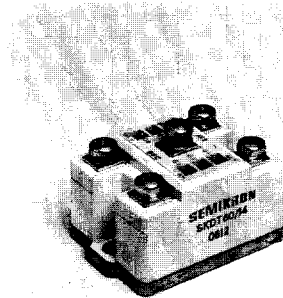


V _{DRM} V _{RSM} V _{RRM}	I _D (T _{case} = ...°C, full conduction)			
	40 A (92 °C)	40 A (92 °C)	60 A (86 °C)	100 A (84 °C)
400 V	SKCH 40/04	SKBT 40/04	SKDT 60/04	SKDT 100/04
800 V	SKCH 40/08	SKBT 40/08	SKDT 60/08	SKDT 100/08
1200 V	SKCH 40/12	SKBT 40/12	SKDT 60/12	SKDT 100/12
1400 V	SKCH 40/14	SKBT 40/14	SKDT 60/14	SKDT 100/14

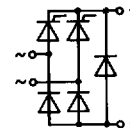
SEMIPONT® 2

Controllable Bridge Rectifiers

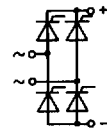
SKCH 40 SKDT 60
SKBT 40 SKDT 100



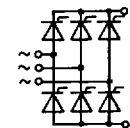
Symbol	Conditions	SKCH 40 SKBT 40	SKDT 60	SKDT 100
I _D	T _{case} = 85 °C; inductive load	46 A	61 A	98 A
	T _{amb} = 45 °C, chassis ¹⁾	15 A	16 A	20 A
	P13/125	20 A	21 A	25 A
	P1/120	32 A	34 A	45 A
	T _{amb} = 35 °C, P3/180 F	55 A	65 A	95 A
I _{TSM}	T _{vj} = 25 °C, 10 ms	470 A	470 A	1000 A
	T _{vj} = 125 °C, 10 ms	400 A	400 A	850 A
i ² t	T _{vj} = 25 °C, 8,3...10 ms	1100 A ² s	1100 A ² s	5000 A ² s
	T _{vj} = 125 °C, 8,3...10 ms	800 A ² s	800 A ² s	3600 A ² s
(di/dt) _{cr} (dv/dt) _{br}	T _{vj} = 125 °C, 50 Hz T _{vj} = 125 °C, 2/3 V _{DRM}	50 A/μs 500 V/μs		
I _H	T _{vj} = 25 °C, typ./max.	100/200 mA	150/250 mA	
I _L	T _{vj} = 25 °C, typ./max.	250/400 mA	300/600 mA	
V _T	T _{vj} = 25 °C; (I _T = ...)	2,3 V (75 A)	2,3 V (75 A)	1,95V(200A)
V _{T(RO)}	T _{vj} = 125 °C	1,0 V	1,0 V	1,0 V
r _T	T _{vj} = 125 °C	16 mΩ	16 mΩ	4,5 mΩ
I _{DD} ; I _{RD}	T _{vj} = 125 °C; V _{DD} = V _{DRM} ; V _{RD} = V _{RRM}	10 mA	10 mA	15 mA
V _{GT}	T _{vj} = 25 °C, V _D = 6 V	3 V		
I _{GT}	T _{vj} = 25 °C, V _D = 6 V	150 mA		
V _{GD}	T _{vj} = 125 °C, V _D = 6 V	0,25 V		
R _{thjc}	per thyristor/diode	1,0 °C/W	1,0 °C/W	0,85 °C/W
	total	0,25 °C/W	0,167 °C/W	0,141 °C/W
R _{thch}	total	0,05 °C/W		
T _{vj}		-40... + 125 °C		
T _{stg}		-40... + 125 °C		
V _{isol}	50...60 Hz; r.m.s.	2500 V~		
M ₁ M ₂	case to heatsink } busbars to } terminals }	SI units/ US units	5 Nm/44 lb. in. ± 15 % 3 Nm/26 lb. in. ± 15 %	
w		165 g		
Case	→ page B 11 – 67	SKCH40: G 19 SKBT 40: G 20	G 21	G 21



SKCH



SKBT



SKDT

Features

- Fully controlled single and three phase bridge rectifiers
- Robust plastic case with screw terminals
- Large, isolated base plate
- Blocking voltage to 1400 V
- High surge currents
- Easy chassis mounting
- UL recognized, file no. E 63 532 (M)

