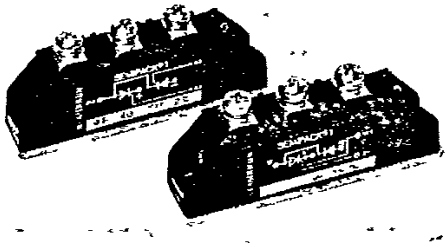
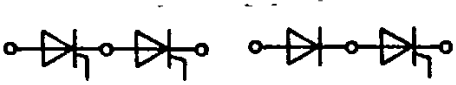
SEMIPACK® 1
Fast Thyristor/ Diode Modules

SKFT 40 **SKFH 40**
SKFT 60 **SKFH 60**

Thyristor data[1]

V_{DRM} V_{RRM} V	t_q (T_{vj} = 125 °C) µs	I_{TRMS} (maximum values for continuous operation) 110 A	130 A	110 A	130 A
		I_{TAV} (sin. 180; T_{case} = ... °C; 50 Hz) 40 A (87 °C)	60 A (81 °C)	40 A (87 °C)	60 A (81 °C)
		SKFT	**SKFT**	**SKFH**	**SKFH**
800	15	**40/08 DS**	**60/08 DS**	**40/08 DS**	**60/08 DS**
	20	–	**60/08 DT**	–	–
	25	**40/08 DU**	–	**40/08 DU**	–
1000	20	**40/10 DT**	**60/10 DT**	**40/10 DT**	**60/10 DT**
	25	**40/10 DU**	–	**40/10 DU**	–
1200	20	**40/12 DT**	**60/12 DT**	**40/12 DT**	**60/12 DT**
	25	**40/12 DU**	**60/12 DU**	**40/12 DU**	**60/12 DU**
1400	25	–	**60/14 DU**	–	–





SKFT SKFH

Symbol	Conditions	SKFT 40 SKFH 40[1]	SKFT 60 SKFH 60[1]
I_{TM}	sin. 180; T_{case} = 60 °C; 500 Hz	220 A	260 A
I_{TSM}	T_{vj} = 25 °C	1300 A	1500 A
	T_{vj} = 125 °C	1100 A	1250 A
i^2t	T_{vj} = 25 °C	8450 A^2s	11 150 A^2s
	T_{vj} = 125 °C	6060 A^2s	7800 A^2s
t_{gd}	T_{vj} = 25 °C; I_G = 1 A; di_G/dt = 1 A/µs	1 µs	
t_{gr}	$V_D = 0{,}67 \cdot V_{DRM}$	1 µs	
$(di/dt)_{cr}$	non-repetitive/f = 50 ... 60 Hz	600 A/µs / 125 A/µs	
$(dv/dt)_{cr}$	T_{vj} = 125 °C	500 A/µs	
I_H	T_{vj} = 25 °C; typ./max.	300 mA/600 mA	
I_L	T_{vj} = 25 °C; R_G = 33 Ω; typ./max.	1 A/2 A	
V_T	T_{vj} = 125 °C; I_T = 200 A; max.	2,3 V	1,75 V
$V_{T(TO)}$	T_{vj} = 125 °C	1,5 V	1,45 V
r_T	T_{vj} = 125 °C	4 mΩ	1,5 mΩ
I_D; I_R	T_{vj} = 125 °C; V_{DRM}; V_{RRM}	15 mA	15 mA
V_{GT}	T_{vj} = 25 °C	3 V	
I_{GT}	T_{vj} = 25 °C	200 mA	
V_{GD}	T_{vj} = 125 °C	0,25 V	
I_{GD}	T_{vj} = 125 °C	8 mA	
R_{thjc}	cont. } per thyristor/per module	0,43/0,215 °C/W[2]	0,38/0,19 °C/W[2]
R_{thch}	per thyristor/per module	0,2/0,1 °C/W	
T_{vj}		−40 ... +125 °C	
T_{stg}		−40 ... +125 °C	
V_{isol}	a. c. 50 Hz; r.m.s; 1 s/1 min.	3000 V~/2500 V~	
M_1	Case to heatsink } SI units/	5 Nm/44 lb. in ± 15 %	
M_2	Busbars to terminals } US units	3 Nm/26 lb. in. ± 15 %	
w	approx.	120 g	
Case	→ page B 2–12 SKFT	A 5	A 5
	SKFH	A 8	A 8

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

Typical Applications
- Self-commutated inverters
- DC choppers
- AC motor speed control
- Inductive heating
- Uninterruptible power supplies
- Electronic welders
- General power switching applications

[1] For the data of the diode see page B 2–21
[2] Internal insulation: beryllium oxide · Observe the warning on page B 2–1.

