

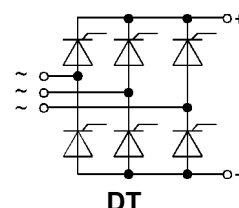
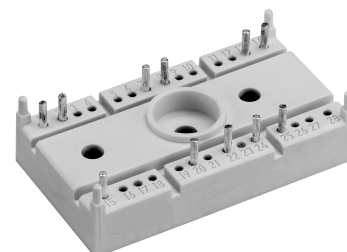
SK 40 DT, SK 70 DT

V_{RSM}	V_{RRM} V_{DRM}	I_{RMS} (maximum values for continuous operation) ($T_h = 80\text{ °C}$)	
V	V	42 A	68 A
900	800	SK 40 DT 08	SK 70 DT 08
1300	1200	SK 40 DT 12	SK 70 DT 12
1700	1600	SK 40 DT 16	SK 70 DT 16

SEMITOP® 3

Controllable Bridge Rectifiers

SK 40 DT SK 70 DT



Symbol	Conditions	SK 40 DT	SK 70 DT	Units
I_D	$T_h = 80\text{ °C}$; ind. load	42	68	A
I_{TSM}	$T_{vj} = 25\text{ °C}$; 10 ms	320	450	A
	$T_{vj} = 125\text{ °C}$; 10 ms	280	380	A
i^2t	$T_{vj} = 25\text{ °C}$; 8,3...10 ms	510	1 000	A ² s
	$T_{vj} = 125\text{ °C}$; 8,3...10 ms	390	720	A ² s
$(dv/dt)_{cr}$	$T_{vj} = 125\text{ °C}$	500	1 000	V/μs
$(di/dt)_{cr}$	$T_{vj} = 125\text{ °C}$; $f = 50\text{...}60\text{ Hz}$	100	50	A/μs
t_q	$T_{vj} = 125\text{ °C}$	80	80	μs
I_H	$T_{vj} = 25\text{ °C}$; typ. / max	80 / 150	80 / 150	mA
I_L	$T_{vj} = 25\text{ °C}$; $R_G = 33\text{ Ω}$; typ. / max.	150 / 300	150 / 300	mA
V_T	$T_{vj} = 25\text{ °C}$; $I_T = 75\text{ A}$	2,45	1,9	V
$V_{T(TO)}$	$T_{vj} = 125\text{ °C}$	1,10	1	V
r_T	$T_{vj} = 125\text{ °C}$	20	10	mΩ
I_{DD} ; I_{RD}	$T_{vj} = 125\text{ °C}$; $V_{DD} = V_{DRM}$; $V_{RD} = V_{RRM}$	max. 8	max. 10	mA
V_{GT}	$T_{vj} = 25\text{ °C}$; dc	2	2	V
I_{GT}	$T_{vj} = 25\text{ °C}$; dc	100	100	mA
V_{GD}	$T_{vj} = 125\text{ °C}$; dc	0,25	0,25	V
I_{GD}	$T_{vj} = 125\text{ °C}$; dc	3	3	mA
$R_{thjh}^{1)}$	per thyristor	1,7	1,2	K/W
T_{vjmax}		- 40 ... + 125		°C
T_{stg}		- 40 ... + 125		°C
T_{solder}	terminals, 10 s	260		°C
V_{isol}	a.c. 50 Hz; r.m.s. 1 s/1 min	3000 / 2500		V~
M_1	mounting torque	2,5		Nm
w		30		g
Case		T 15		

Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- Glass passivated thyristor chips
- Up to 1600 V reverse voltage
- high surge currents
- UL recognized, file no. E 63 532

- Typical Applications
- Reversing DC motors
- Controlled field rectifier for DC drives
- Controlled battery charger rectifiers

¹⁾ Thermal resistance junction to heatsink

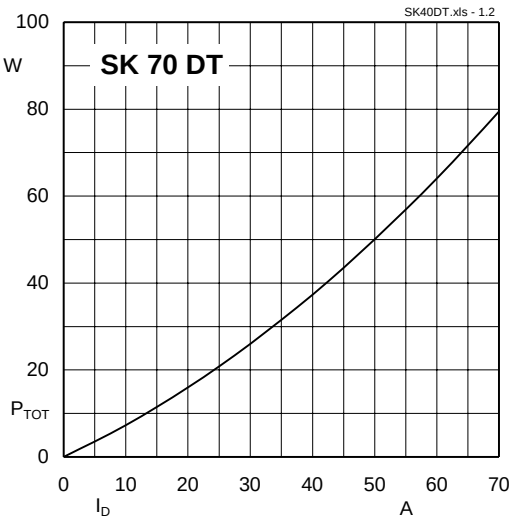
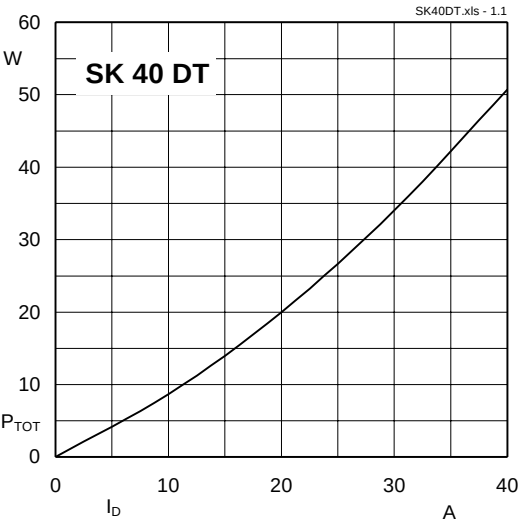


