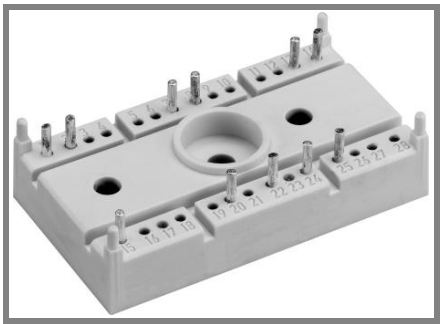
SK 40 DH



SEMITOP® 3

Half Controlled Bridge Rectifier

SK 40 DH

Preliminary Data

Features

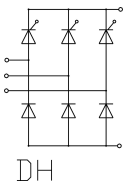
- Compact design
- One screw mounting
- Heat transfer and insolation through direct copper bonded aluminium oxide ceramic (DBC)
- Glass passived thyristor chips
- Up to 1600V reverse voltage
- UL recognized, file no. E 63 532

Typical Applications

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

V_{RSM} V	V_{RRM}, V_{DRM} V	I_D = 42 A (full conduction) (T_s = 80 °C)
900	800	SK 40 DH 08
1300	1200	SK 40 DH 12
1700	1600	SK 40 DH 16

Symbol	Conditions	Values	Units
I_D	T_s = 80 °C	42	A
I_{FSM} / I_{TSM}	T_{vj} = 25 °C; 10 ms	320	A
	T_{vj} = 125 °C; 10 ms	280	A
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms	510	A²s
	T_{vj} = 125 °C; 8,3...10 ms	390	A²s
V_T	T_{vj} = 25 °C; 75A	max. 2,45	V
$V_{T(TO)}$	T_{vj} = 125 °C;	1,1	V
r_T	T_{vj} = 125 °C	20	mΩ
I_{DD}; I_{RD}	T_{vj} = 125 °C; V_{DD} = V_{DRM}; V_{RD} = V_{RRM}	max. 8	mA
t_{gd}	T_{vj} = °C; I_G = A; di_G/dt = A/µs		µs
t_{gr}	V_D = · V_{DRM}		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.	120	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	1,7	K/W
	Per diode	1,7	K/W
T_{solder}	Terminals, 10s	260	°C
T_{vj}	Diodes	-40...+150	°C
T_{vj}			°C
T_{stg}		-40...+125	°C
T_{vj}	Thyristors	-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 39	



