

SKUT 115 T



SEMIPONT™ 5

Three phase antiparallel Thyristor Module

SKUT 115 T

Target Data

Features

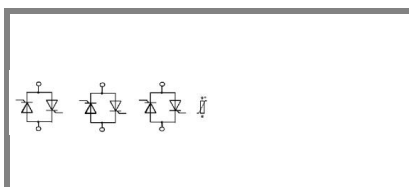
- Compact design
- Two screws mounting
- Heat transfer and isolation through direct copper board (Low R_{th})
- Low resistance in Steady-State and high reliability
- High surge currents
- Glass passivated thyristors chips
- Up to 1600V reverse voltage
- UL recognized, file no. E 63 532
- Integrated temperature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

Typical Applications*

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

V_{RSM} V	V_{RRM}, V_{DRM} V	$I_{RMS} = 105$ A (full conduction) ($T_s = 85$ °C)
1300	1200	SKUT 115/12
1700	1600	SKUT 115/16

Symbol	Conditions	Values	Units
I_{RMS}	W3C ; sin. 180° ; $T_s = 85$ °C ; sin. 180° ;	105	A A
I_{TSM}	$T_{vj} = 25$ °C ; 10 ms $T_{vj} = 125$ °C ; 10 ms	1250	A A
i^2t	$T_{vj} = 25$ °C ; 10 ms $T_{vj} = 125$ °C ; 8,3...10 ms	7800	A ² s A ² s
V_T	$T_{vj} = 25$ °C, $I_T = 150$ A	max. 1,6	V
$V_{T(TO)}$	$T_{vj} = 125$ °C	max. 0,9	V
r_T	$T_{vj} = 125$ °C	max. 5	mΩ
I_{DD}, I_{RD}	$T_{vj} = 25$ °C, $V_{RD} = V_{RRM}$ $T_{vj} = 125$ °C, $V_{RD} = V_{RRM}$	max. 1 max. 20	mA 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.	600	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. 6	mA
$R_{th(j-s)}$	sin 180°C per Thyristor	0,63	K/W K/W
Temperature sensor	R_{TS} @ 25°C	1000	Ω
	R_{TS} @ 100°C	1670	Ω
	T_{vj}	-40...+125	°C
	T_{stg}	-40...+125	°C
	T_{sold}	Terminals, 10s max	260
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 ²
m		75	g
Case	SEMIPONT 5	G67	



W3C

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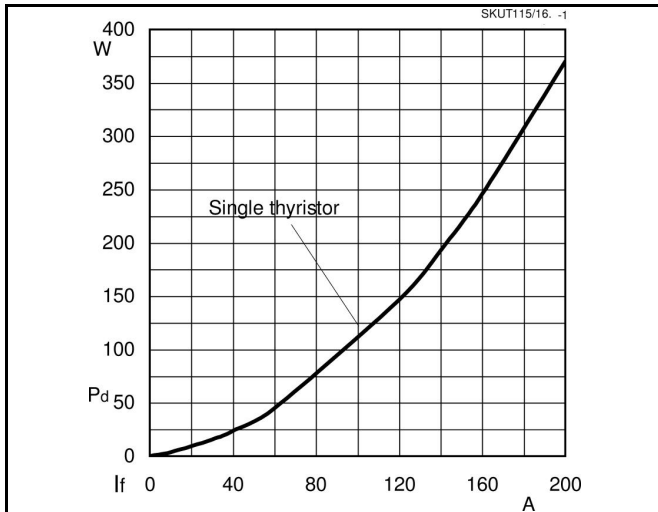