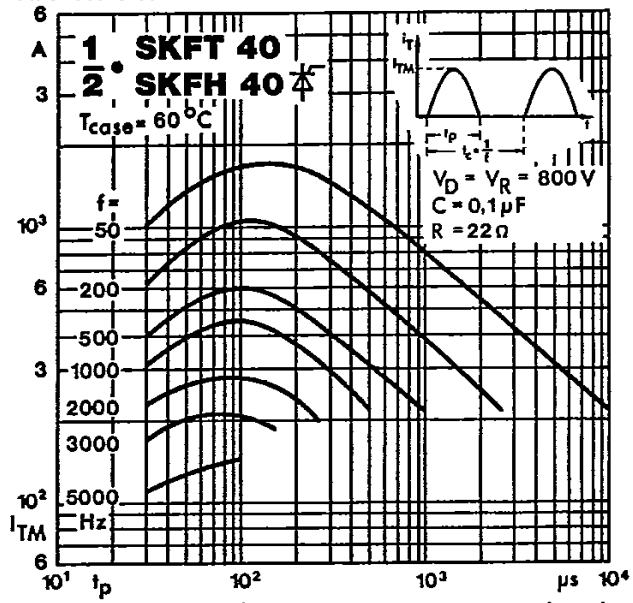


Fig. 1 a Rated peak on-state current vs. pulse duration

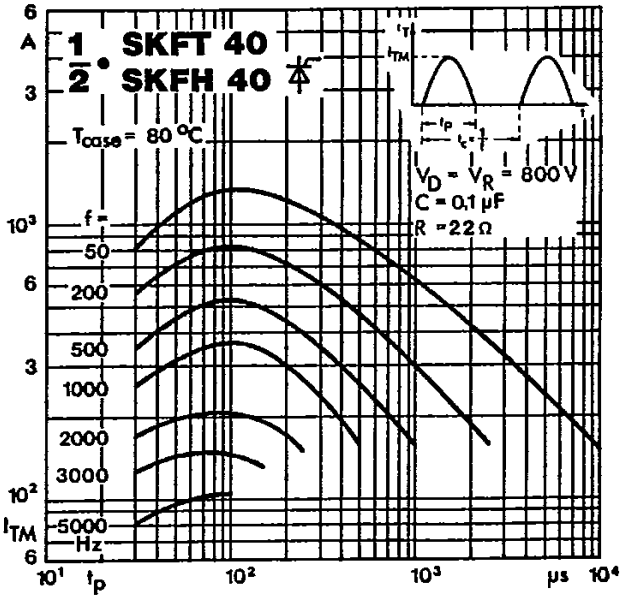


Fig. 1 b Rated peak on-state current vs. pulse duration

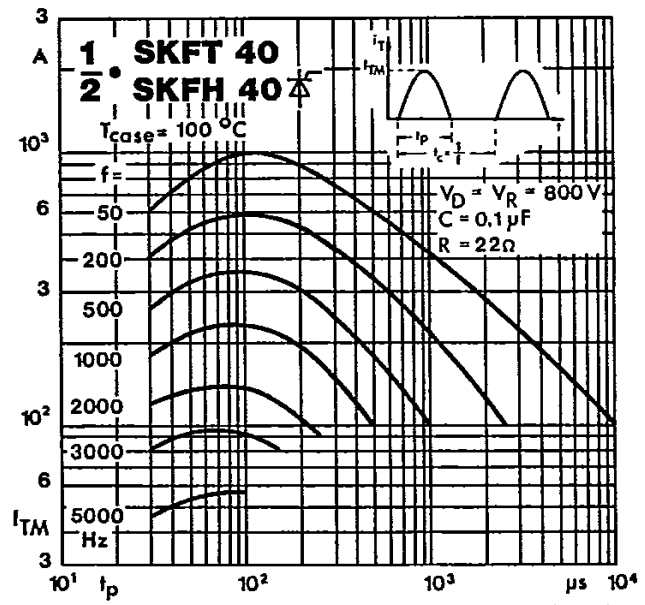


Fig. 1 c Rated peak on-state current vs. pulse duration

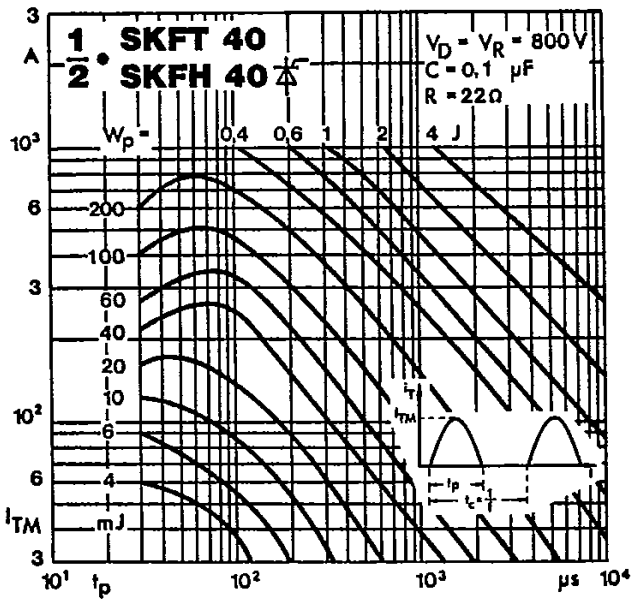


