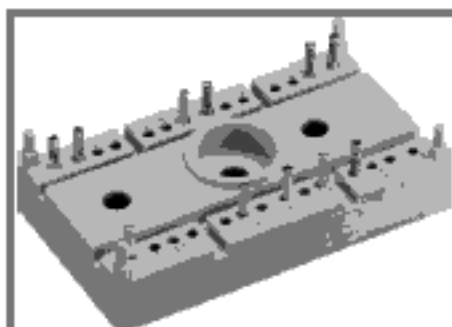


# SK 70 DT



SEMITOP® 3

## Controlled Bridge Rectifier

SK 70 DT

Preliminary Data

### Features

- Compact design
- One screw mounting
- Heat transfer and insulation through direct copper bonded aluminium oxide ceramic (DBC)
- Glass passivated 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) ( $T_a = 80$ °C)
900	800	SK 70 DT 08
1300	1200	SK 70 DT 12
1700	1600	SK 70 DT 16

Symbol	Conditions	Values	Units
$I_D$	$T_a = 80$ °C	68	A
$I_{TSM}$	$T_{vj} = 25$ °C; 10 ms	450	A
	$T_{vj} = 125$ °C; 10 ms	380	A
$P_t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms	1000	A <sup>2</sup> s
	$T_{vj} = 125$ °C; 8,3...10 ms	720	A <sup>2</sup> s
$V_T$	$T_{vj} = 25$ °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
$t_{gr}$	$V_D = 0,67 \cdot V_{DRM}$	2	μs
$(dv/dt)_G$	$T_{vj} = 125$ °C; d.c.	max. 1000	V/μs
$(di/dt)_G$	$T_{vj} = 125$ °C; d.c.; $f = 60...60$ Hz	max. 60	A/μs
$t_q$	$T_{vj} = 125$ °C; d.c.; $t_{fp}$	80	μs
$I_H$	$T_{vj} = 25$ °C; d.c.; $t_{fp}$ / max.	80 / 150	mA
$I_L$	$T_{vj} = 25$ °C; d.c.; $R_G = 33$ Ω	160 / 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
$R_{th(j-s)}$	Per thyristor	1,2	K/W
$T_{solder}$	Terminals, 10s	260	°C
$T_{vj}$		-40...+125	°C
$T_{stg}$		-40...+125	°C
$V_{rot}$	a. c. 60 Hz; r.m.s.; 1 s / 1 min.	3000 ( 2500 )	V
$M_s$	Mounting torque to heatsink	2,6	Nm
$a$			m/s <sup>2</sup>
$m$	weight	30	g
Case	SEMITOP® 3	T 15	