Fig. 1 Power dissipation vs. r.m.s. output current

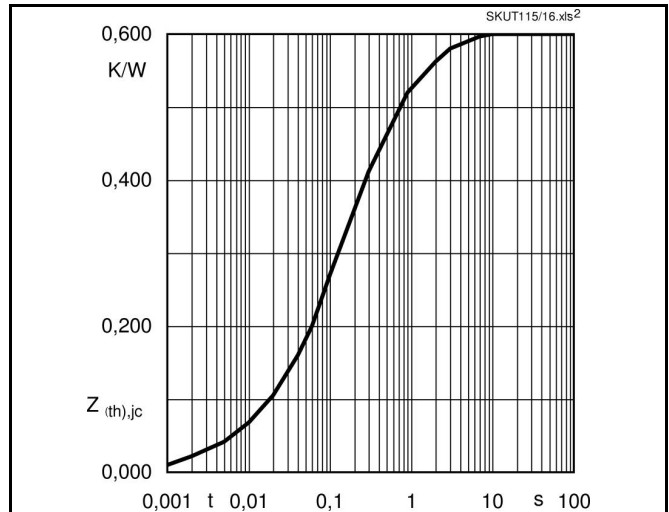


Fig. 2 Transient thermal impedance vs. time

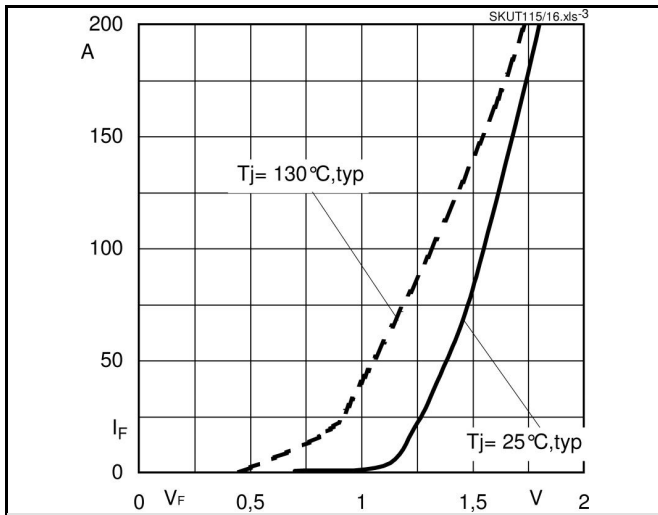


Fig. 3 Forward characteristic of a single thyristor

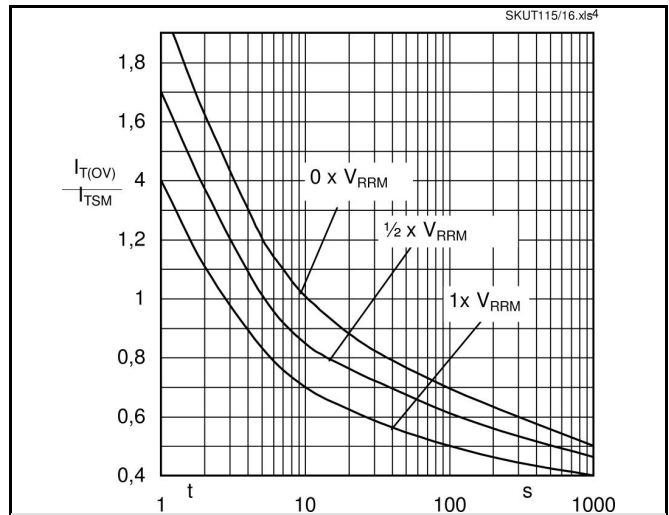


Fig. 4 Surge overload current vs. time