Fig. 1 Power dissipation vs. output current

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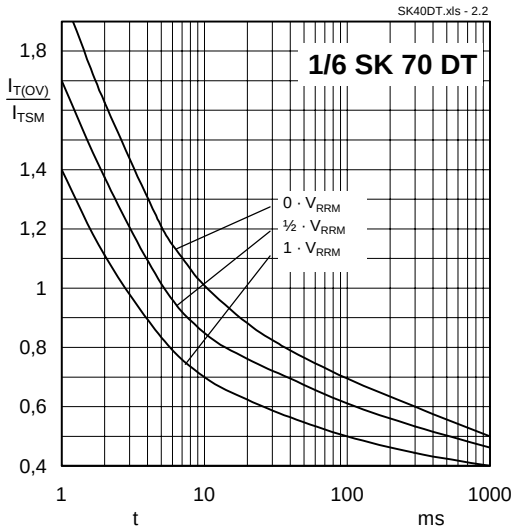
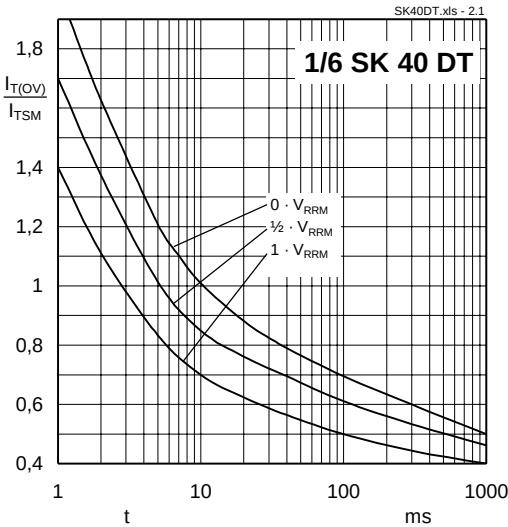


Fig. 2 Surge overload current vs. time

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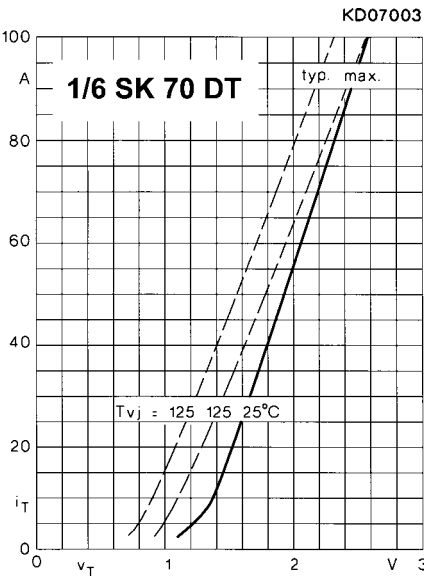
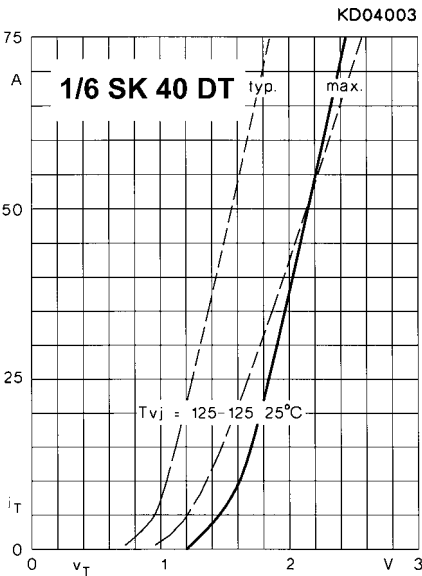


Fig. 3 Forward characteristic of single thyristor

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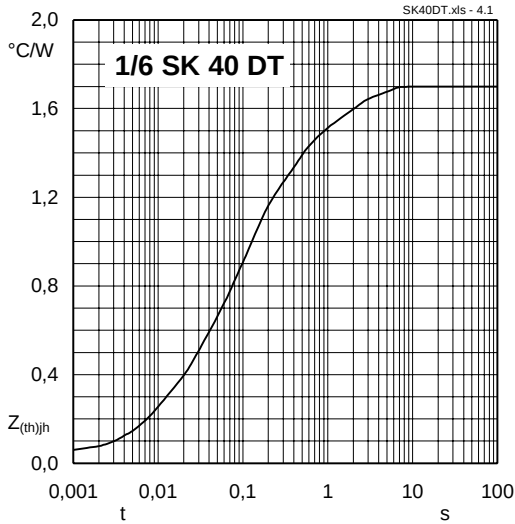


