SKDT 60

SEMIPONT® 2

Controllable Bridge Rectifiers

SKDT 60

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

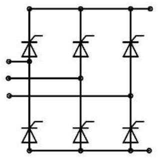
Typical Applications*

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

V_{RSM} V	V_{RRM}, V_{DRM} V	I_D = 60 A (full conduction) (T_c = 86 °C)
400	400	SKDT 60/04
800	800	SKDT 60/08
1200	1200	SKDT 60/12
1400	1400	SKDT 60/14

Symbol	Conditions	Values	Units
I_D	T_c = 85 °C	61	A
	T_a= 45 °C; chassis 1)	16	A
	T_a= 45 °C; P13A/125	21	A
	T_a= 45 °C; P1A/120	34	A
I_{TSM}, I_{FSM}	T_{vj} = 25 °C; 10 ms	470	A
	T_{vj} = 125 °C; 10 ms	400	A
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms	1100	A²s
	T_{vj} = 125 °C; 8,3 ... 10 ms	800	A²s
V_T	T_{vj} = 25 °C; I_T=75 A	max. 2,3	V
$V_{T(TO)}$	T_{vj} = 125 °C;	max. 1	V
r_T	T_{vj} = 125 °C	max. 16	mΩ
I_{DD}; I_{RD}	T_{vj} = 125 °C; V_{DD} = V_{DRM}; V_{RD} = V_{RRM}	max. 10	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	1	K/W
	total	0,167	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	

