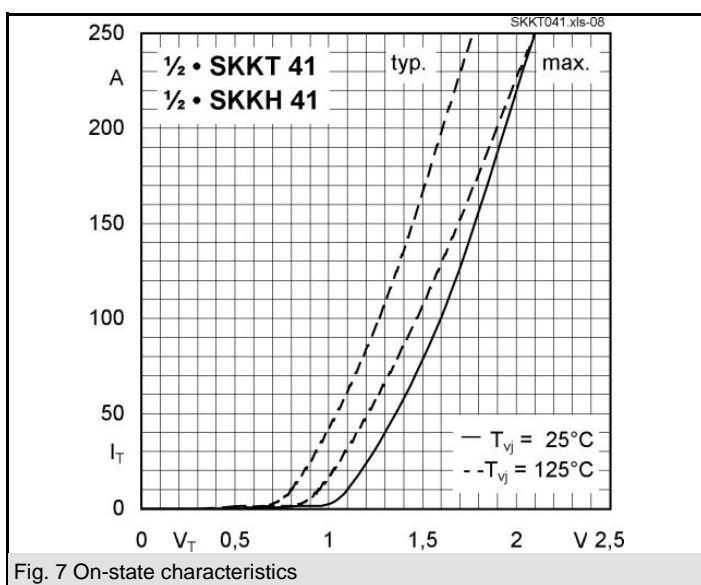
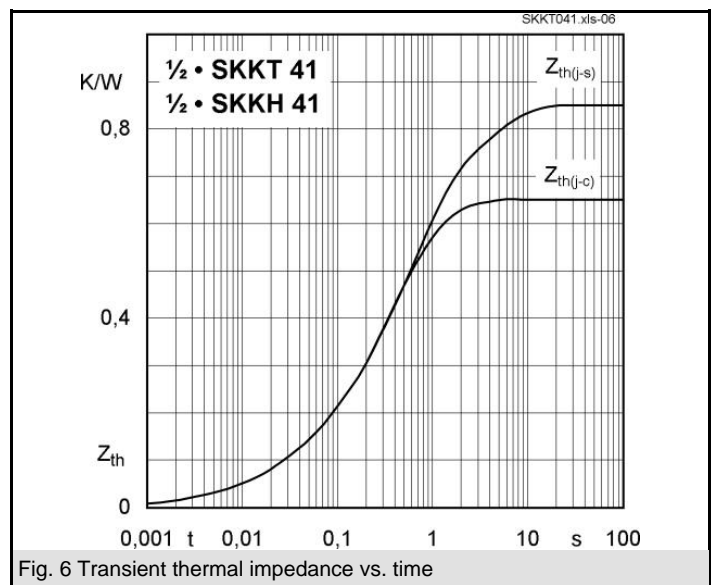
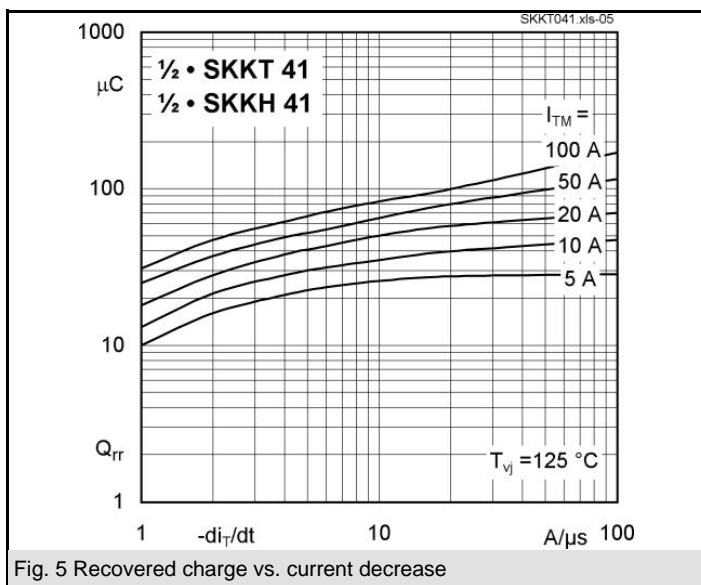
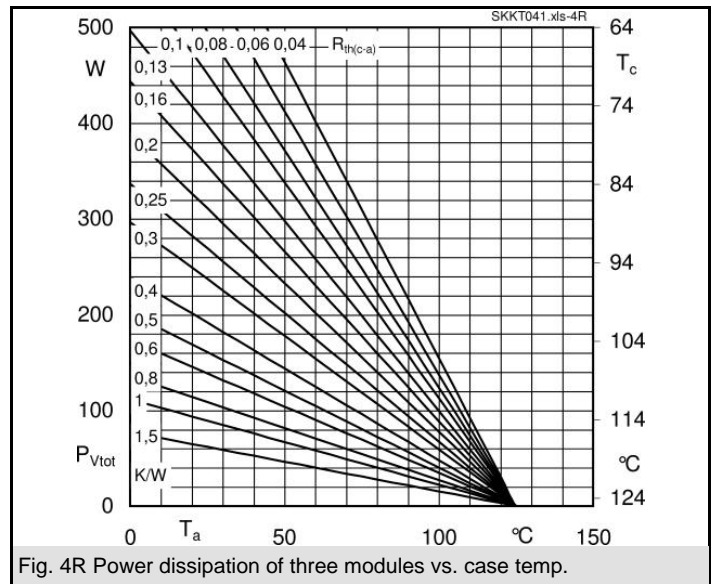