Fig. 2 Energy dissipation per pulse

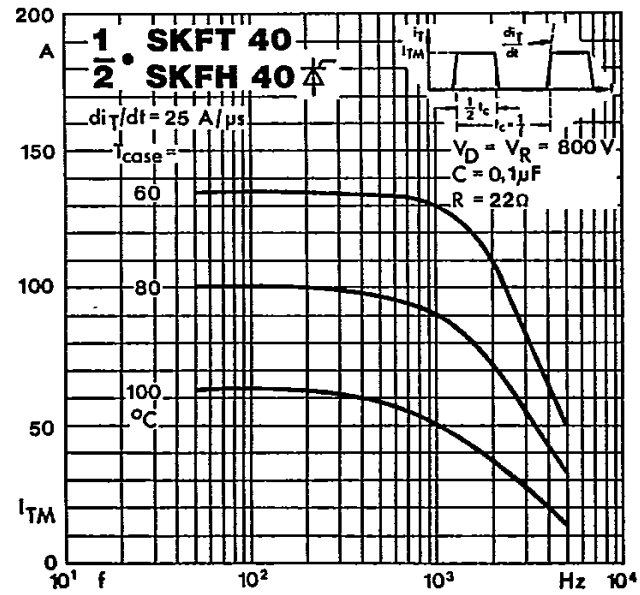


Fig. 3 a Rated peak on-state current vs. pulse duration

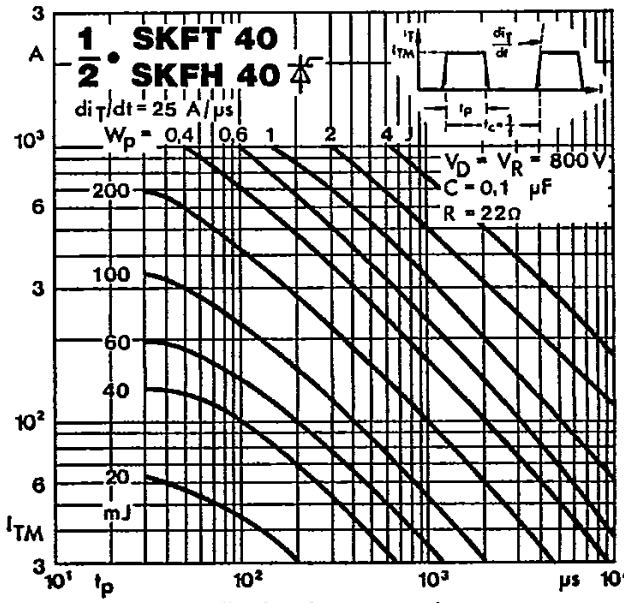


Fig. 4 a Energy dissipation per pulse

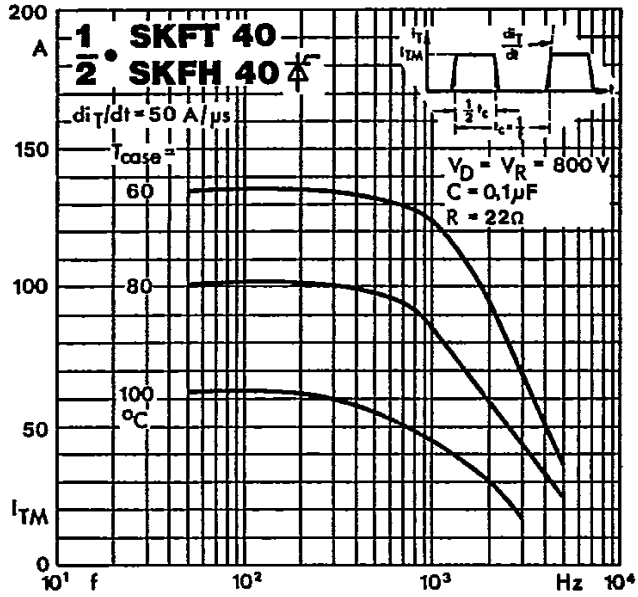


Fig. 3 b Rated peak on-state current vs. pulse duration