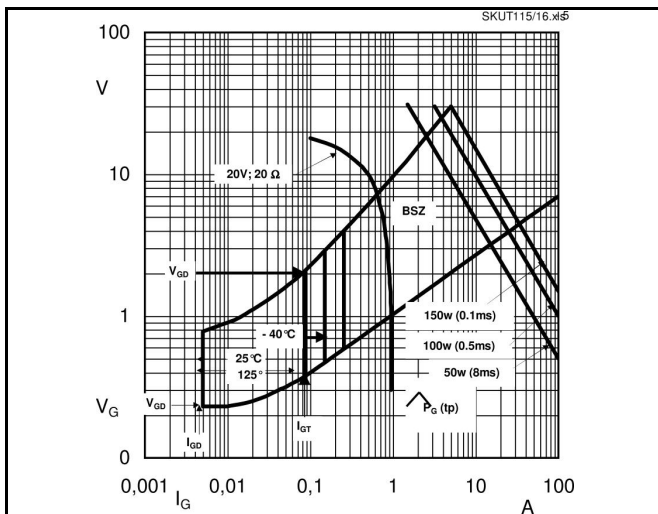


Fig. 5 Gate trigger characteristic

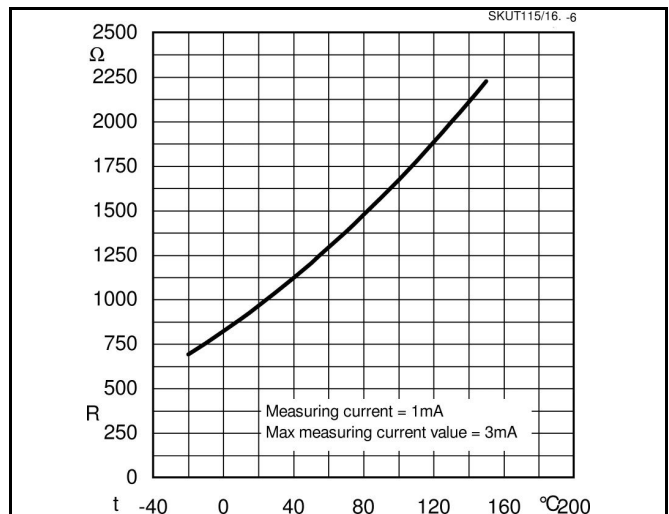
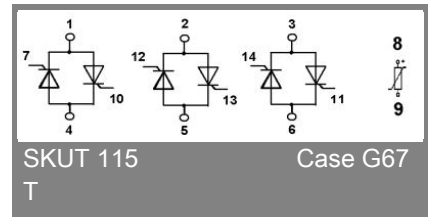
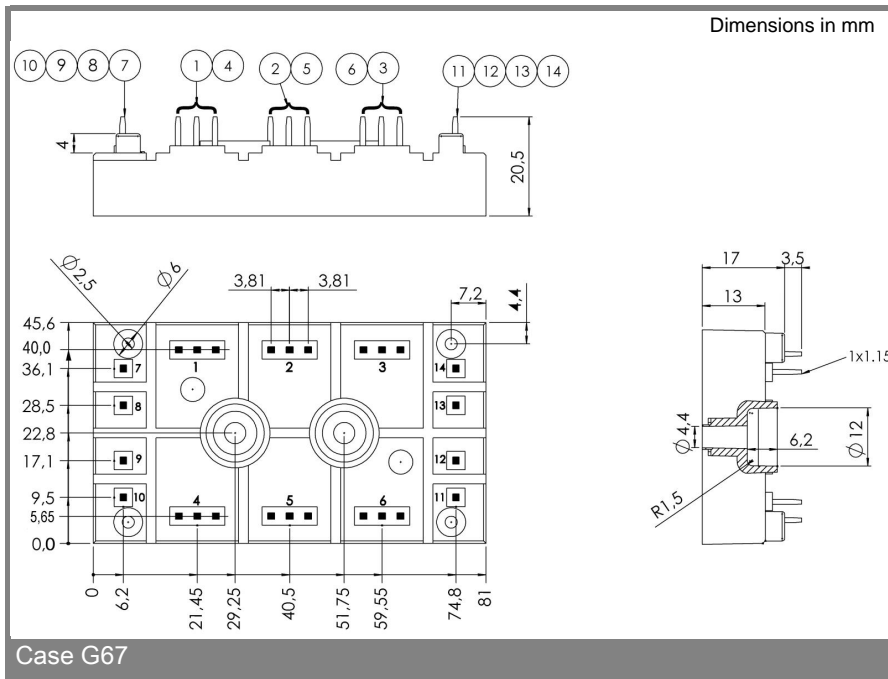


Fig. 6 Temperature sensor characteristic

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* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.