Typical Applications

- SKCH, SKDT for DC drives with a fixed direction of rotation
- SKBT, SKDT for reversing DC drives
- Controlled field rectifiers for DC motors
- Controlled battery charger rectifiers

¹⁾ Painted metal sheet of minimum 250 x 250 x 1 mm: R_{thca} = 1,8 °C/W

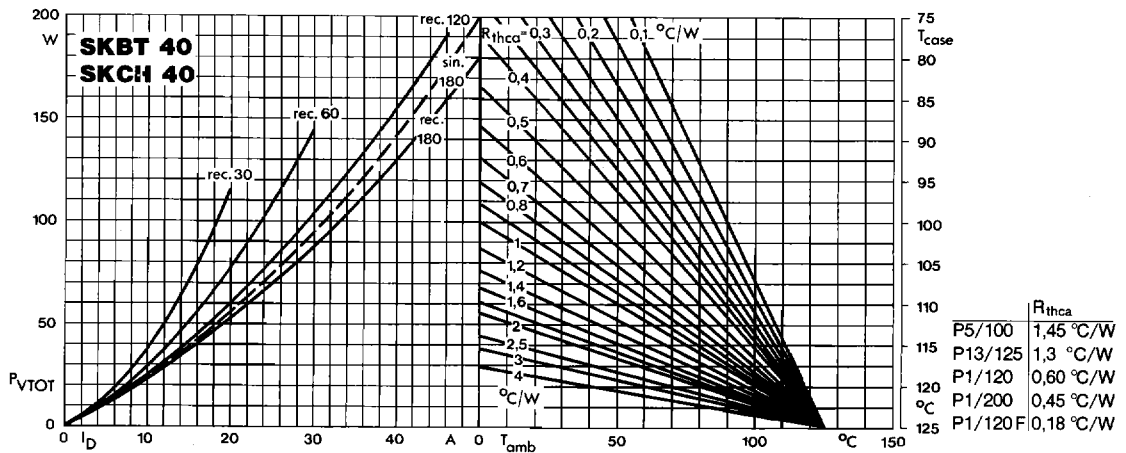


Fig. 4 a Power dissipation vs. output current and case temperature

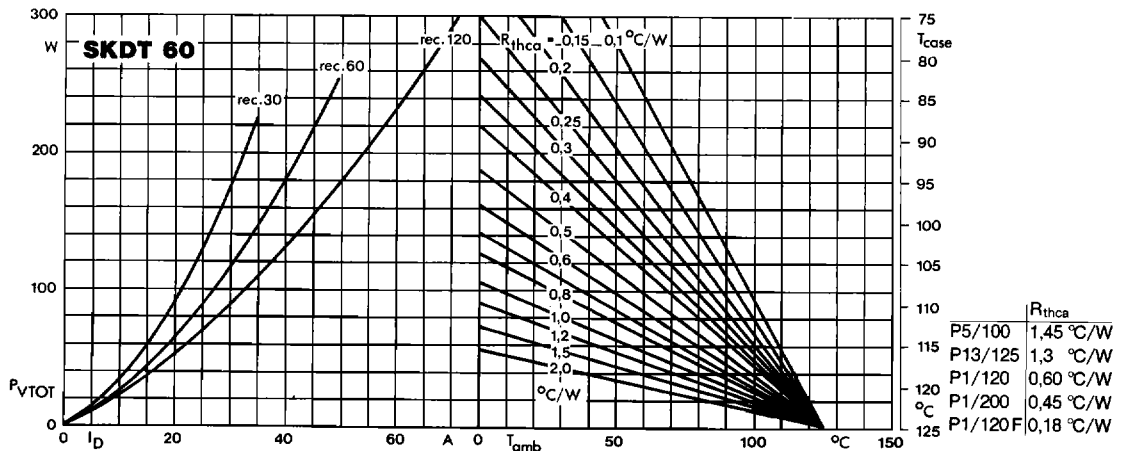


Fig. 4 b Power dissipation vs. output current and case temperature

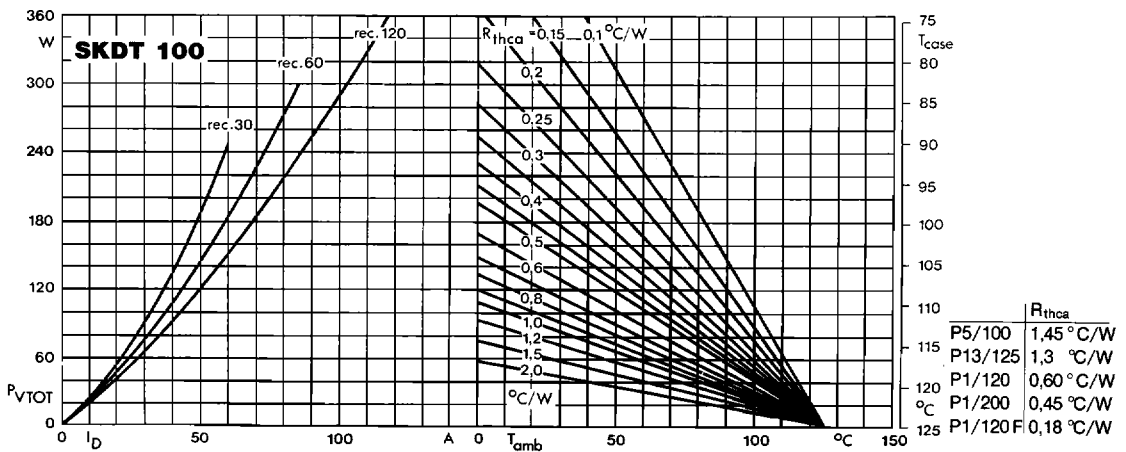


Fig. 4 c Power dissipation vs. output current and case temperature

