



**SEMIPONT™ 5**

## Three phase antiparallel Thyristor Module

### SKUT 85

#### Preliminary Data

#### Features

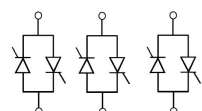
- Compact design
- Two screws mounting
- Heat transfer and isolation through direct copper board (Low  $R_{th}$ )
- Low resistance in Steady-State and high reliability
- High surge currents
- Glass passivated thyristors chips
- Up to 1600V reverse voltage
- UL recognized, file no. E 63 532

#### Typical Applications

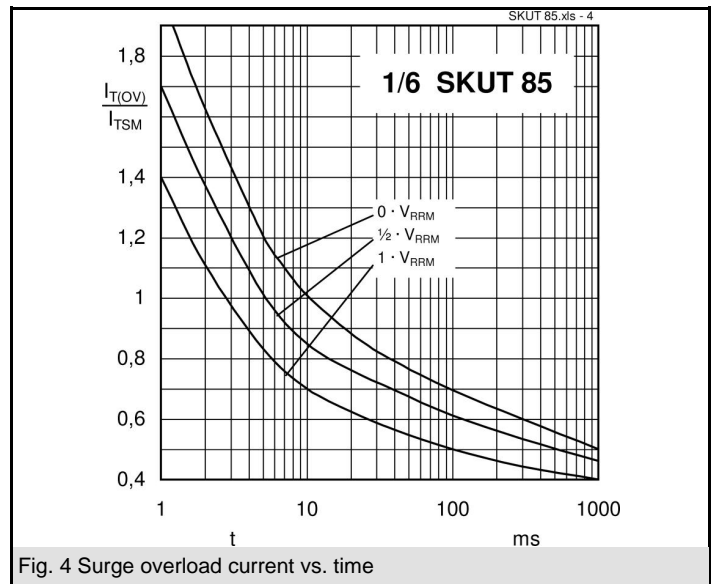
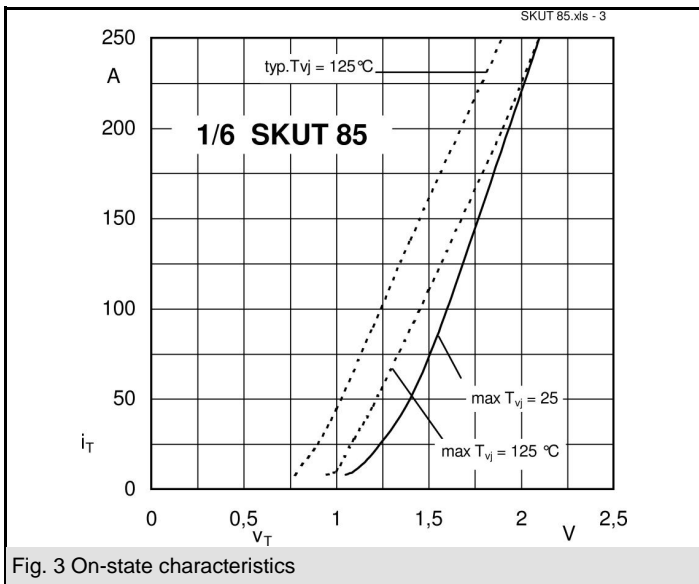
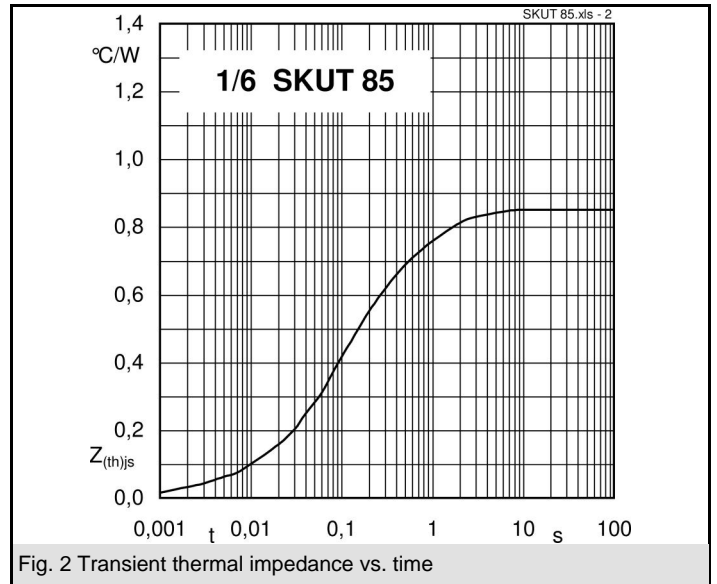
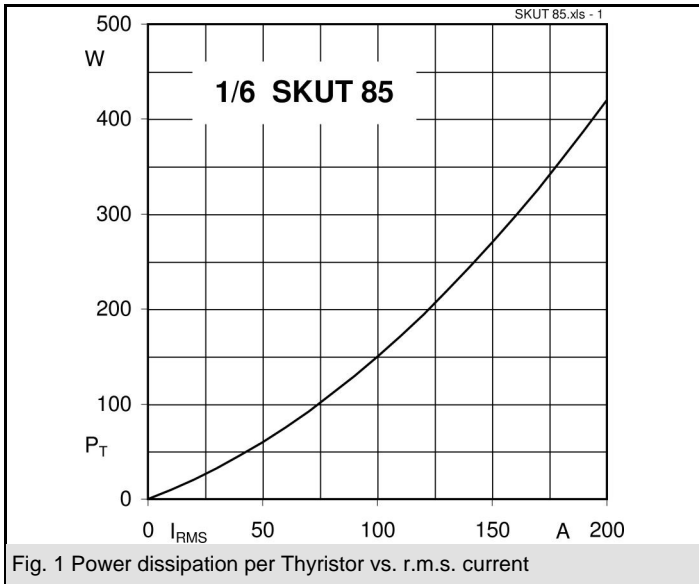
- Soft starter
- Light control (e.g. studios, theaters)
- Temperature control (e.g. oven, chemical processes)

