SKDT 100

SEMIPONT® 2

Controllable Bridge Rectifiers

SKDT 100

Features

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

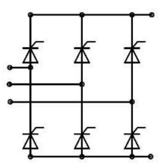
Typical Applications

- For DC drives with a fixed direction of rotation
- Controlled field rectifiers for DC motors
- Controlled battery charger rectifiers

1) Painted metal shield of minimum 250 x 250 x 1 mm: $R_{th(c-a)}$ = 1,8 K/W

V_{RSM} V	V_{RRM}, V_{DRM} V	I_D = 100 A (full conduction) (T_c = 84 °C)
900	800	SKDT 100/08
1300	1200	SKDT 100/12
1500	1400	SKDT 100/14
1700	1600	SKDT 100/16

Symbol	Conditions	Values	Units
I_D	T_c = 85 °C	98	A
	T_a= 45 °C; chassis 1)	20	A
	T_a= 45 °C; P13A/125	25	A
	T_a= 45 °C; P1A/120	45	A
I_{TSM}, I_{FSM}	T_{vj} = 25 °C; 10 ms	1000	A
	T_{vj} = 125 °C; 10 ms	850	A
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms	5000	A²s
	T_{vj} = 125 °C; 8,3 ... 10 ms	3600	A²s
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_{DD} = V_{DRM}; V_{RD} = V_{RRM}	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}	1	µs
$(dv/dt)_{cr}$	T_{vj} = 125 °C	max. 500	V/µs
$(di/dt)_{cr}$	T_{vj} = 125 °C; f = 50 Hz	max. 50	A/µs
t_q	T_{vj} = 125 °C; typ.	80	µs
I_H	T_{vj} = 25 °C; typ. / max.	100 / 200	mA
I_L	T_{vj} = 25 °C; R_G = 33 Ω	250 / 400	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. 5	mA
$R_{th(j-c)}$	per thyristor / diode	0,85	K/W
	total	0,141	K/W
$R_{th(c-s)}$	total	0,05	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	Nm
M_t	to terminals	3	Nm
m		165	g
Case	SKDT	G 21	



