SK45WT12p

SEMITOP® 2 Press-Fit

Antiparallel Thyristor Module

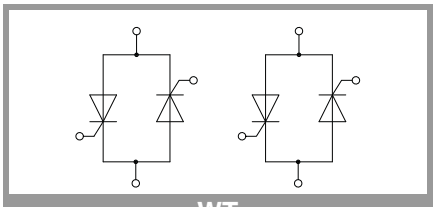
SK45WT12p

Features

- Compact design
- One screw mounting
- Heat transfer and insulation through direct copper bonded aluminum oxide ceramic (DBC)
- Glass passivated thyristor chips
- Up to 1200V reverse voltage
- UL recognized file no. E 63 532

Typical Applications*

- Soft starters
- Light control (studios, theaters…)
- Temperature control



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Absolute Maximum Ratings			
Symbol	**Conditions**	**Values**	**Unit**
Thyristor 1			
V_{RRM}		1200	V
$I_{T(AV)}$	T_j = 130 °C, T_s = 70 °C	31	A
I_{TSM}	tp = 10 ms, sin 180°, T_j = 25 °C	550	A
i^2t	tp = 10 ms, sin 180°, T_j = 25 °C	1513	A^2s
T_j		-40 ... 125	°C

Absolute Maximum Ratings			
Symbol	**Conditions**	**Values**	**Unit**
Module			
$I_{t(RMS)}$	$T_{terminal}$ = 100 °C, T_S = 60°C, per pin	40	A
T_{stg}		-40 ... 125	°C
V_{isol}	AC, sinusoidal, t = 1 min	2500	V

Characteristics						
Symbol	**Conditions**		**min.**	**typ.**	**max.**	**Unit**
Thyristor 1						
V_T	I_T = 35 A	T_j = 25 °C			1.26	V
	chiplevel	T_j = 130 °C			1.19	V
$V_{T(TO)}$	T_j = 130 °C				0.85	V
r_T	T_j = 130 °C				9.7	mΩ
V_{GT}	T_j = 25 °C		2			V
I_{GT}	T_j = 25 °C		100			mA
I_H	T_j = 25 °C		165			mA
I_L	T_j = 25 °C		330			mA
dv/dt_{cr}	T_j = 130 °C				1000	V/µs
di/dt_{cr}	T_j = 130 °C				50	A/µs
$R_{th(j-s)}$	per Thyristor, λ_{paste}=0.8 W/(mK)			1.2		K/W

Characteristics					
Symbol	**Conditions**	**min.**	**typ.**	**max.**	**Unit**
Module					
M_s	to heatsink	1.8		2	Nm
w	weight		19		g