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



SKDT

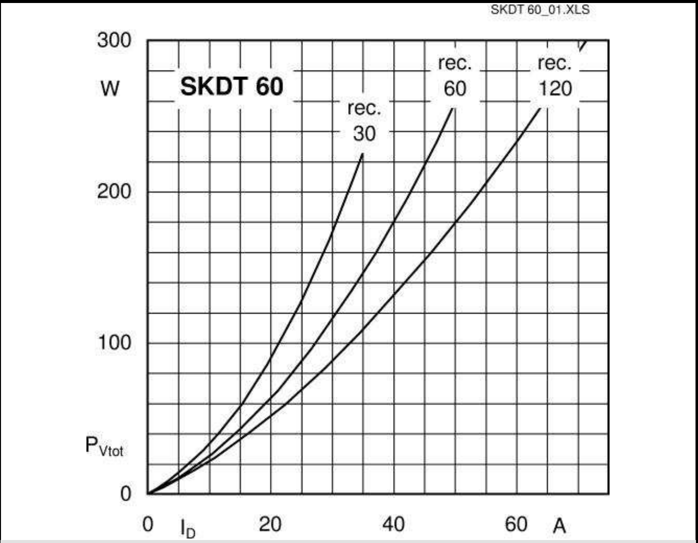


Fig. 1 Power dissipation vs. output current

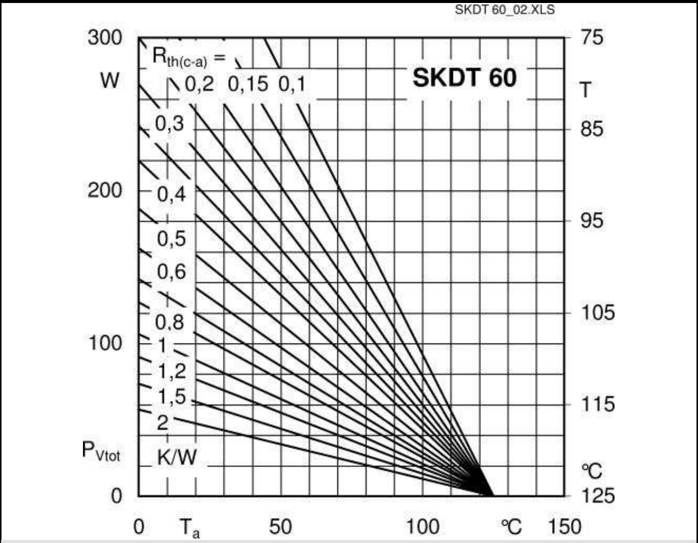


Fig. 2 Power dissipation vs. case temperature

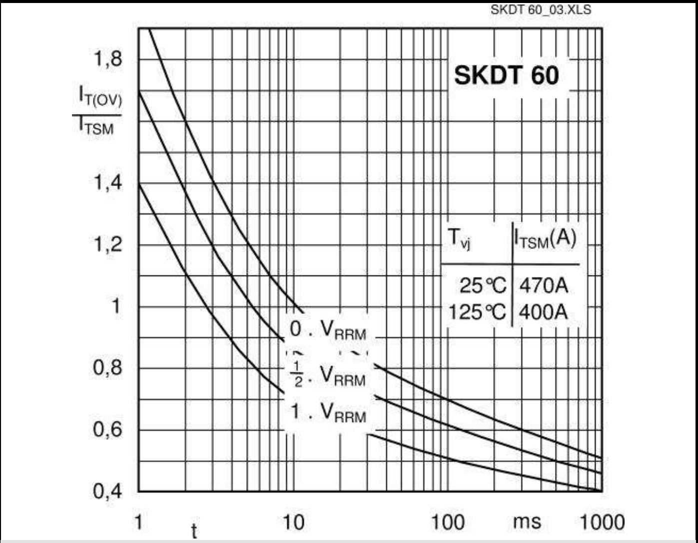


Fig. 5 Surge overload characteristics vs. time

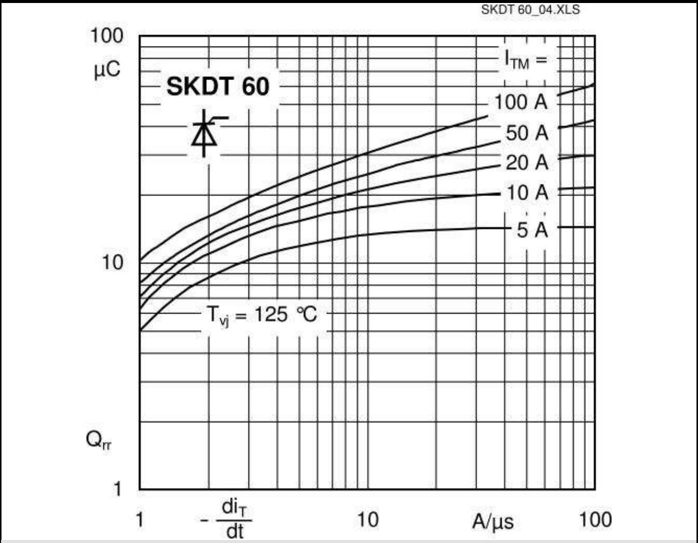


Fig. 8 Recovered charge vs. current decrease