SKDT

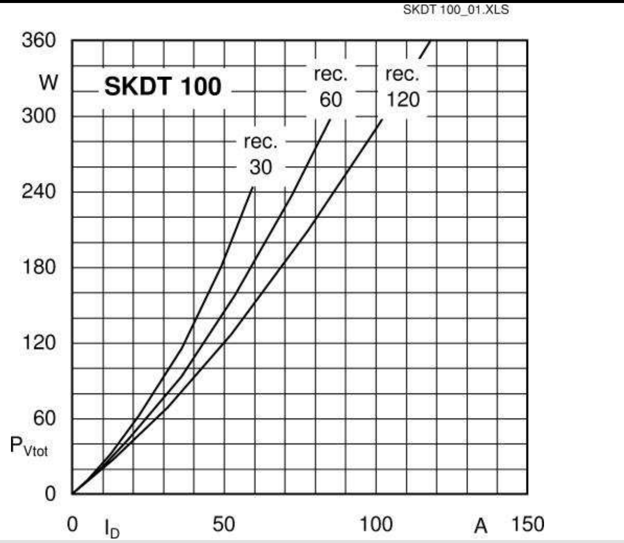


Fig. 1 Power dissipation vs. output current

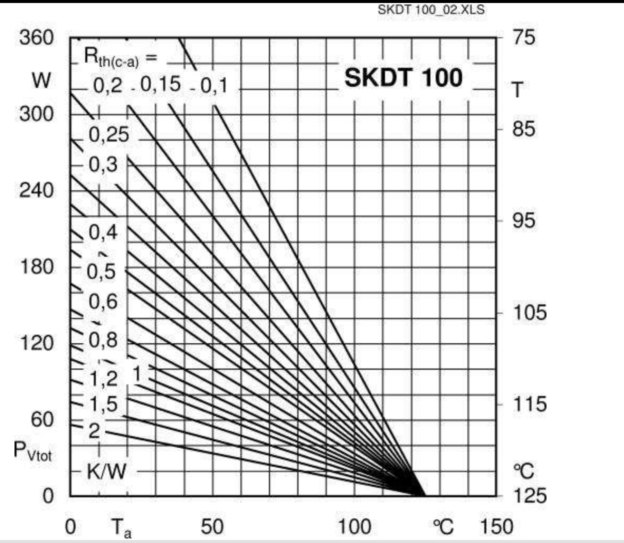


Fig. 2 Power dissipation vs. case temperature

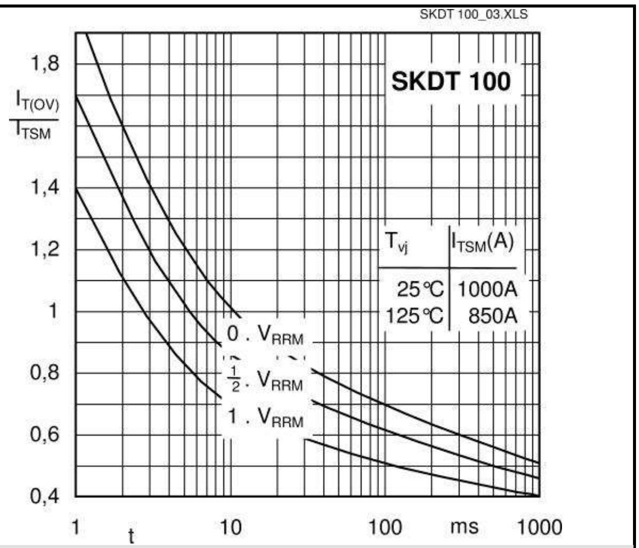


Fig. 5 Surge overload characteristics vs. time

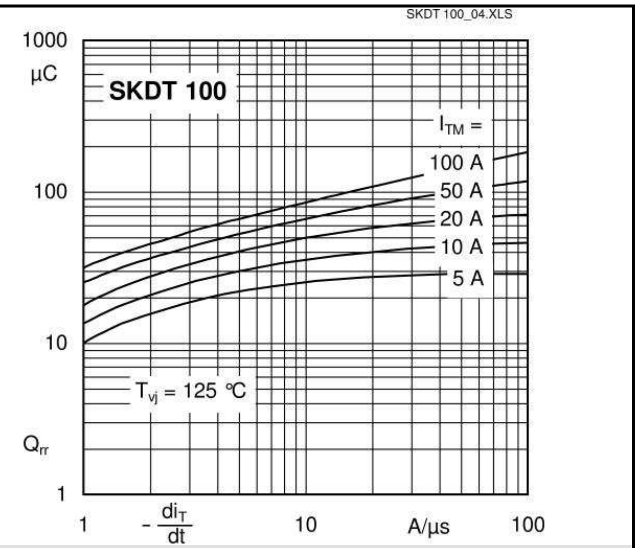


Fig. 8 Recovered charge vs. current decrease

