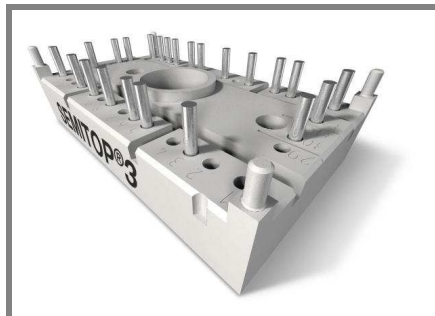


# SK 40 DH



SEMITOP® 3

## Half Controlled Bridge Rectifier

### SK 40 DH

Preliminary Data

### Features

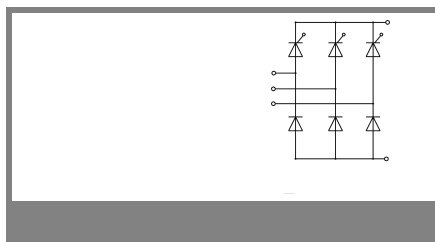
- Compact design
- One screw mounting
- Heat transfer and insulation through direct copper bonded aluminium oxide ceramic (DBC)
- Glass passivated thyristor chips
- Up to 1600V reverse voltage
- UL recognized, file no. E 63 532

### Typical Applications\*

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

$V_{RSM}$ V	$V_{RRM}, V_{DRM}$ V	$I_D = 42$ 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 $T_{vj} = 125$ °C; 10 ms	370 270	A A
$i^2t$	$T_{vj} = 25$ °C; 10 ms $T_{vj} = 125$ °C; 10 ms	685 365	A <sup>2</sup> s A <sup>2</sup> s
$V_T$	$T_{vj} = 25$ °C; 75A	max. 2,45	V
$V_{T(TO)}$	$T_{vj} = 125$ °C;	max. 1,1	V
$r_T$	$T_{vj} = 125$ °C	max. 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
$t_{gr}$	$V_D = \cdot V_{DRM}$		μs
$(dv/dt)_{cr}$	$T_{vj} = 125$ °C	max. 1000	V/μs
$(di/dt)_{cr}$	$T_{vj} = 125$ °C; $f = 50..60$ Hz	max. 50	A/μs
$t_q$	$T_{vj} = 125$ °C; typ.	120	μs
$I_H$	$T_{vj} = 25$ °C; typ. / max.	80 / 150	mA
$I_L$	$T_{vj} = 25$ °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
$R_{th(j-s)}$	Per thyristor Per diode	1,7 1,7	K/W 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
$m$	weight	30	g
Case	SEMITOP® 3	T 39	