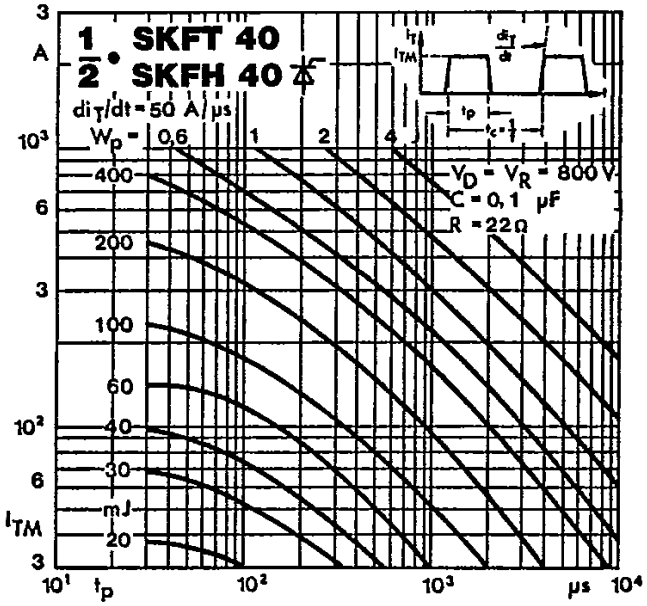


Fig. 4 b Energy dissipation per pulse

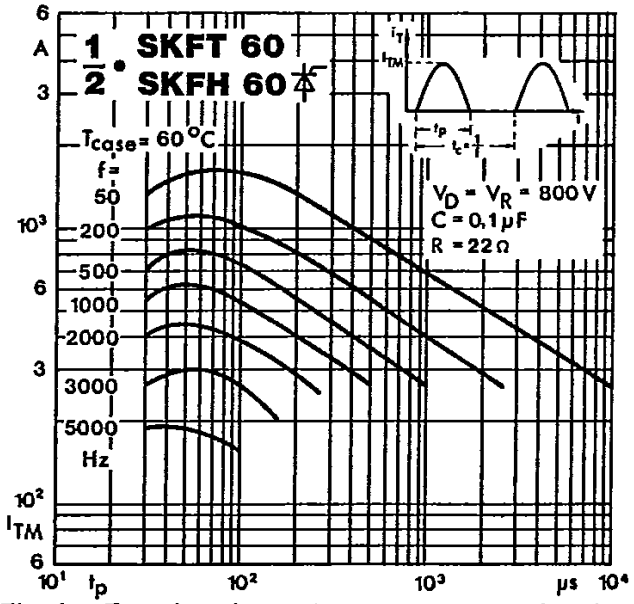


Fig. 1 a Rated peak on-state current vs. pulse duration

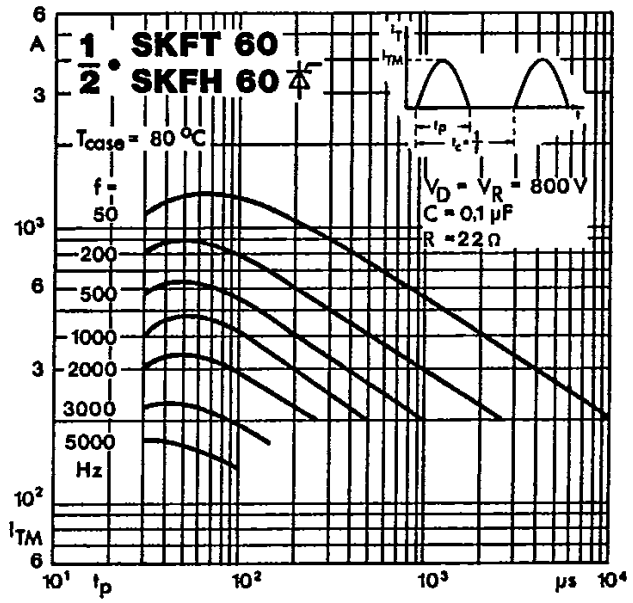


Fig. 1 b Rated peak on-state current vs. pulse duration

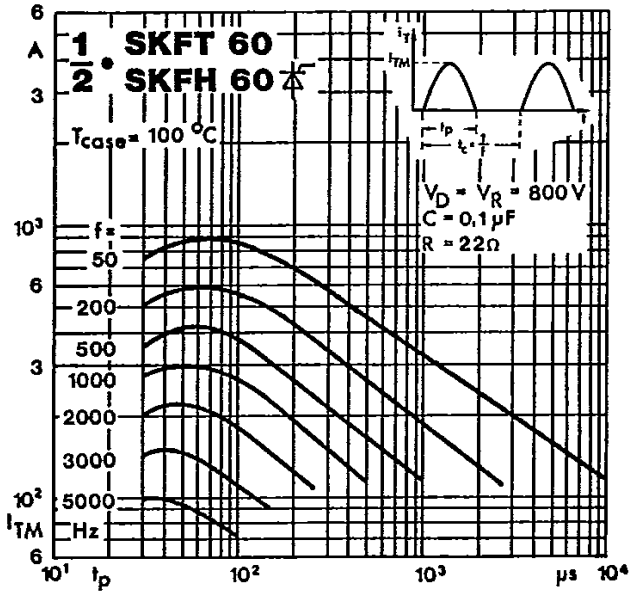


Fig. 1 c Rated peak on-state current vs. pulse duration