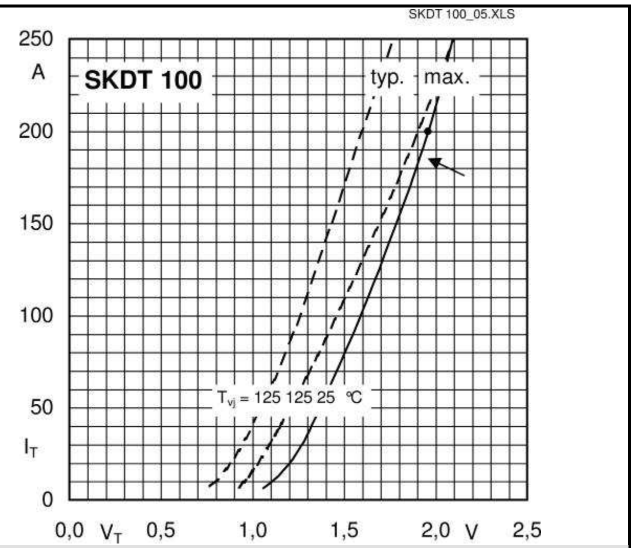


Fig. 10 On-state characteristics of a thyristor arm

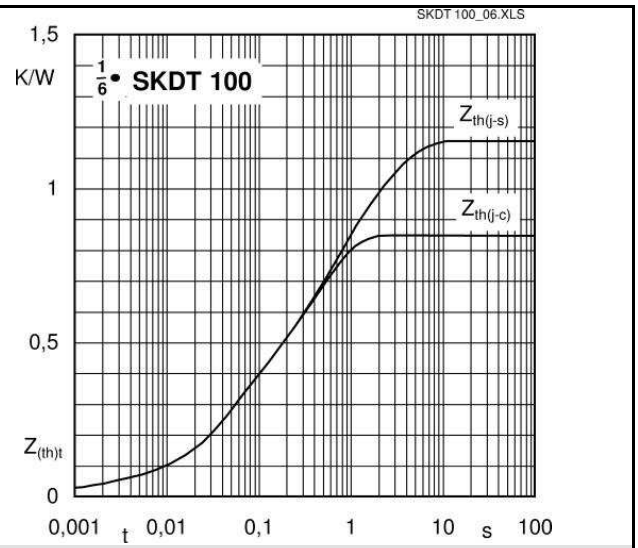


Fig. 12 Transient thermal impedance vs. time

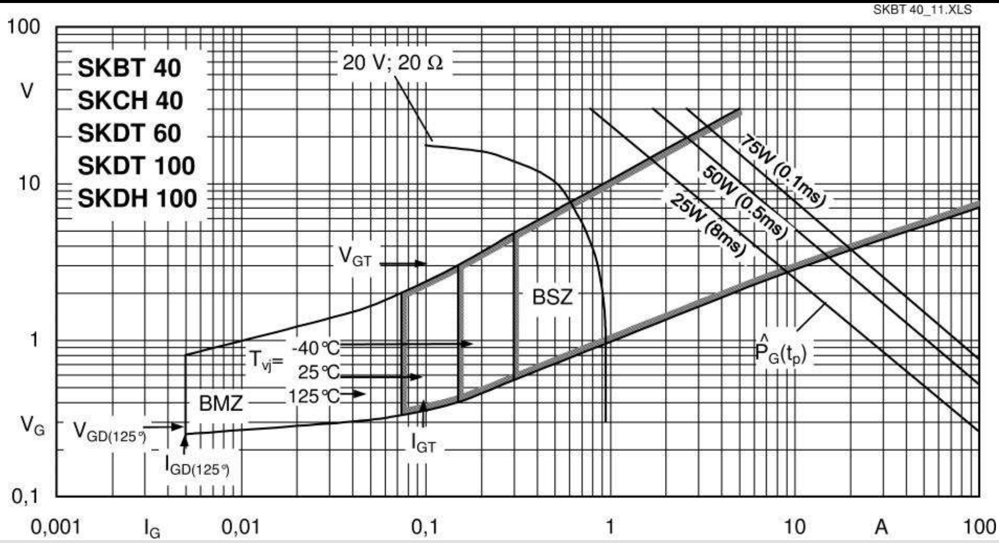
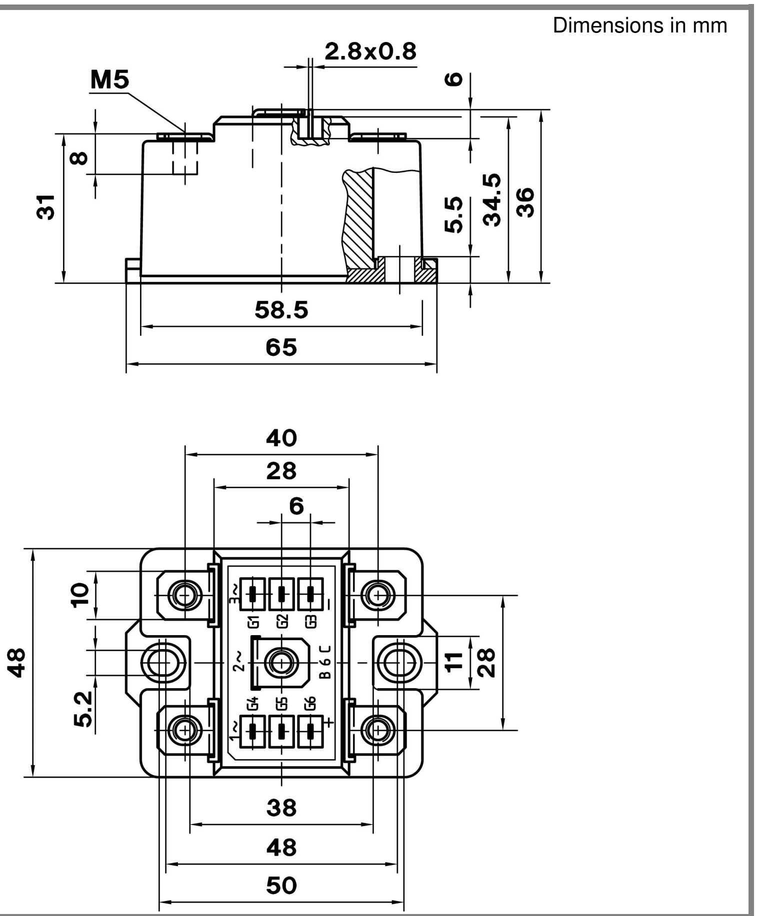


Fig. 11 Gate characteristics of a thyristor device



Case G 21

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