$V_{RSM}$ V	$V_{RRM}, V_{DRM}$ V	$I_{RMS} = 85 \text{ A (full conduction)}$ ( $T_s = 85 \text{ °C}$ )
1300	1200	SKUT 85/12
1700	1600	SKUT 85/16

Symbol	Conditions	Values	Units
$I_{RMS}$	W3C ; sin. 180° ; $T_s = 85 \text{ °C}$ ; sin. 180° ;	85	A A
$I_{TSM}$	$T_{vj} = 25 \text{ °C}$ ; 10 ms $T_{vj} = 125 \text{ °C}$ ; 10 ms	1050	A A
$i^2t$	$T_{vj} = 25 \text{ °C}$ ; 10 ms $T_{vj} = 125 \text{ °C}$ ; 8,3...10 ms	5500	A <sup>2</sup> s A <sup>2</sup> s
$V_T$	$T_{vj} = 25 \text{ °C}$ , $I_T = 120 \text{ A}$	max. 1,8	V
$V_{T(TO)}$	$T_{vj} = 125 \text{ °C}$	max. 1,1	V
$r_T$	$T_{vj} = 125 \text{ °C}$	max. 6	mΩ
$I_{DD}, I_{RD}$	$T_{vj} = 25 \text{ °C}$ , $V_{RD} = V_{RRM}$ $T_{vj} = 125 \text{ °C}$ , $V_{RD} = V_{RRM}$	max. 1 max. 20	mA mA
$t_{gd}$	$T_{vj} = 25 \text{ °C}$ , $I_G = 1 \text{ A}$ ; $di_G/dt = 1 \text{ A}/\mu\text{s}$	1	μs
$t_{gr}$	$V_D = 0,67 * V_{DRM}$	2	μs
$(dv/dt)_{cr}$	$T_{vj} = 125 \text{ °C}$	500	V/μs
$(di/dt)_{cr}$	$T_{vj} = 125 \text{ °C}$ ; $f = 50...60 \text{ Hz}$	50	A/μs
$t_q$	$T_{vj} = 125 \text{ °C}$ ; typ.	150	μs
$I_H$	$T_{vj} = 25 \text{ °C}$ ; typ. / max.	200	mA
$I_L$	$T_{vj} = 25 \text{ °C}$ ; $R_G = 33 \text{ Ω}$ ; typ. / max.	400	mA
$V_{GT}$	$T_{vj} = 25 \text{ °C}$ ; d.c.	min. 3	V
$I_{GT}$	$T_{vj} = 25 \text{ °C}$ ; d.c.	min. 150	mA
$V_{GD}$	$T_{vj} = 125 \text{ °C}$ ; d.c.	max. 0,25	V
$I_{GD}$	$T_{vj} = 125 \text{ °C}$ ; d.c.	max. 5	mA
$R_{th(j-s)}$	sin 180°C per Thyristor	0,85	K/W K/W
$T_{vj}$		-40...+125	°C
$T_{stg}$		-40...+125	°C
$T_{sold}$	Terminals, 10s max	260	°C
$V_{isol}$	a. c. 50 Hz ; r.m.s. ; 1 s / 1 min.	3600 / 3000	V~
$M_s$	Mounting torque to Heatsink, SI units	2,5	Nm
$M_t$			Nm
$a$			m/s <sup>2</sup>
$m$		75	g
Case	SEMIPONT 5	G62	