DT

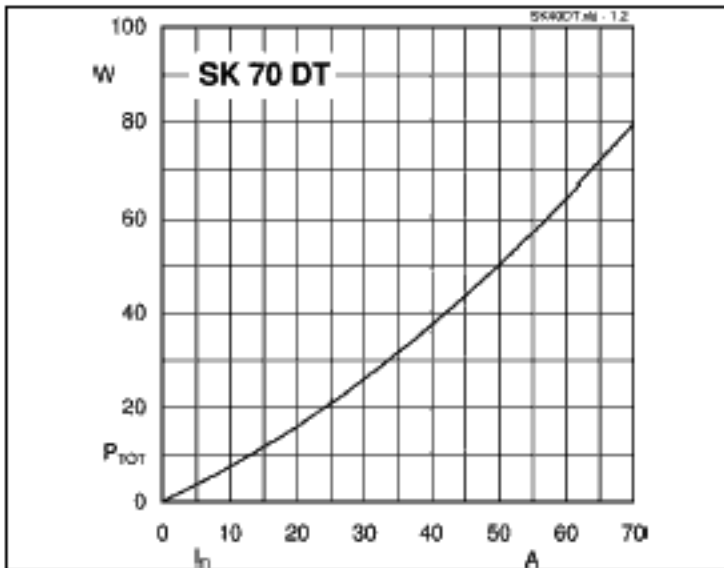


Fig. 1 Power dissipation vs. output current

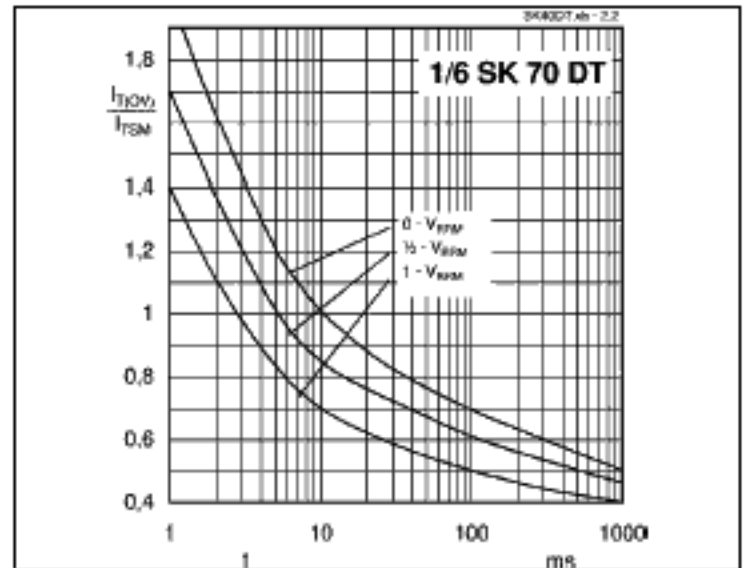


Fig. 2 Surge overload current vs. time thyristors/diodes

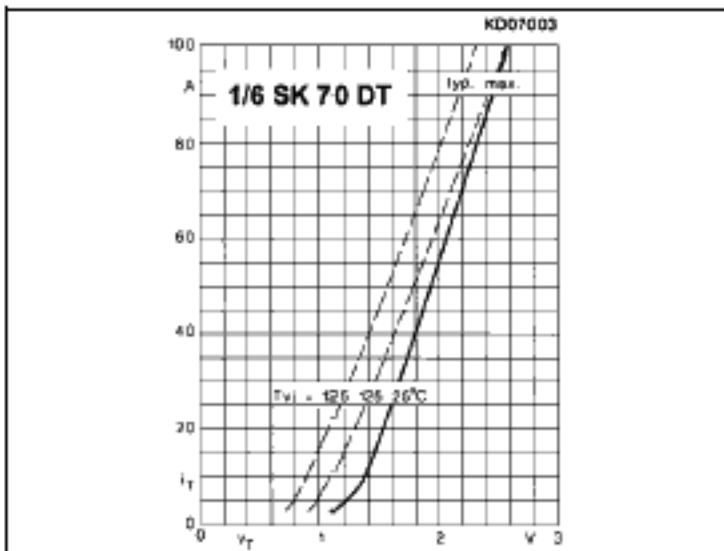


Fig. 3 Forward characteristics of single thyristor

