SKUT 85 T

SEMIPONT^{TM} 5

Three phase antiparallel Thyristor Module

SKUT 85 T

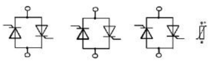
Target Data

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 passived thyristors chips
- Up to 1600V reverse voltage
- UL recognized, file no. E 63 532
- Integrated temperature sensor

Typical Applications

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



W3C

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

Symbol	Conditions	Values	Units
I_{RMS}	W3C ; sin. 180° ; T_s= 85°C	85	A
	; sin. 180° ;		A
I_{TSM}	T_{vj} = 25 °C ; 10 ms		A
	T_{vj} = 125 °C ; 10 ms	1050	A
i²t	T_{vj} = 25 °C ; 10 ms		A²s
	T_{vj} = 125 °C ; 8,3...10 ms	5500	A²s
V_T	T_{vj} = 25 °C, I_T = 120 A	max. 1,8	V
$V_{T(TO)}$	T_{vj} = 125 °C	max. 1,1	V
r_T	T_{vj} = 125 °C	max. 6	mΩ
I_{DD};I_{RD}	T_{vj} = 25 °C, V_{RD}=V_{RRM}	max. 1	mA
	T_{vj} = 125 °C, V_{RD}=V_{RRM}	max. 20	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	500	V/µs
$(di/dt)_{cr}$	T_{vj} = 125 °C; f= 50...60 Hz	50	A/µs
t_q	T_{vj} = 125 °C; typ.	150	µs
I_H	T_{vj} = 25 °C; typ. / max.	200	mA
I_L	T_{vj} = 25 °C; R_G = 33 Ω; typ. / max.	400	mA
V_{GT}	T_{vj} = 25 °C; d.c.	min. 3	V
I_{GT}	T_{vj} = 25 °C; d.c.	min. 150	mA
V_{GD}	T_{vj} = 125 °C; d.c.	max. 0,25	V
I_{GD}	T_{vj} = 125 °C; d.c.	max. 5	mA
$R_{th(j-s)}$	sin 180°C per Thyristor	0,85	K/W
			K/W
Temperature	R_{TS} @ 25°C	1000	Ω
sensor	R_{TS} @ 100°C	1670	Ω
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/s²
m		75	g
Case	SEMIPONT 5	G67	