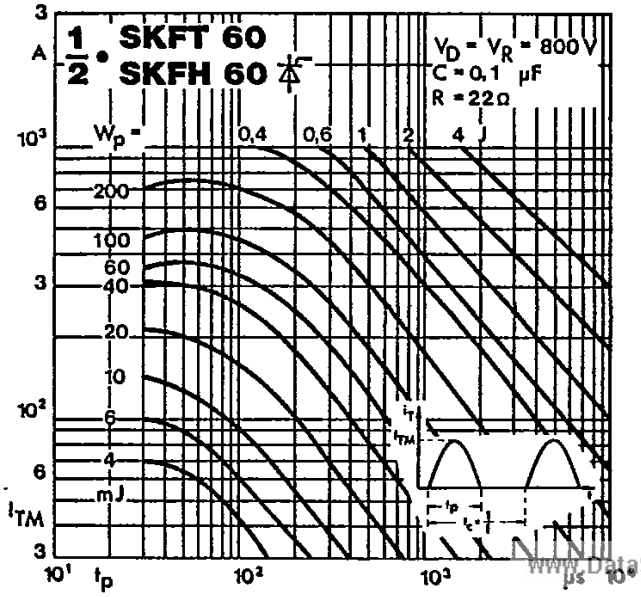


Fig. 2 Energy dissipation per pulse

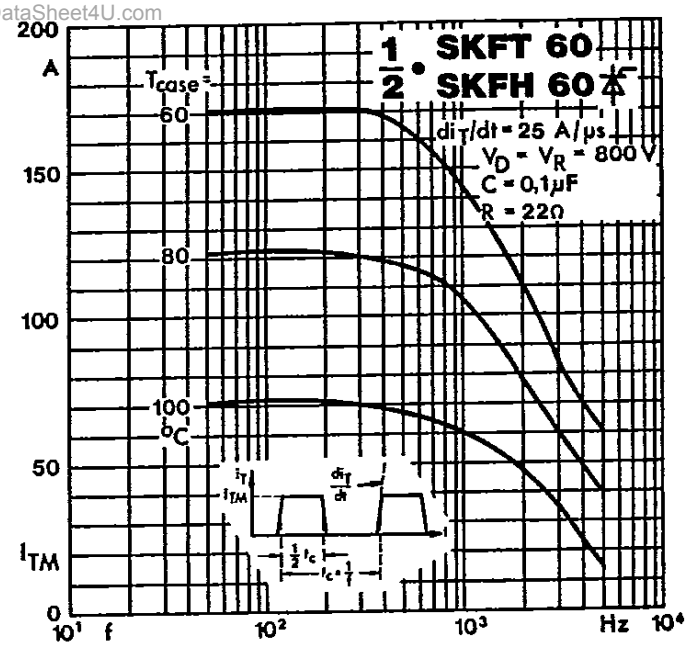


Fig. 3 a Rated peak on-state current vs. pulse duration

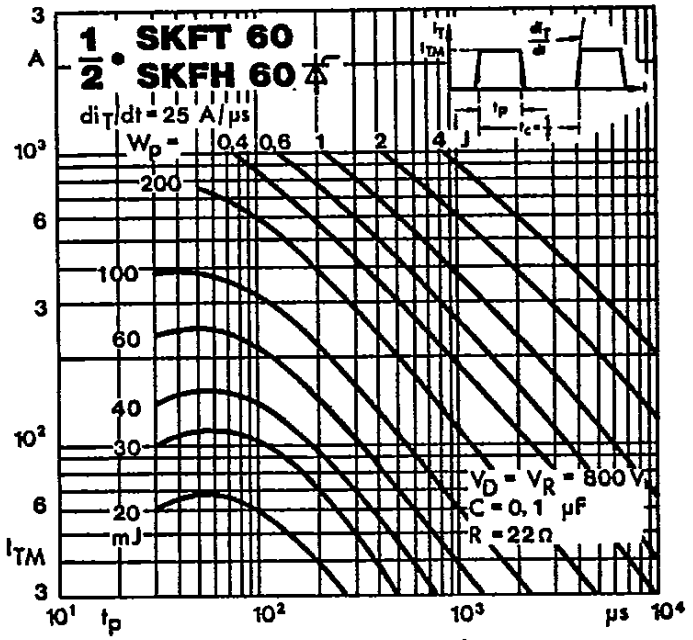


Fig. 4 a Energy dissipation per pulse

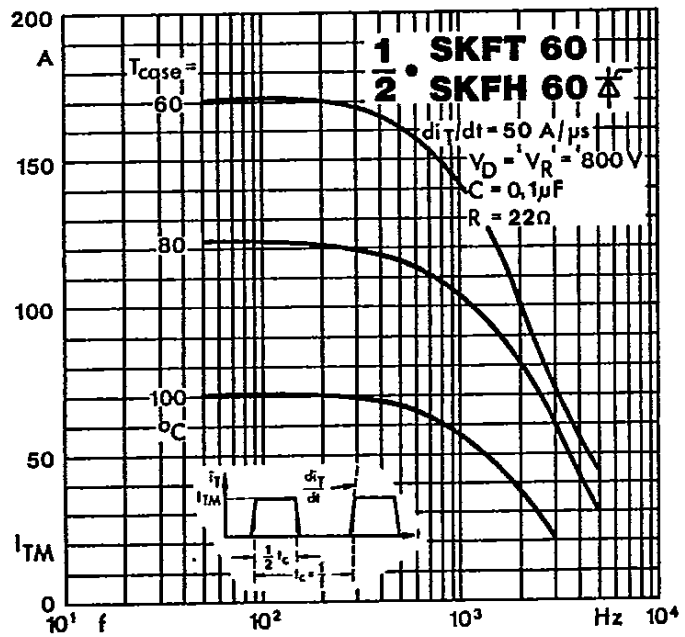