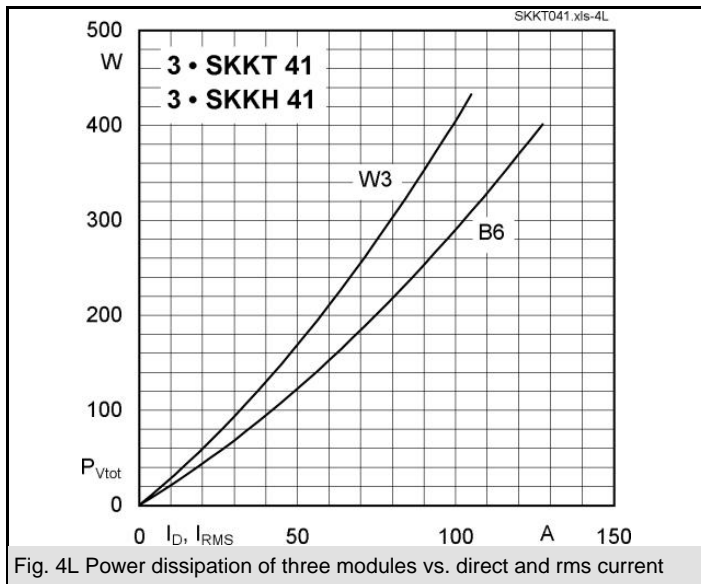
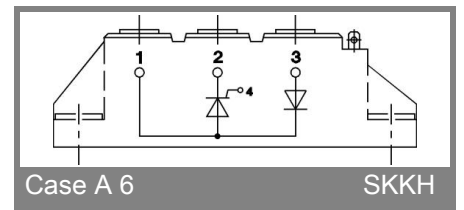
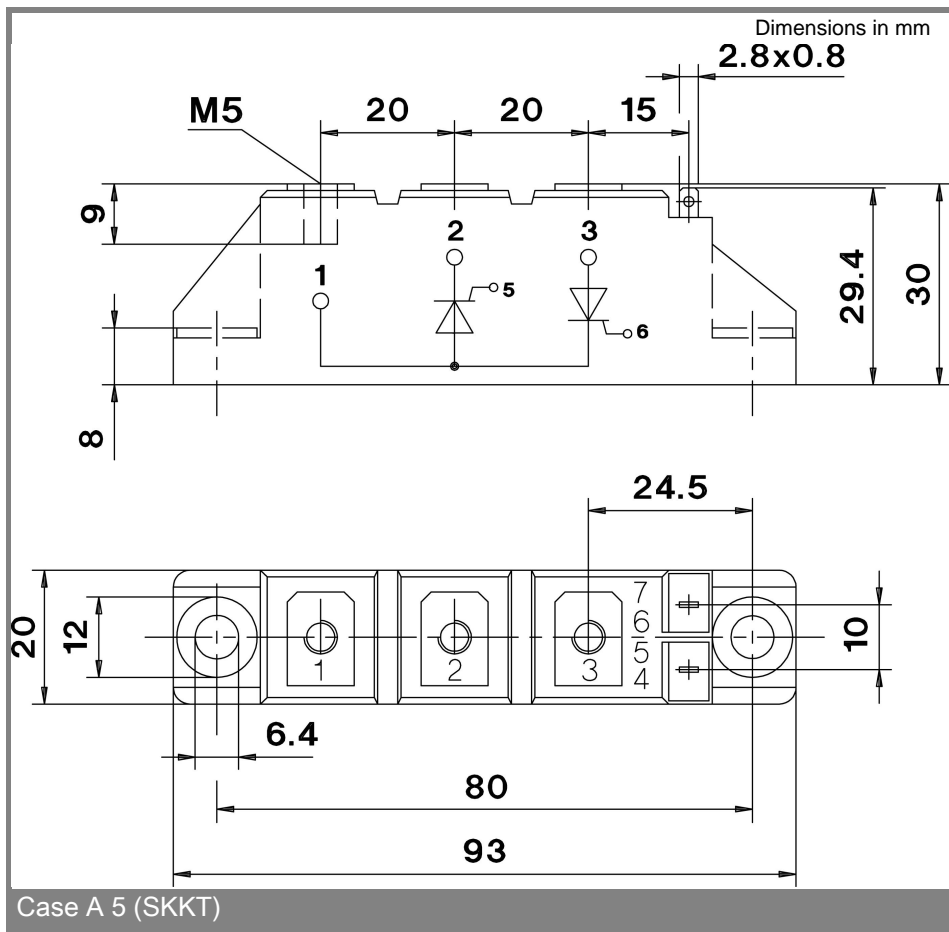