SKUT 85 T

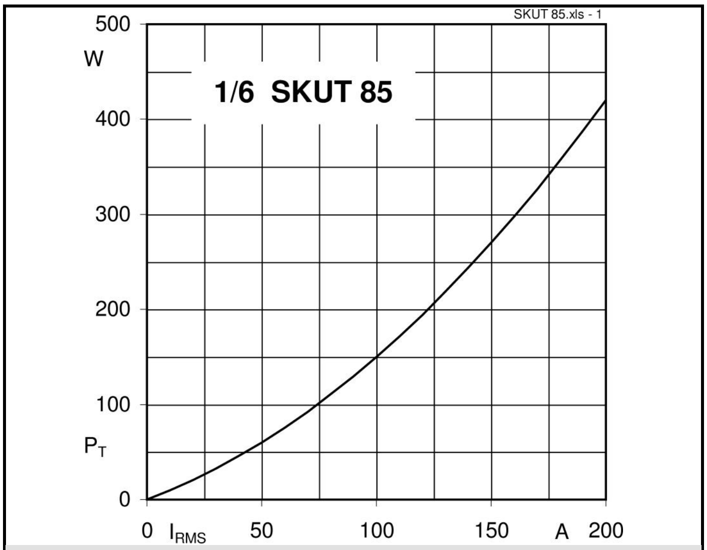


Fig. 1 Power dissipation vs. r.m.s. output current

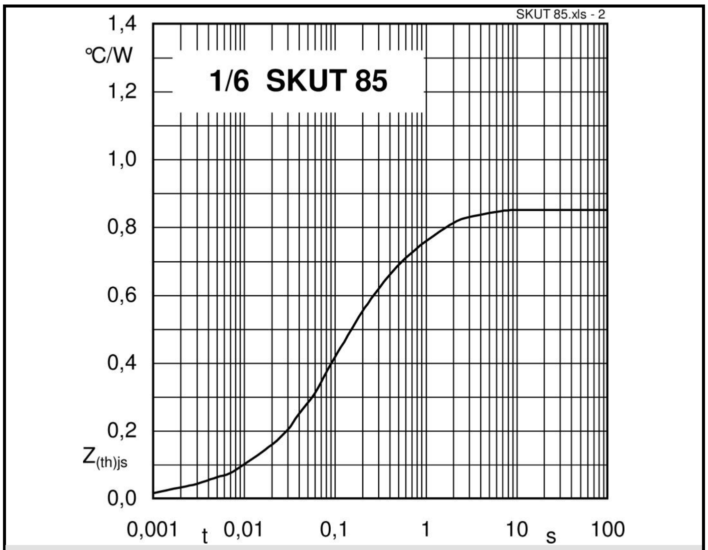


Fig. 2 Transient thermal impedance vs. time

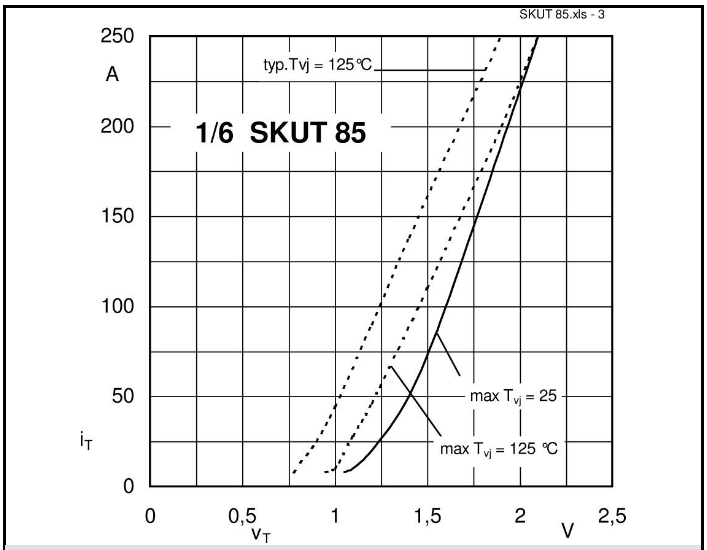


Fig. 3 Forward characteristic of a single thyristor

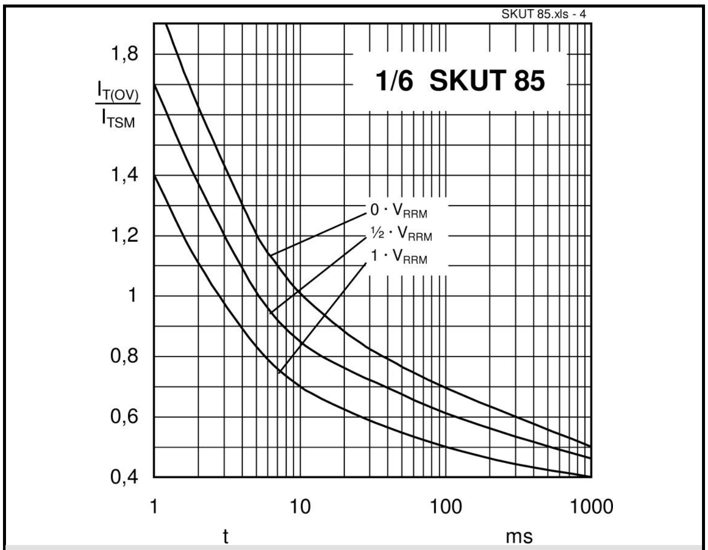