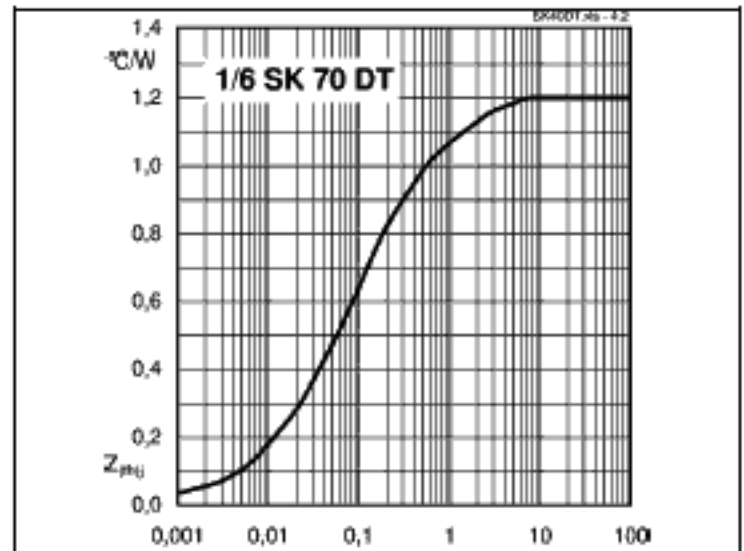


Fig. 4 Transient thermal impedance vs. time for single thyristor

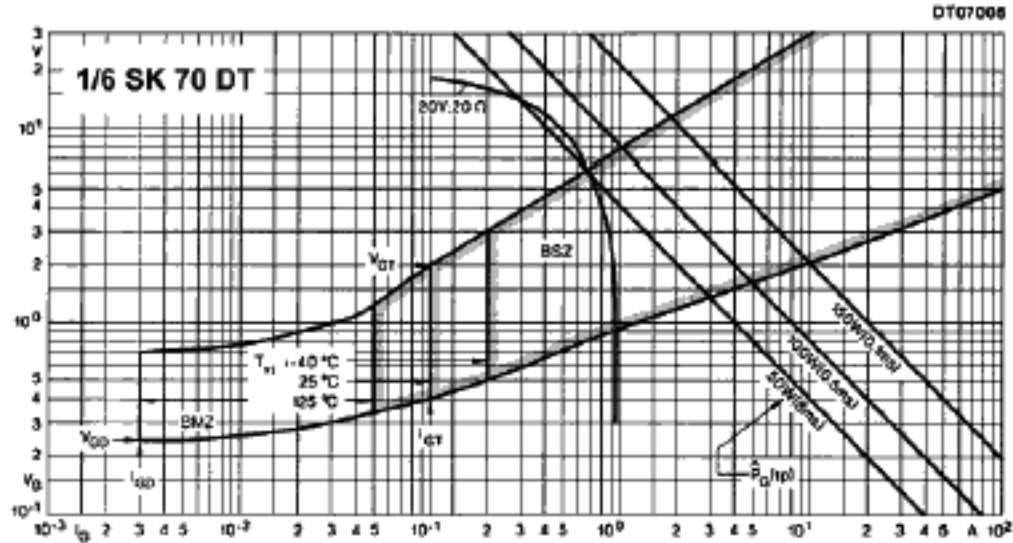
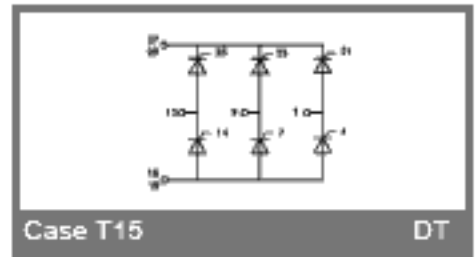
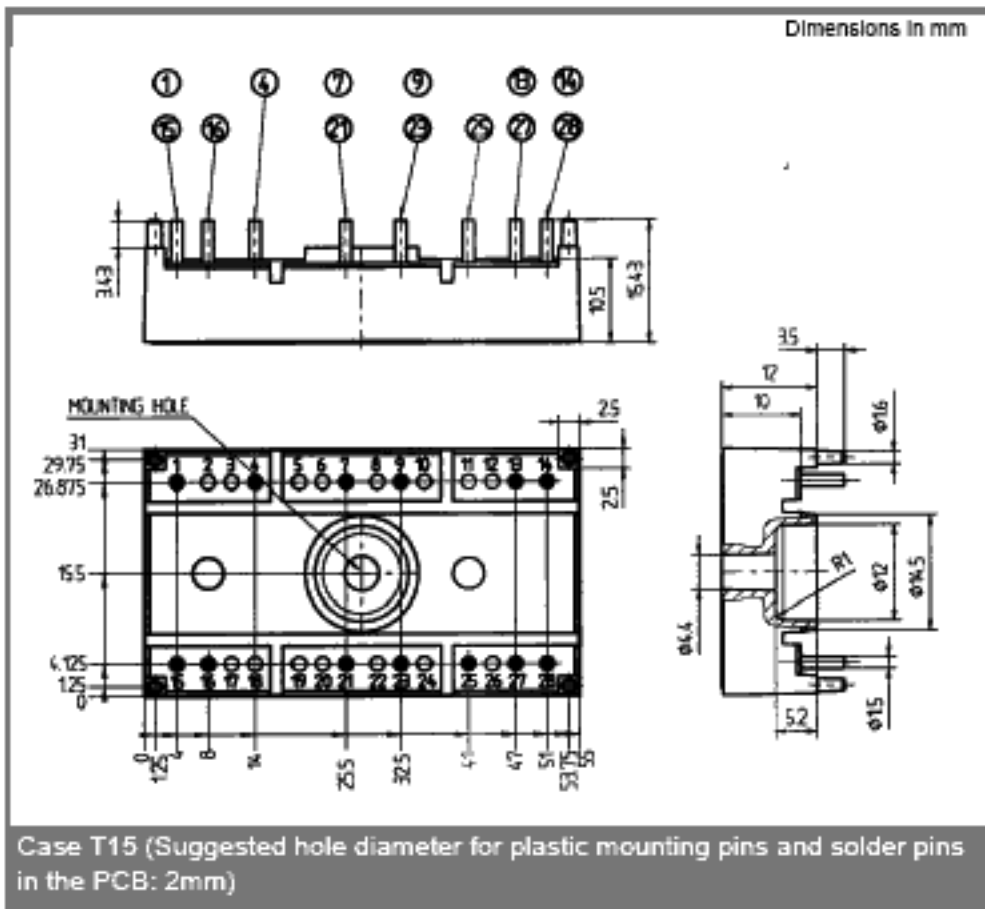


Fig. 5 Gate trigger characteristics



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