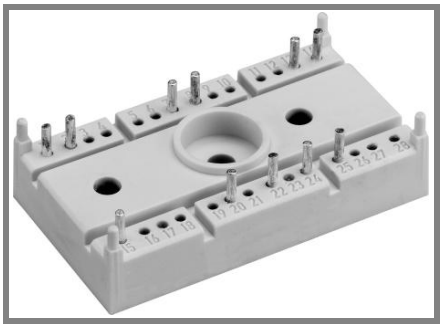
SK 70 DT



SEMITOP® 3

Controlled Bridge Rectifier

SK 70 DT

Preliminary Data

Features

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

Typical Applications

- Soft starters
- Light control
- Temperature control
- Motor control

V_{RSM} V	V_{RRM}, V_{DRM} V	I_D = 68 A (full conduction) (T_s = 80 °C)
900	800	SK 70 DT 08
1300	1200	SK 70 DT 12
1700	1600	SK 70 DT 16

Symbol	Conditions	Values	Units
I_D	T_s = 80 °C	68	A
I_{TSM}	T_{vj} = 25 °C; 10 ms	450	A
	T_{vj} = 125 °C; 10 ms	380	A
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms	1000	A²s
	T_{vj} = 125 °C; 8,3...10 ms	720	A²s
V_T	T_{vj} = 25 °C; 75A	max. 1,9	V
$V_{T(TO)}$	T_{vj} = 125 °C;	1	V
r_T	T_{vj} = 125 °C	10	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}	2	µs
$(dv/dt)_{cr}$	T_{vj} = 125 °C; d.c.	max. 1000	V/µs
$(di/dt)_{cr}$	T_{vj} = 125 °C; d.c.; f = 50...60 Hz	max. 50	A/µs
t_q	T_{vj} = 125 °C; d.c.; typ.	80	µs
I_H	T_{vj} = 25 °C; d.c.; typ. / max.	80 / 150	mA
I_L	T_{vj} = 25 °C; d.c.; R_G = 33 Ω	150 / 300	mA
V_{GT}	T_{vj} = 25 °C; d.c.	min. 2	V
I_{GT}	T_{vj} = 25 °C; d.c.	min. 100	mA
V_{GD}	T_{vj} = 125 °C; d.c.	max. 0,25	V
I_{GD}	T_{vj} = 125 °C; d.c.	max. 3	mA
Rth(j-s)	Per thyristor	1,2	K/W
			K/W
T_{solder}	Terminals, 10s	260	°C
T_{vj}		-40...+125	°C
T_{stg}		-40...+125	°C
V_{isol}	a. c. 50 Hz; r.m.s.; 1 s / 1 min.	3000 (2500)	V
M_s	Mounting torque to heatsink	2,5	Nm
a			m/s²
m	weight	30	g
Case	SEMITOP® 3	T 15	