Fig. 3 b Rated peak on-state current vs. pulse duration

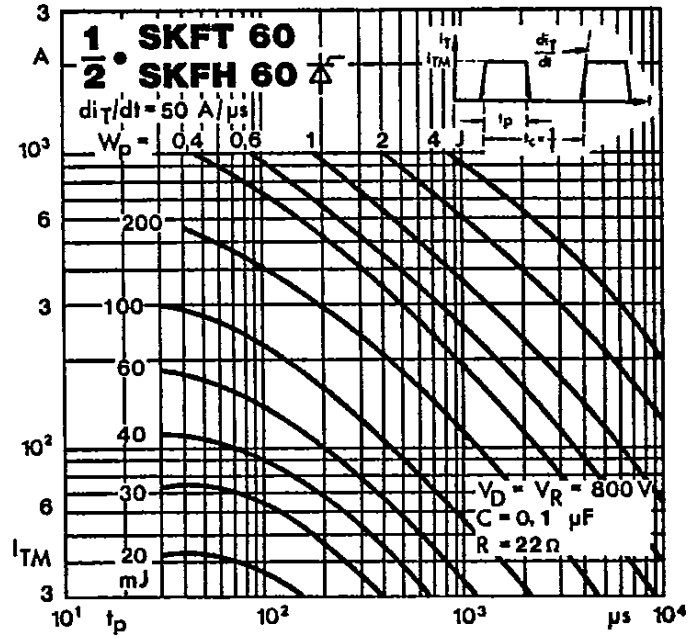


Fig. 4 b Energy dissipation per pulse

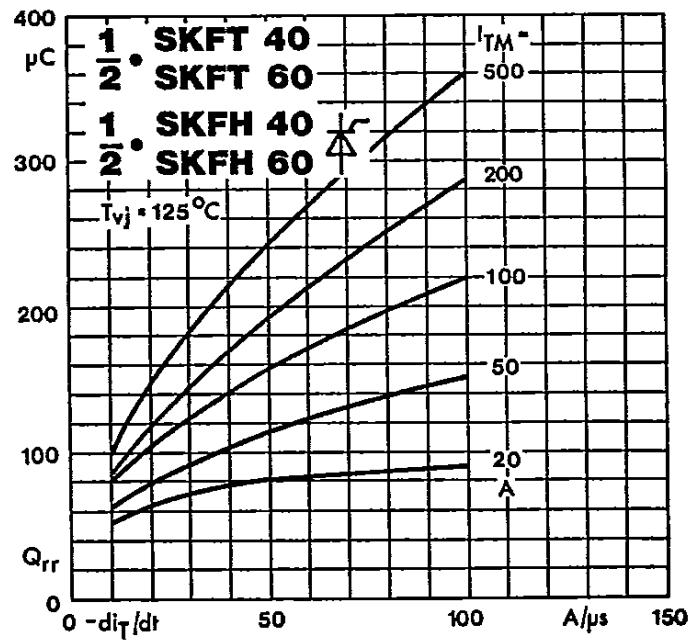


Fig. 5 Recovered charge vs. current decrease

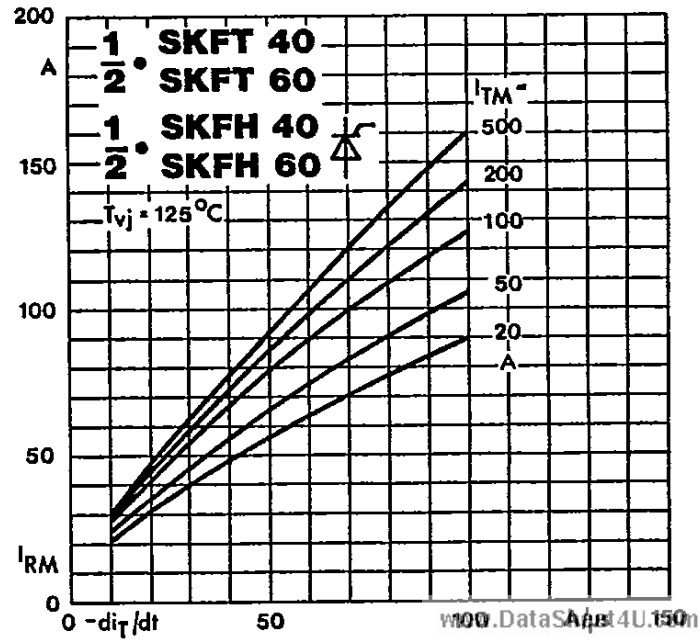


Fig. 6 Peak recovery current vs. current decrease

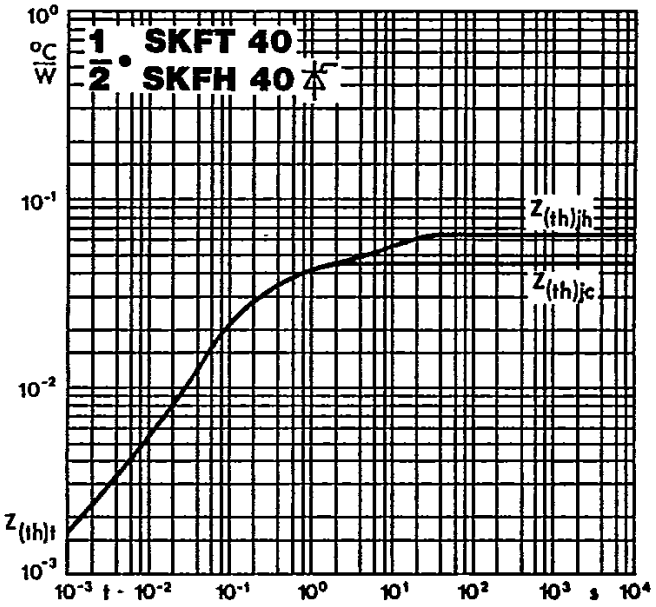