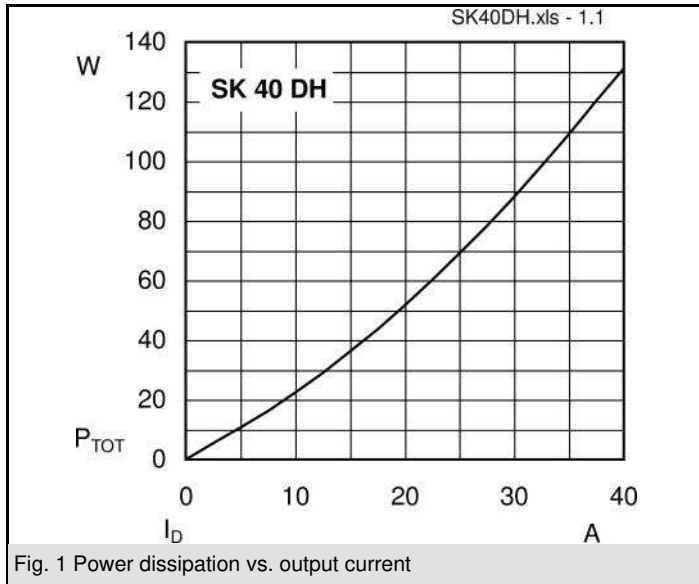


Fig. 1 Power dissipation vs. output current

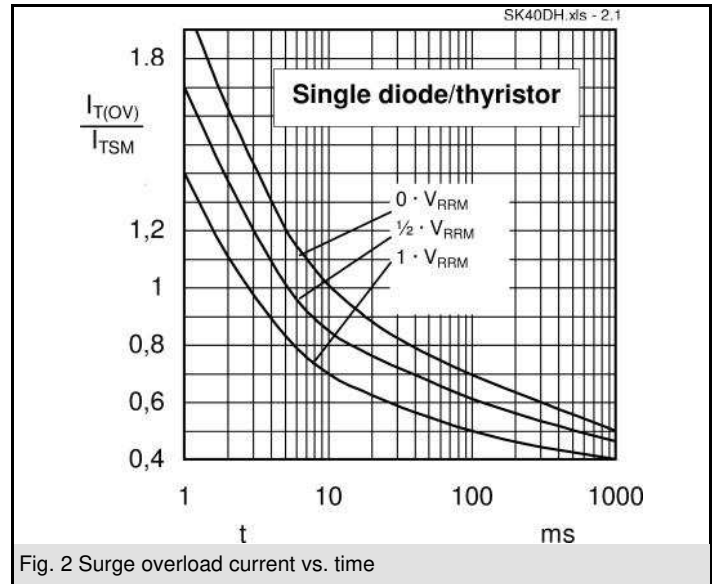


Fig. 2 Surge overload current vs. time

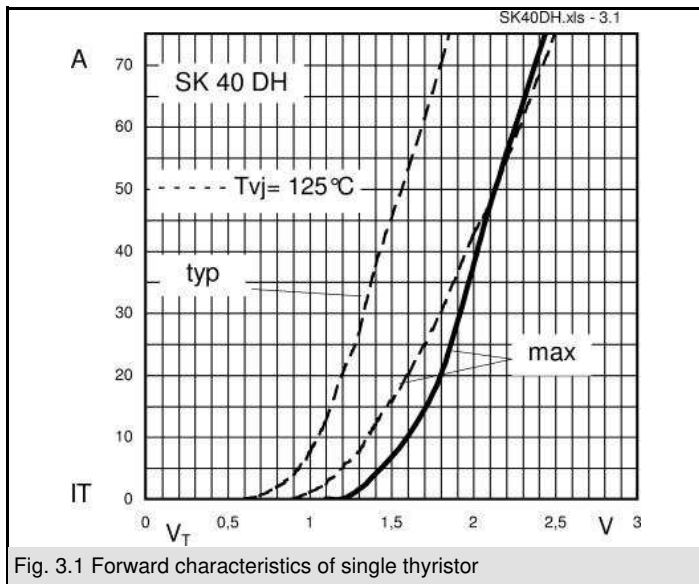


Fig. 3.1 Forward characteristics of single thyristor

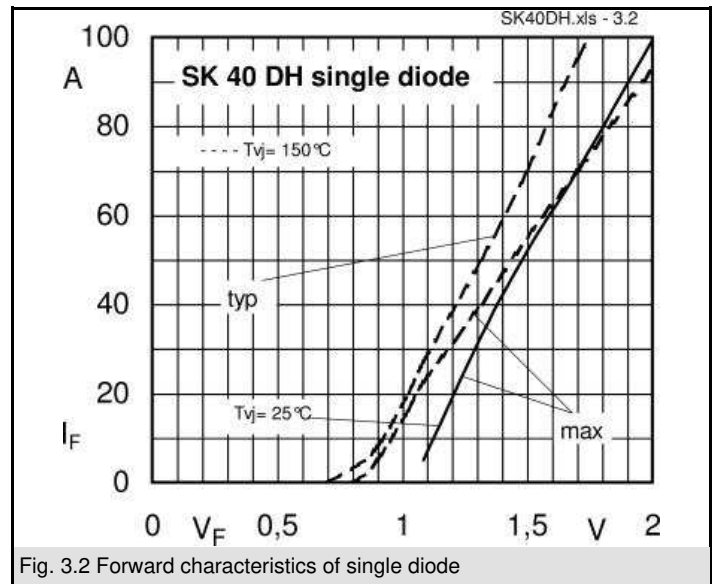


Fig. 3.2 Forward characteristics of single diode

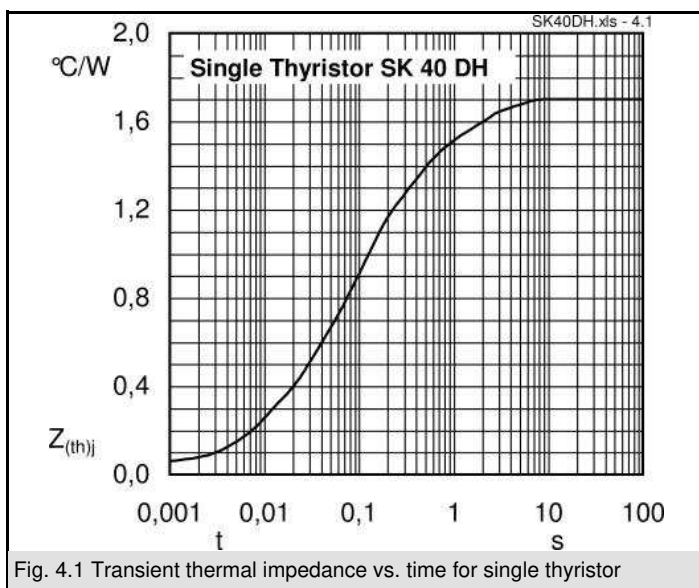


Fig. 4.1 Transient thermal impedance vs. time for single thyristor

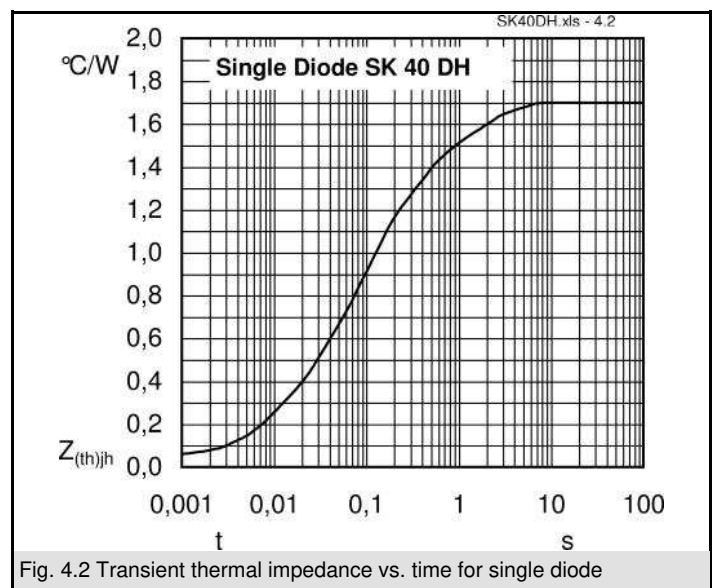


Fig. 4.2 Transient thermal impedance vs. time for single diode