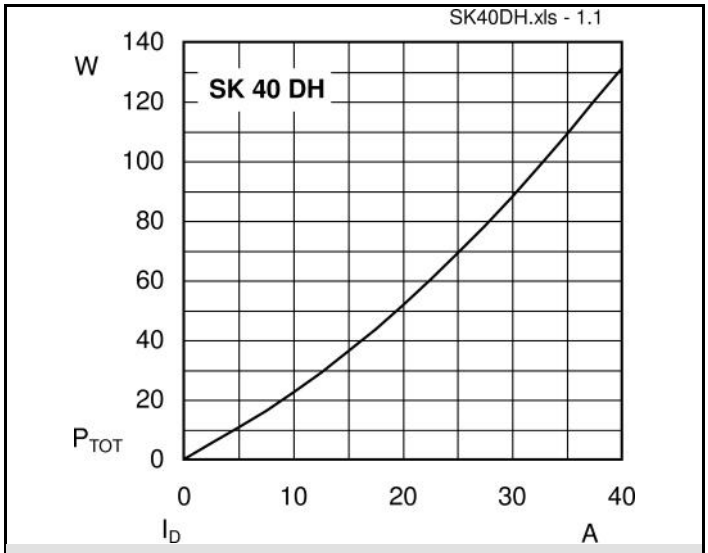


Fig. 1 Power dissipation vs. output current

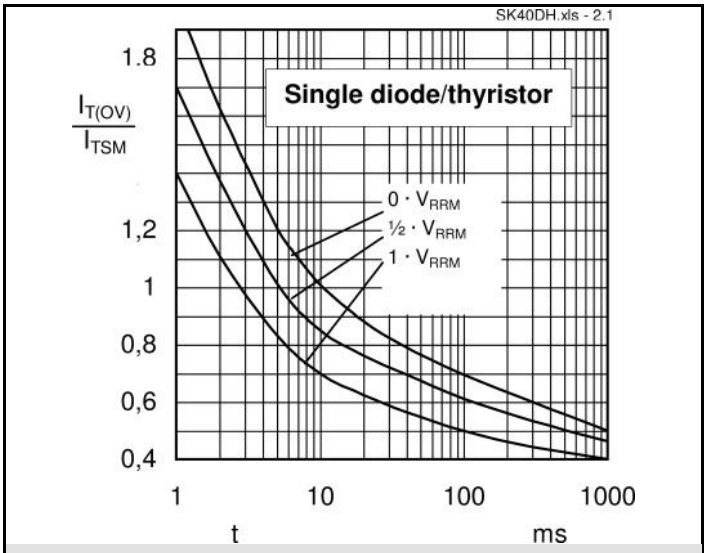


Fig. 2 Surge overload current vs. time

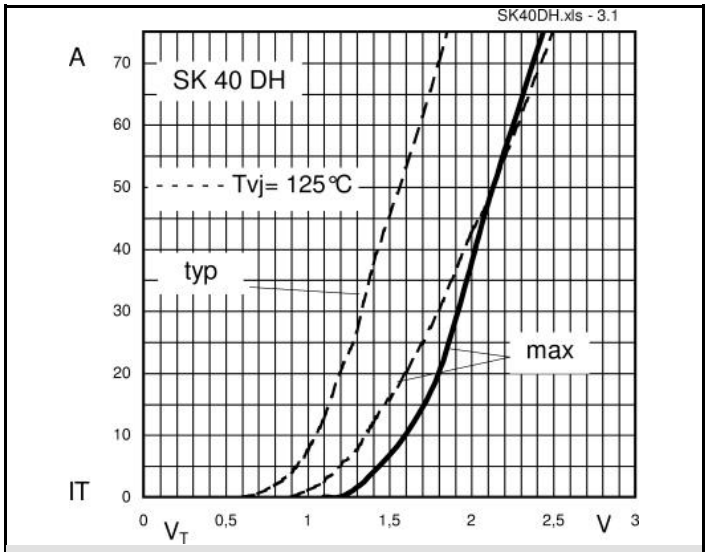


Fig. 3.1 Forward characteristics of single thyristor

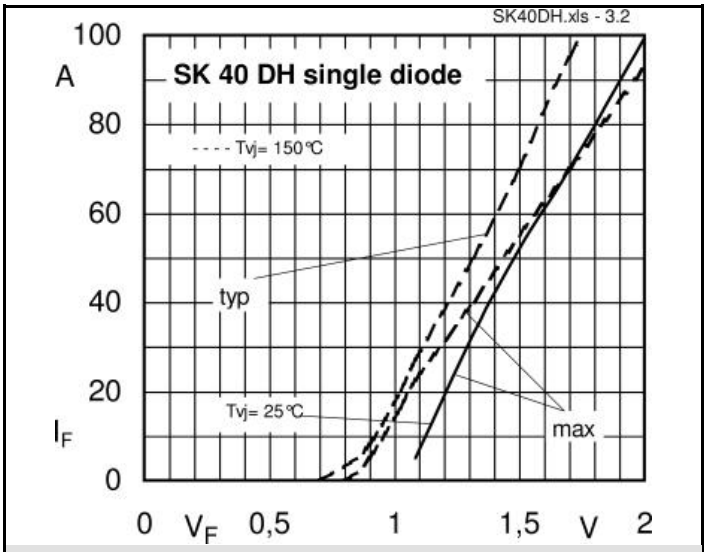


Fig. 3.2 Forward characteristics of single diode

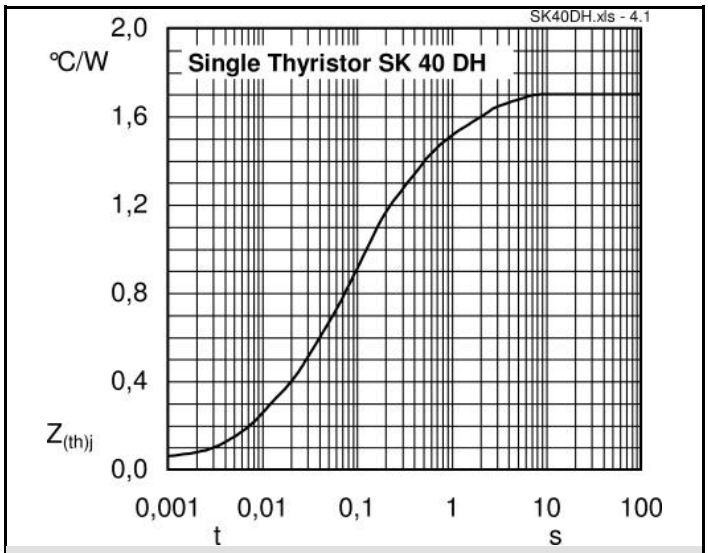


Fig. 4.1 Transient thermal impedance vs. time for single thyristor