Fig. 7 a Transient thermal impedance vs. time

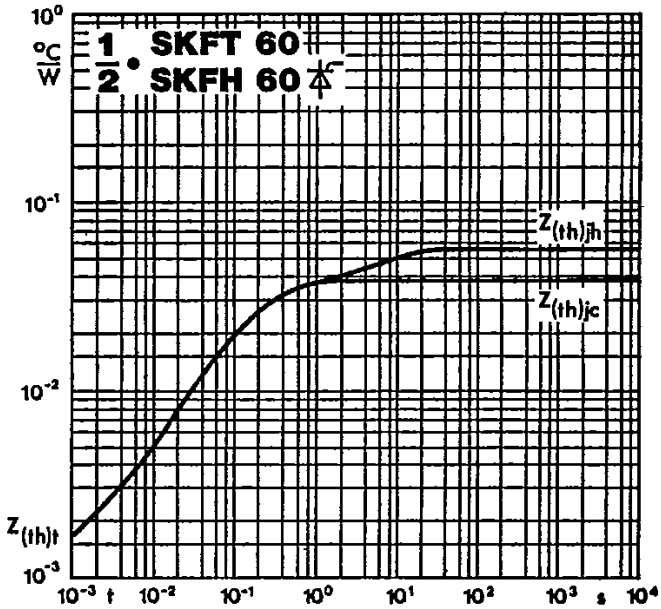


Fig. 7 b Transient thermal impedance vs. time

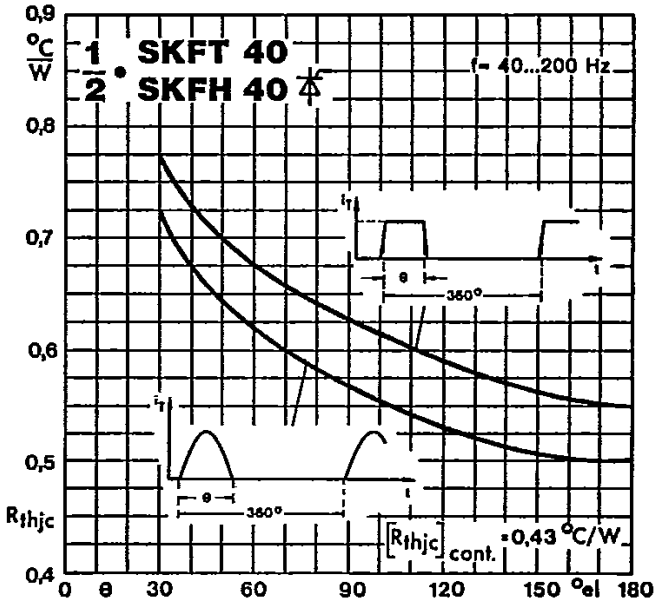


Fig. 8 a Thermal resistance vs. conduction angle, 40 . . . 200 Hz

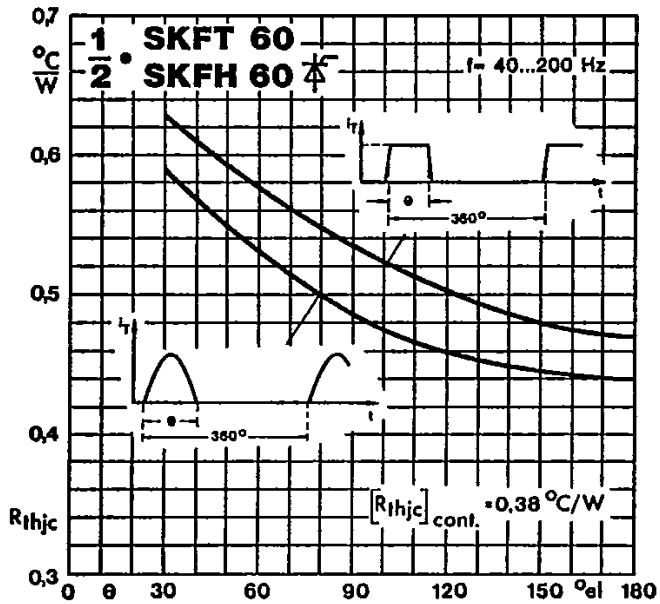


Fig. 8 b Thermal resistance vs. conduction angle, 40 . . . 200 Hz