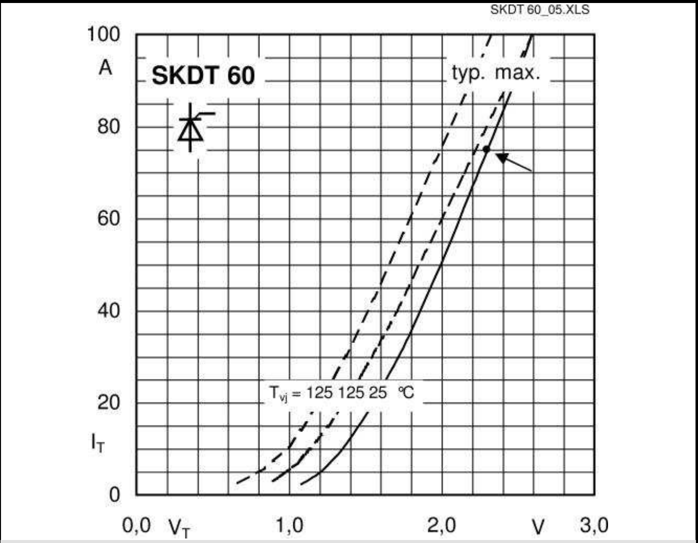


Fig. 10 On-state characteristics of a thyristor arm

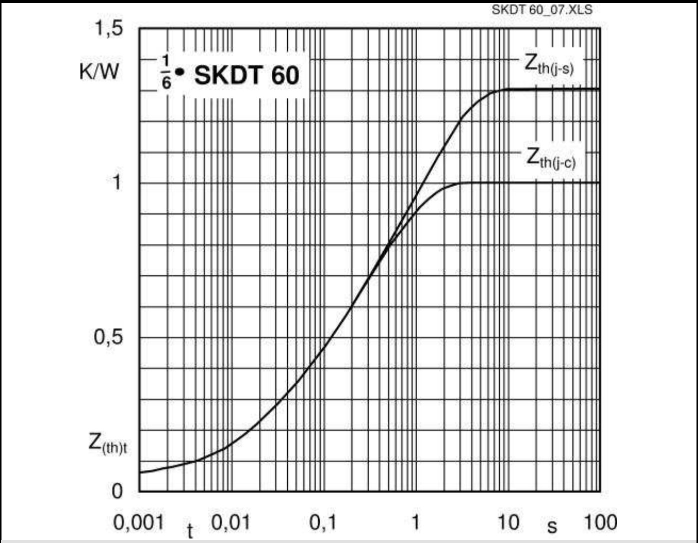


Fig. 12 Transient thermal impedance vs. time

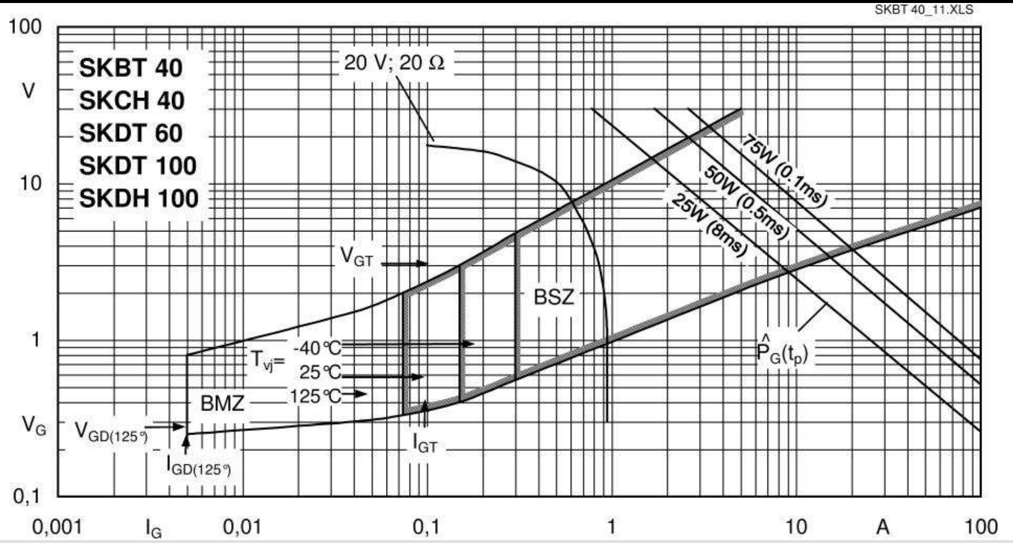
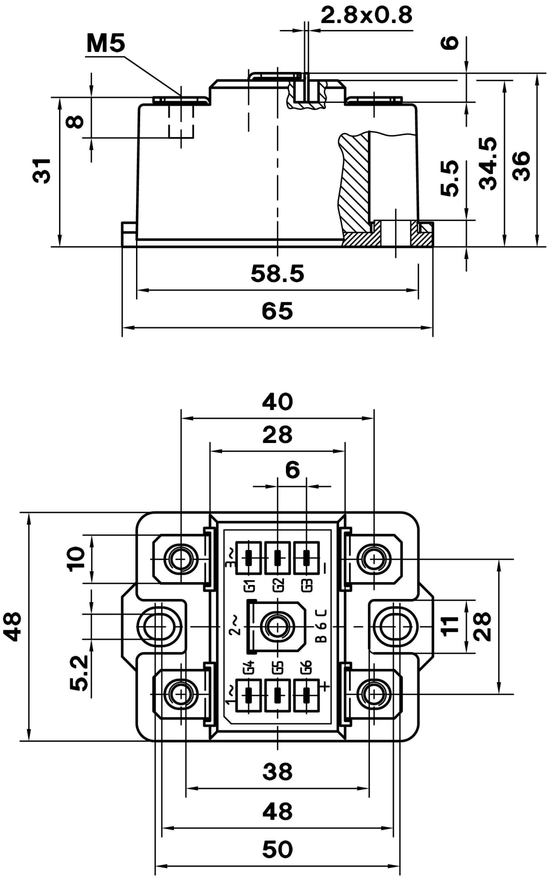


Fig. 11 Gate characteristics of a thyristor device

Dimensions in mm



Case G 21

* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.