DT

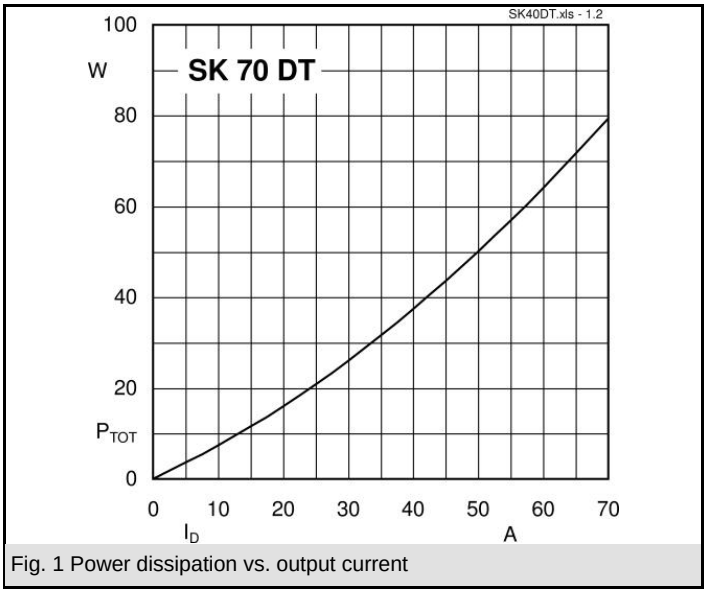


Fig. 1 Power dissipation vs. output current

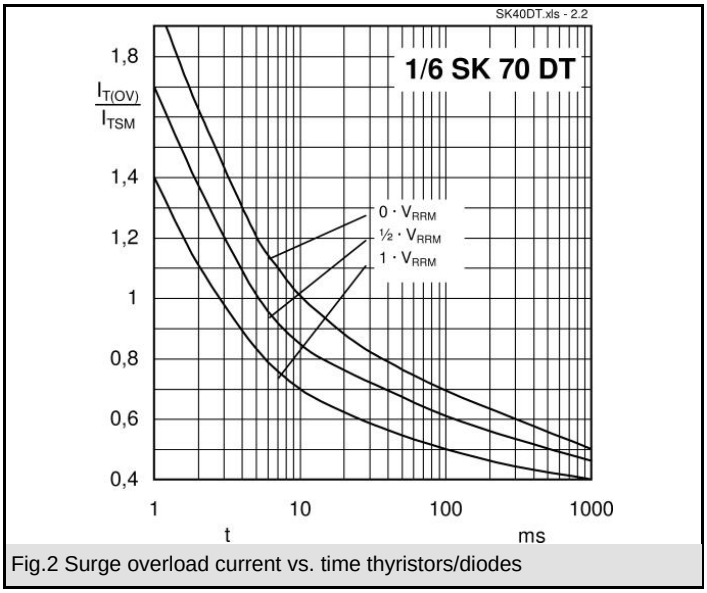


Fig.2 Surge overload current vs. time thyristors/diodes

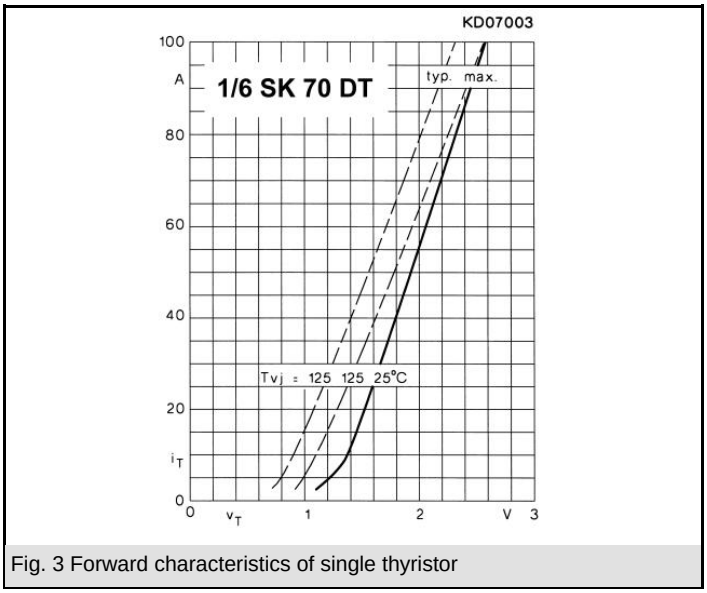


Fig. 3 Forward characteristics of single thyristor

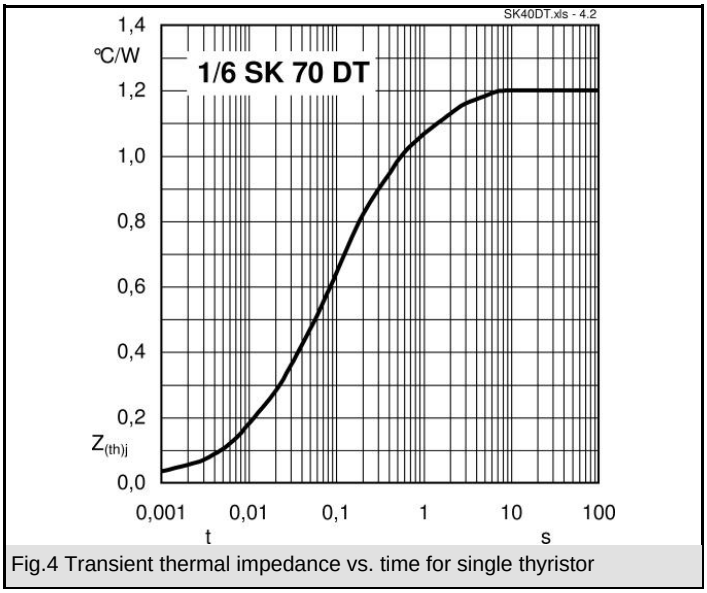