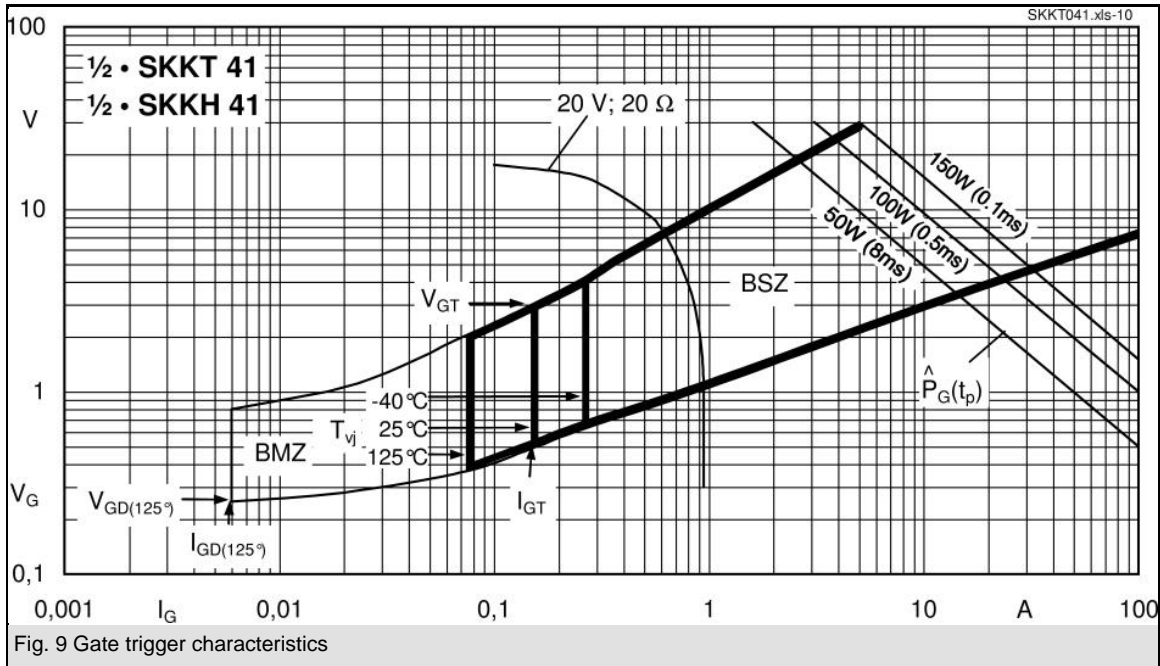


Fig. 3R Power dissipation of two modules vs. case temp.

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