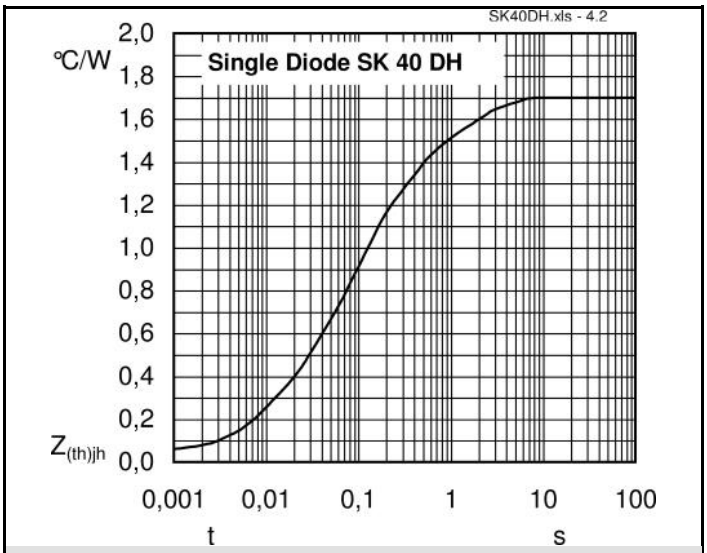


Fig. 4.2 Transient thermal impedance vs. time for single diode

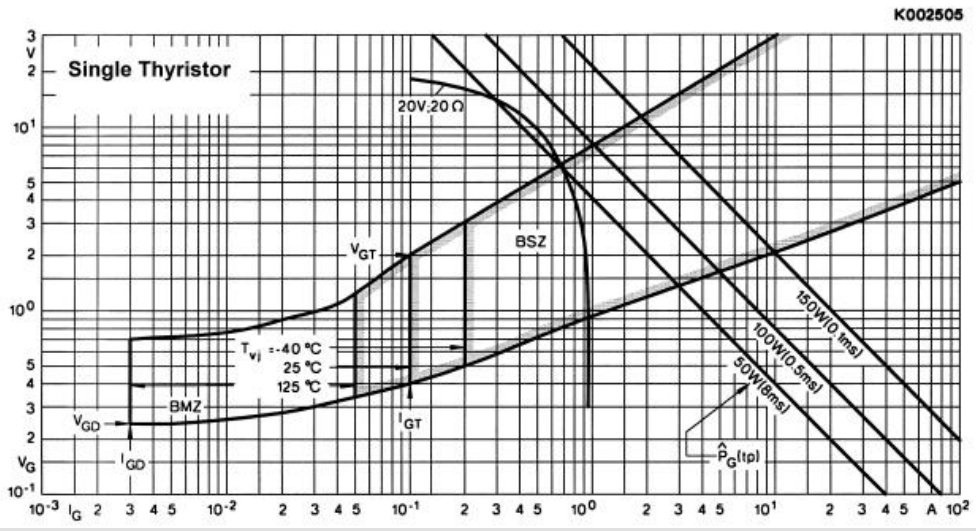
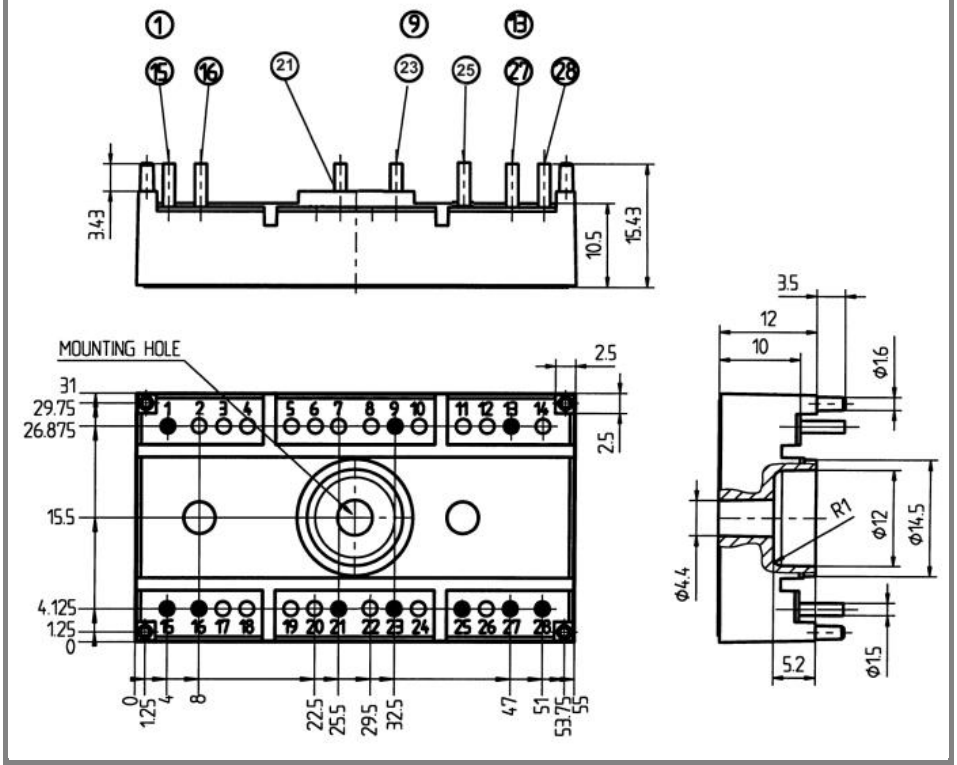
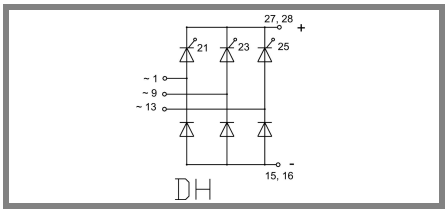


Fig. 5 Gate trigger characteristics

Dimensions in mm



Case T39 (Suggetsted hole diameter in the PCB for mounting plastic pins and for solder pins= 2mm)



Case T39 DH

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