**W3C**



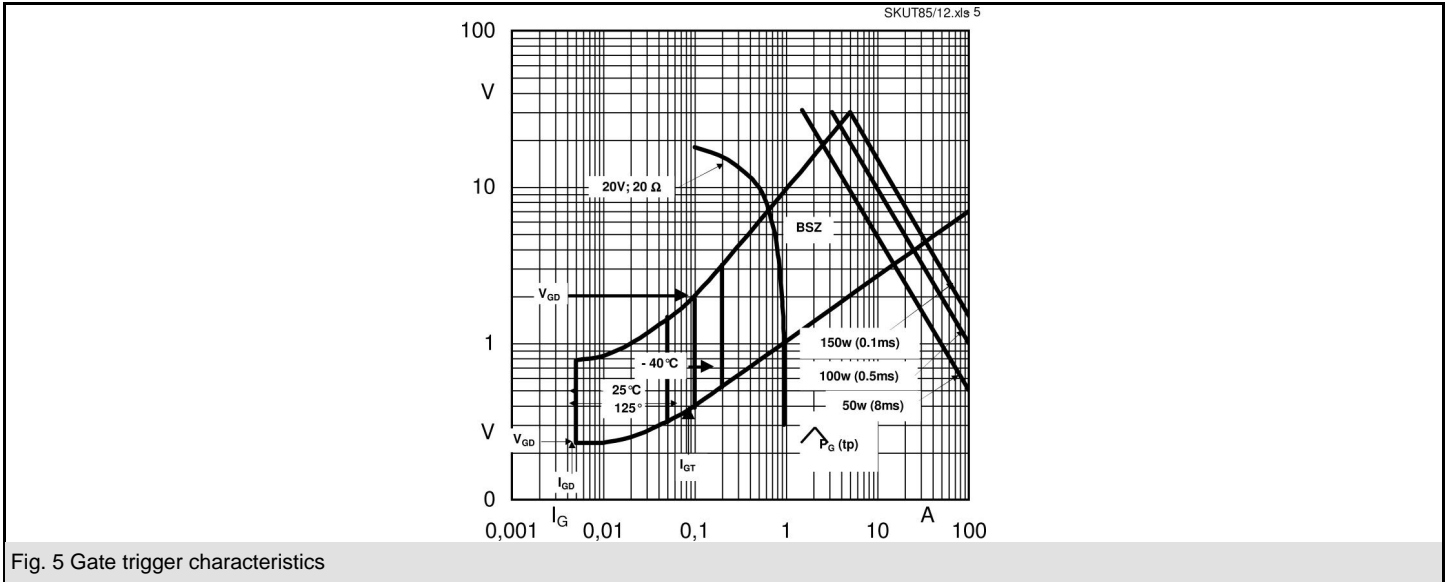
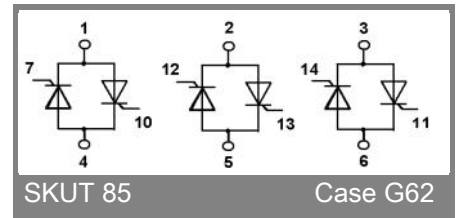
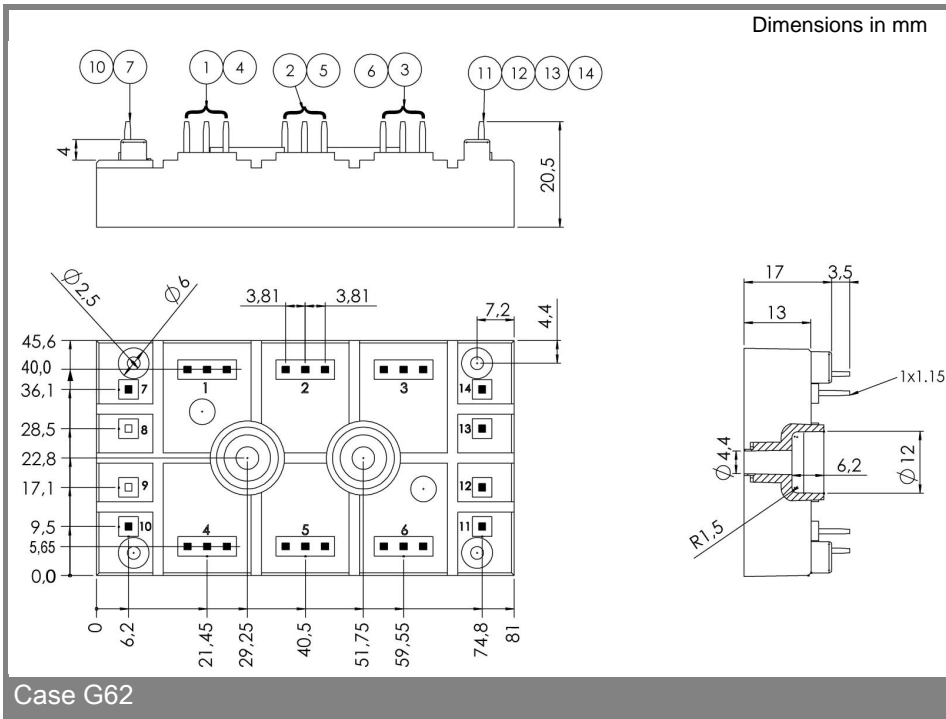


Fig. 5 Gate trigger characteristics



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