Fig. 4 Thermal transient impedance vs. time

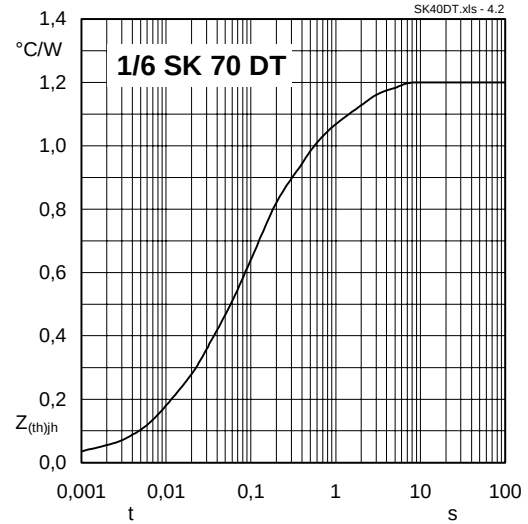


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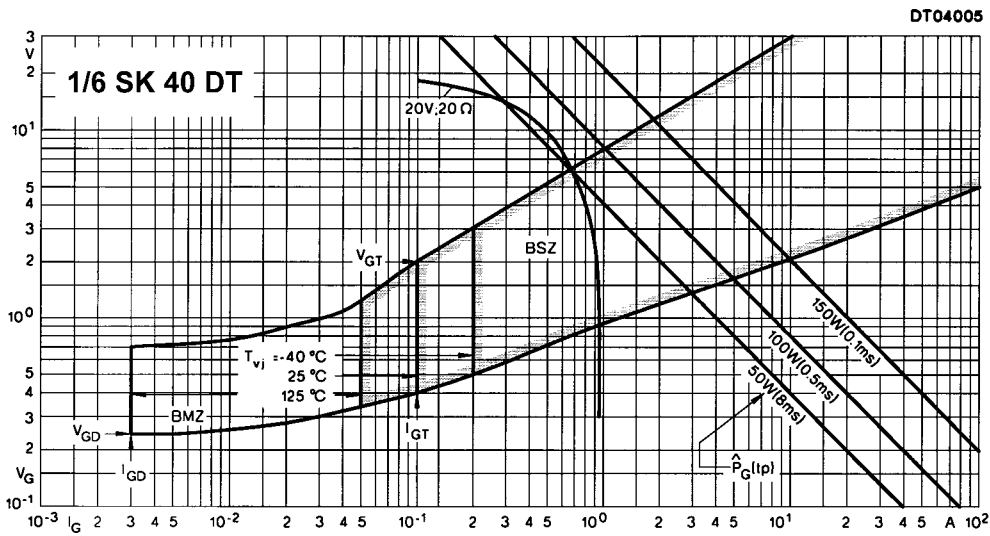


Fig. 5 Gate trigger characteristics of a single thyristor

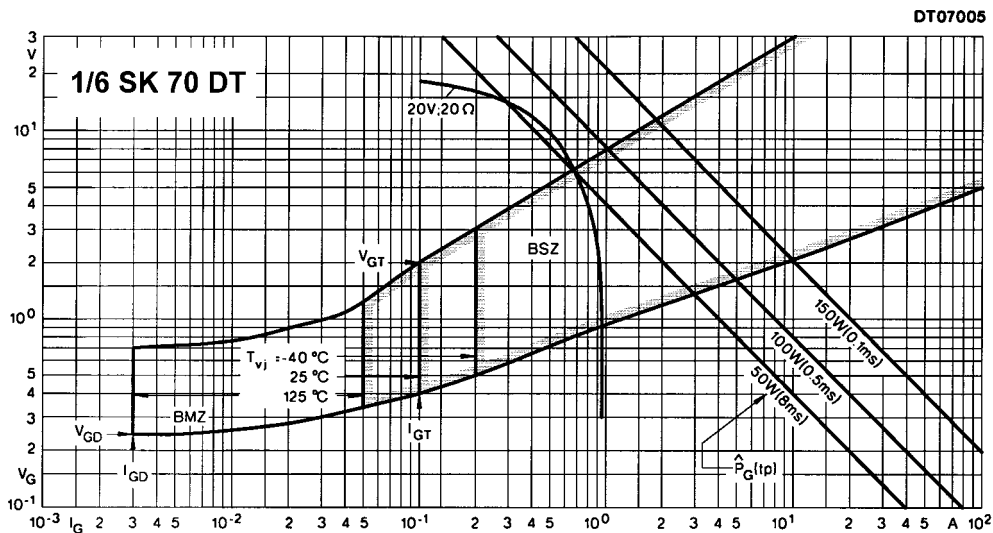


Fig. 5 Gate trigger characteristics of a single thyristor

SK 70 DT