Fig. 4 Surge overload current vs.time

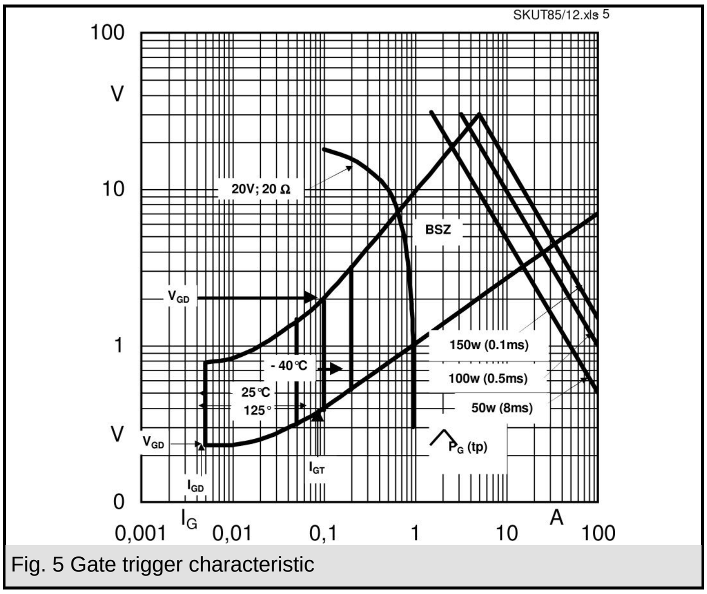


Fig. 5 Gate trigger characteristic

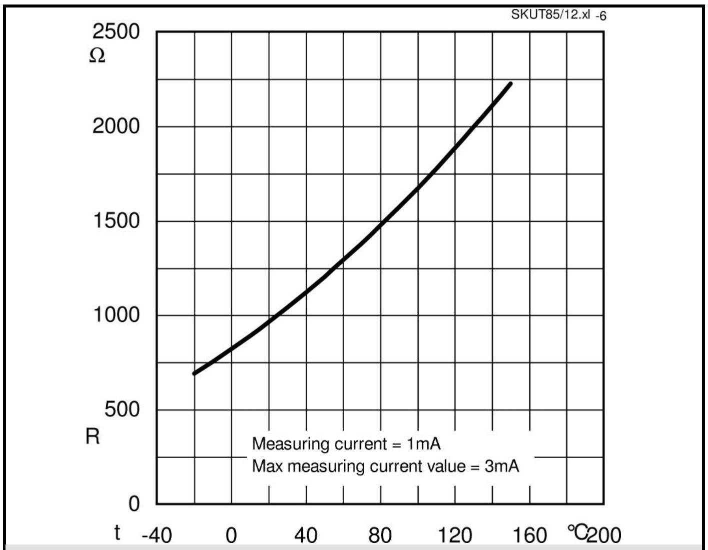
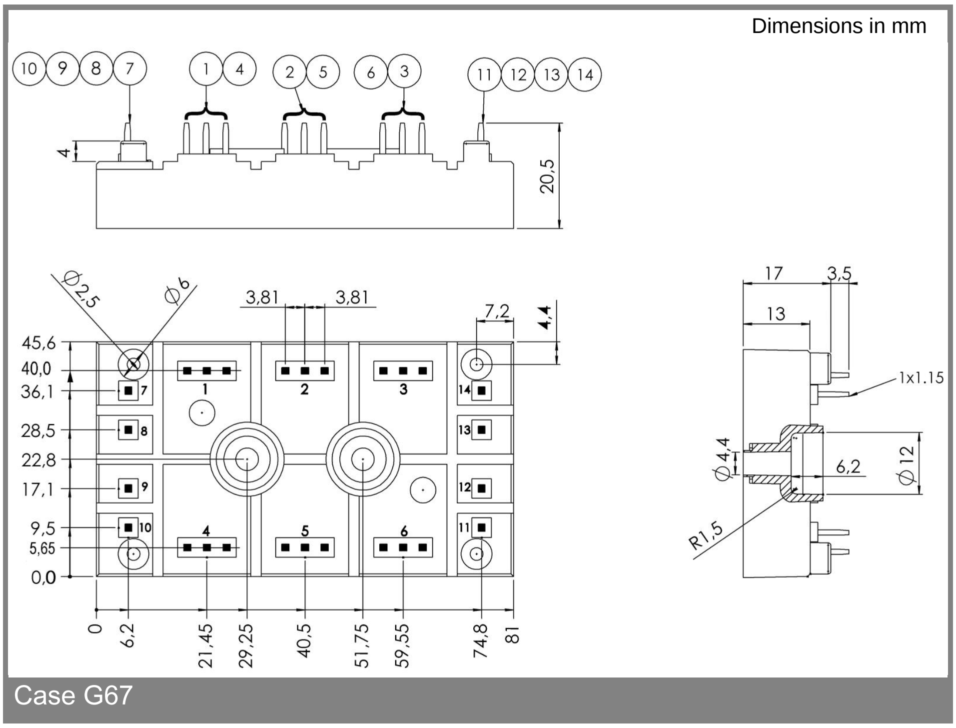
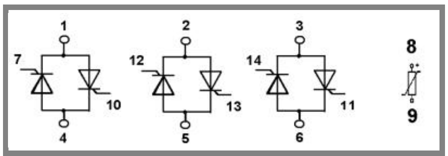


Fig. 6 Temperature sensor characteristic



Case G67



SKUT 85 T Case G67