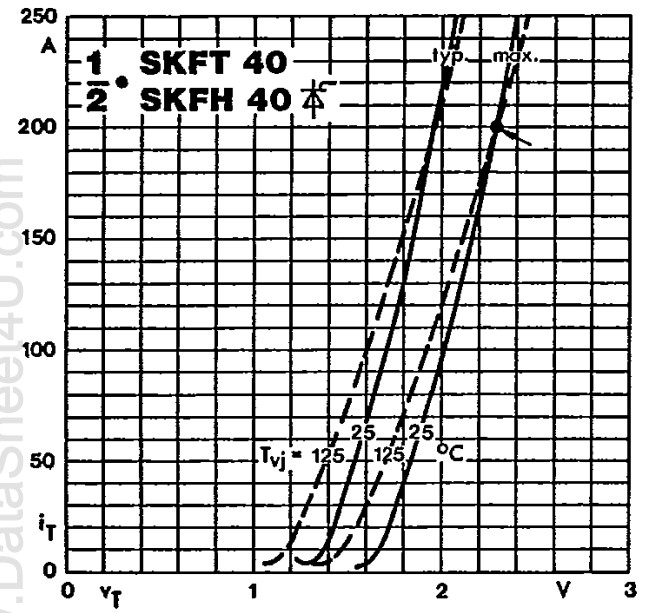


Fig. 9 a On-state characteristics

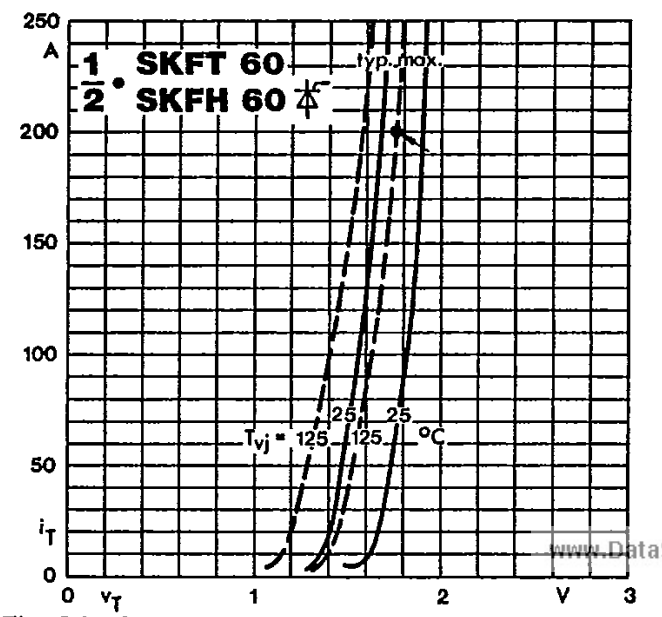


Fig. 9 b On-state characteristics

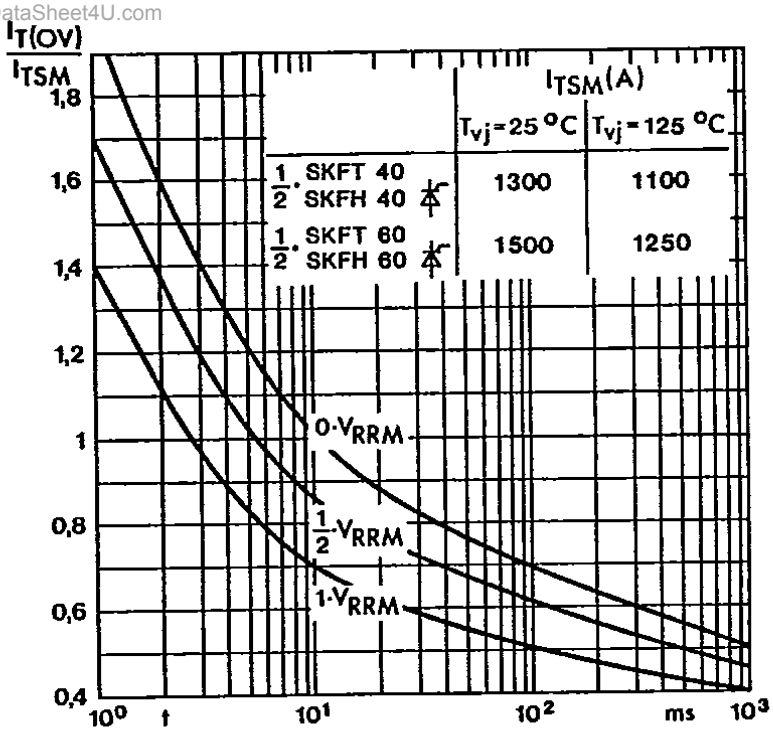


Fig. 10 Surge overload current vs. time

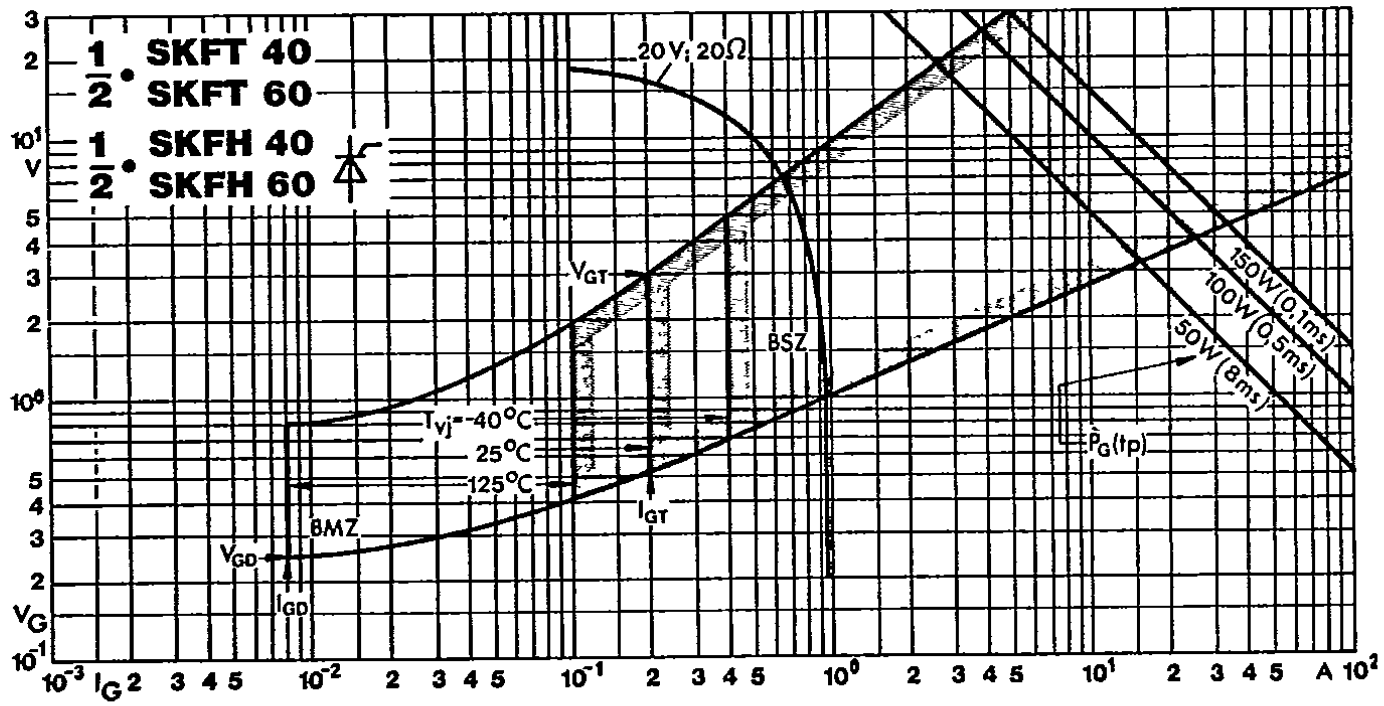


Fig. 11 Gate trigger characteristics