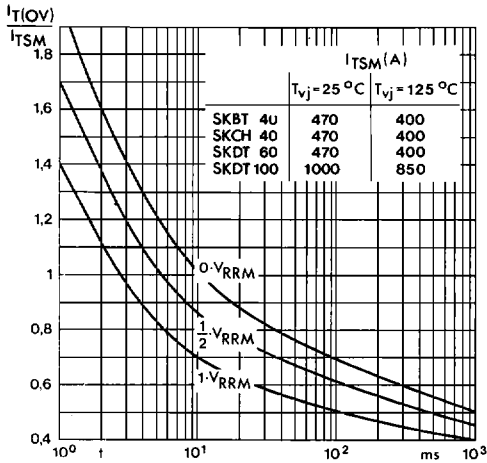


Fig. 5 Surge overload current vs. time

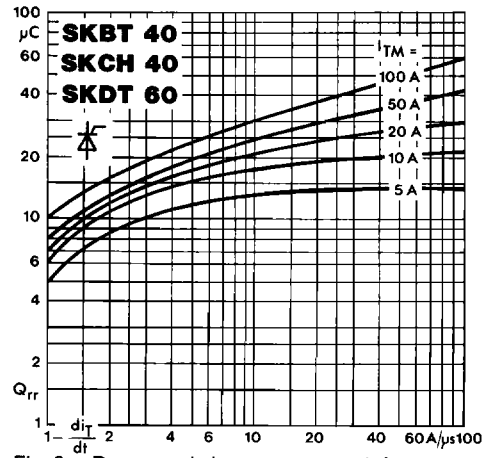


Fig. 8 a Recovered charge vs. current decrease

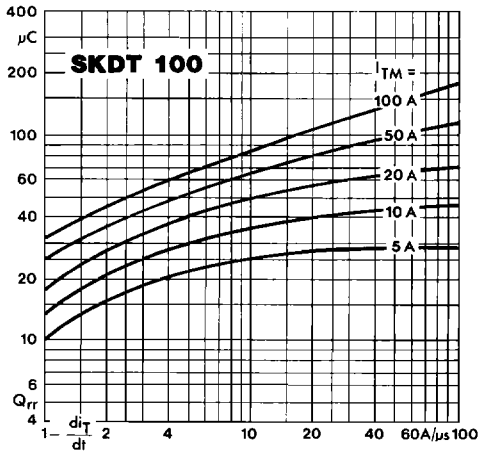


Fig. 8 b Recovered charge vs. current decrease

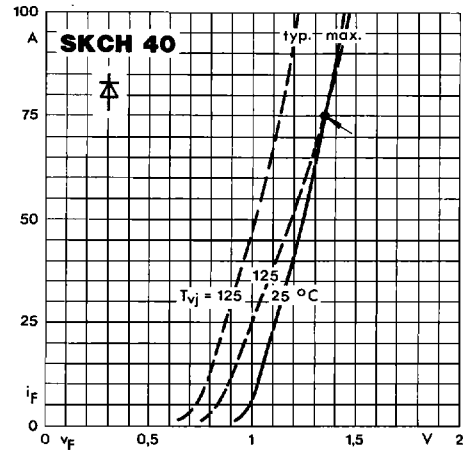


Fig. 9 Forward characteristics of a single diode

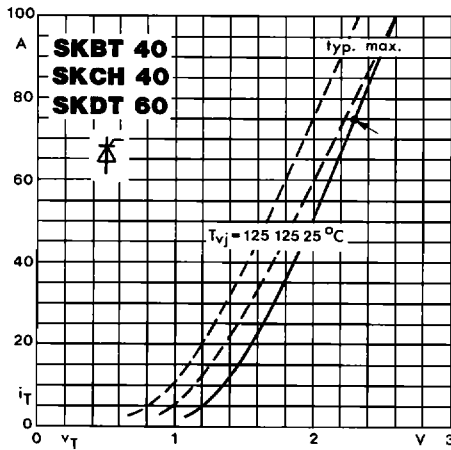


Fig. 10 a On-state characteristics of a single thyristor

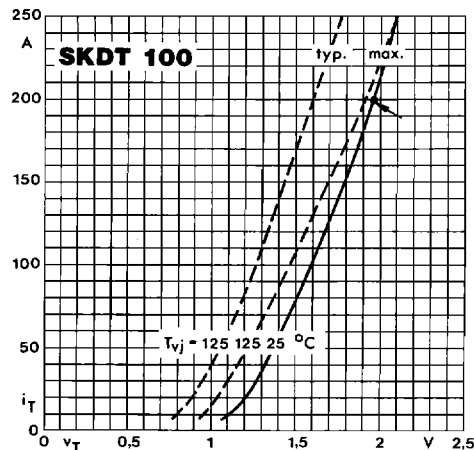


Fig. 10 b On-state characteristics of a single thyristor