Fig.4 Transient thermal impedance vs. time for single thyristor

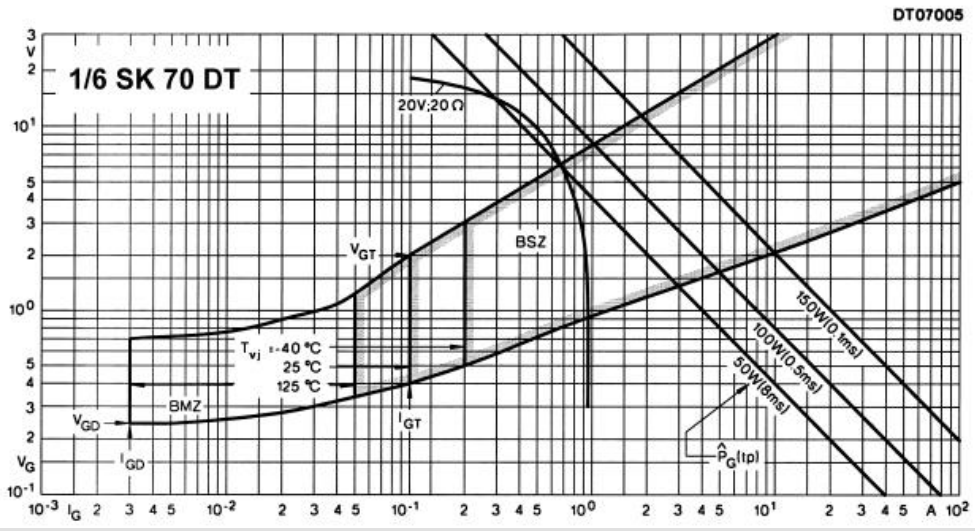
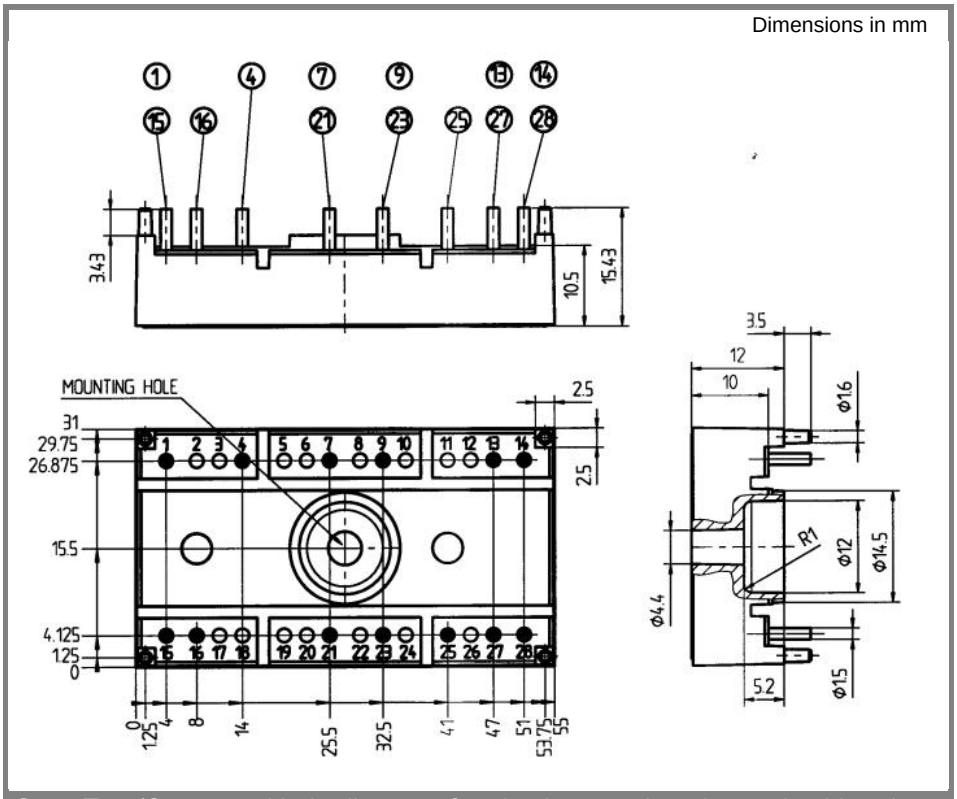
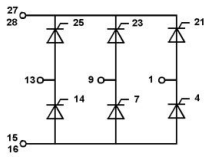


Fig. 5 Gate trigger characteristics



Case T15 (Suggested hole diameter for plastic mounting pins and solder pins in the PCB: 2mm)



Case T15 DT

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