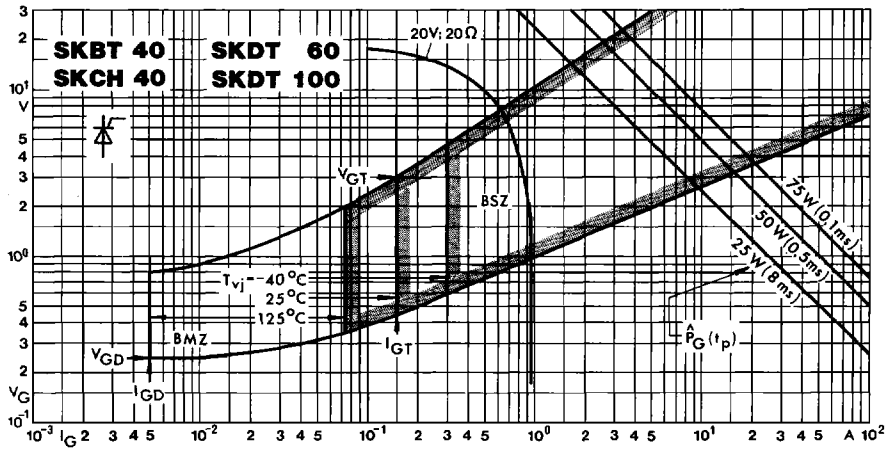


Fig. 11 Gate trigger characteristics

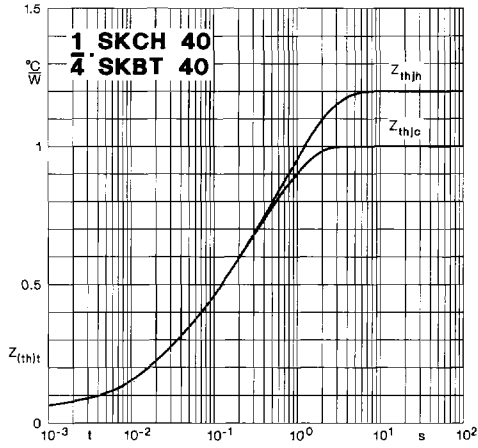


Fig. 12 a Transient thermal impedance vs. time

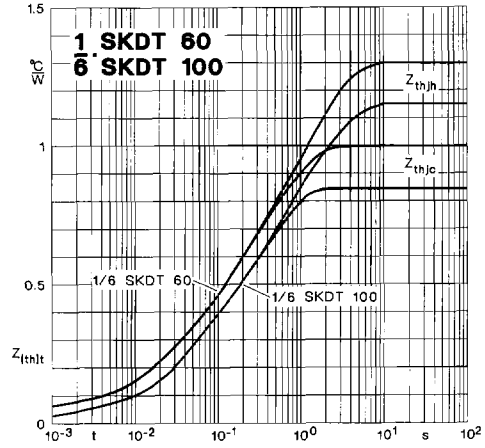
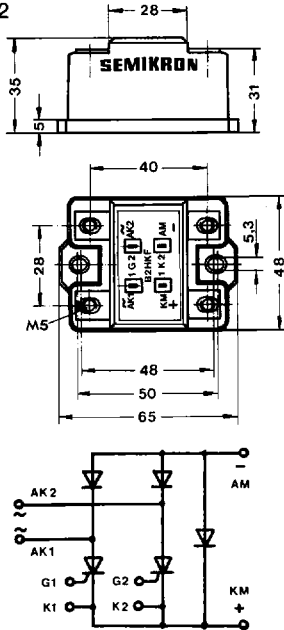


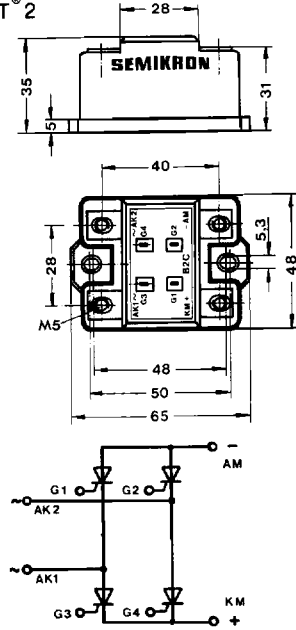
Fig. 12 b Transient thermal impedance vs. time

SKCH 40
Case G 19
SEMIPONT[®] 2



Dimensions in mm

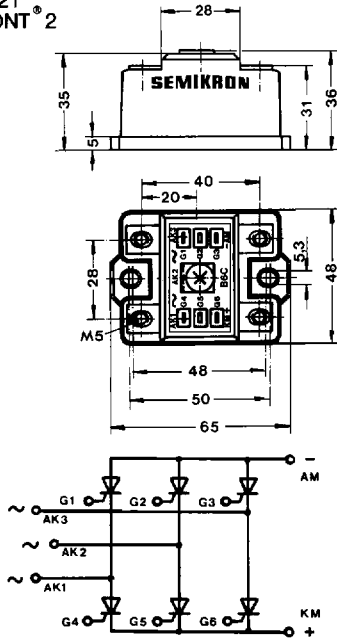
SKBT 40
Case G 20
SEMIPONT[®] 2



Dimensions in mm

SKDT 60, SKDT 100

Case G 21
SEMIPONT[®] 2



Dimensions in mm

Available Heatsinks

Rectifier	Heatsink	w kg	R _{thca} natural cooling °C/W	R _{thca} forced cooling °C/W
SKB 15	P 5/100	0,28	1,7	–
SKB 25, SKD 25	P 5/100	0,28	1,55	–
	R 4/120	0,6	1,45	–
	P 1/120	1,3	0,75	–
SKBH 28, SKBT 28, SKBZ 28, SKCH 28 SKB 30, SKD 30, SKD 31	P 5/100	0,28	1,5	–
	R 4/120	0,6	1,4	–
	P 1/120	1,3	0,7	–
	P13/125	0,6	1,35	–
SKB 33, SKB 50, SKD 50	P1/120	1,3	0,65	0,30
SKBT 40, SKCH 40 SKB 60, SKD 60, SKDT 60 SKB 52, SKD 62, SKB 72 SKD 82, SKD 100, SKDT 100 SKD 110, SKD 160	P 5/100	0,28	1,45	–
	R 4/120	0,6	1,35	–
	P 13/125	0,6	1,30	–
	P 15/180	1,7	0,8	0,30
	P 1/120	1,3	0,65	0,20
	P 3/180	3,1	0,5	0,18
	P 1/200	2,2	0,52	0,18