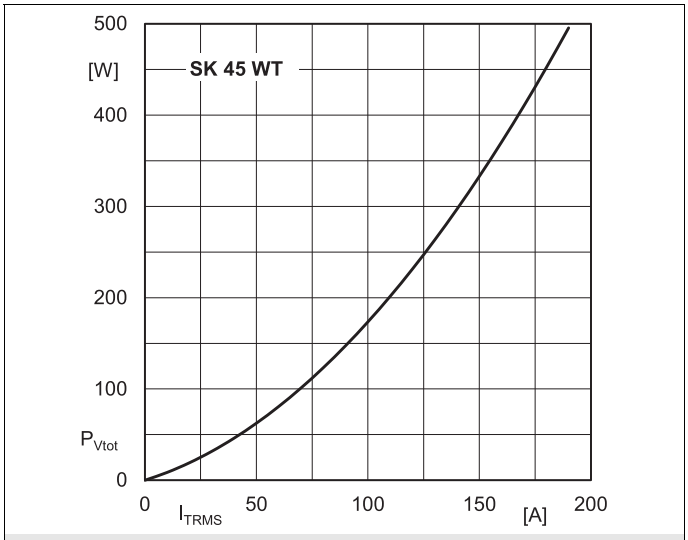


Fig. 1: Power dissipation per module vs. rms current

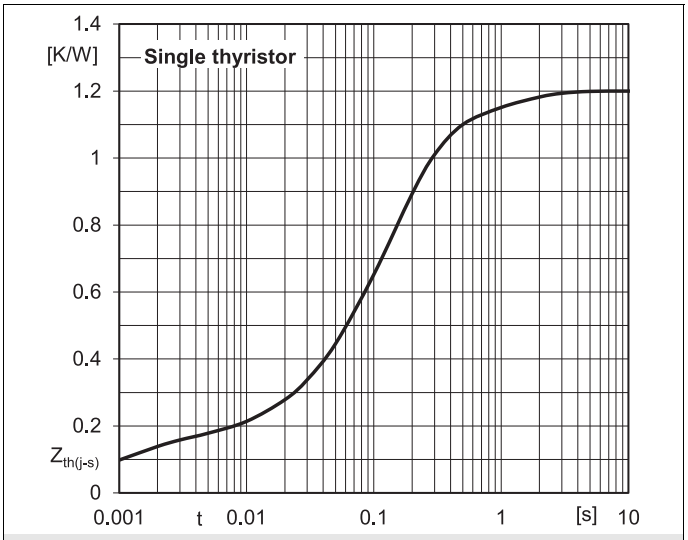


Fig. 2: Transient thermal impedance vs. time

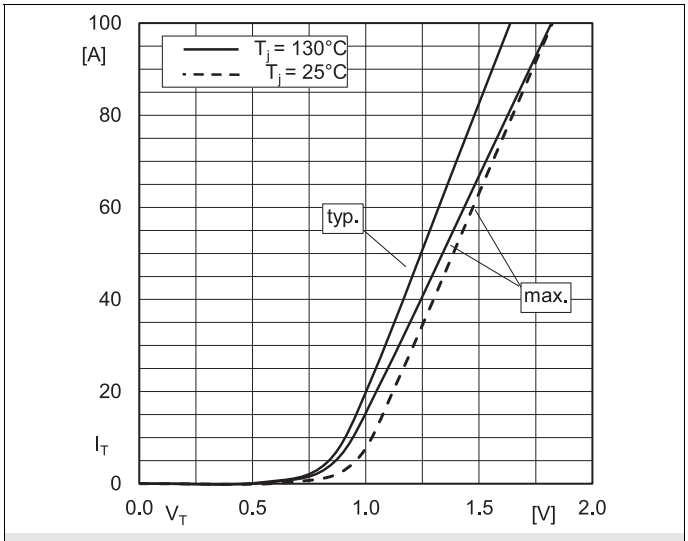


Fig. 3: On-state characteristics

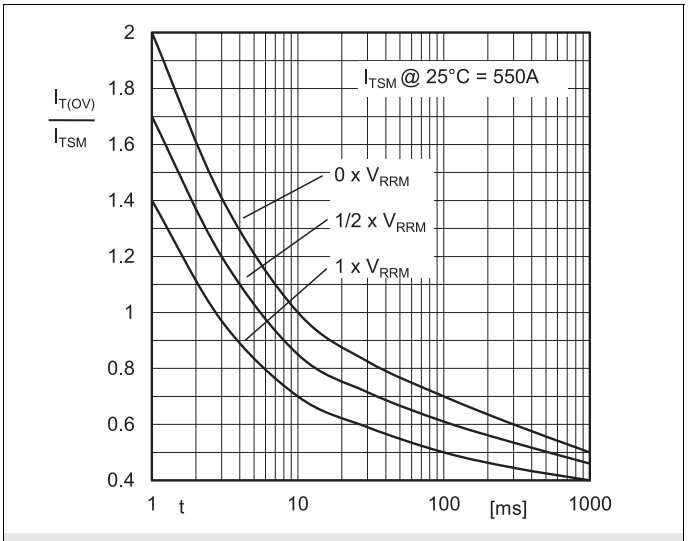


Fig. 4 : Surge overload current vs. time

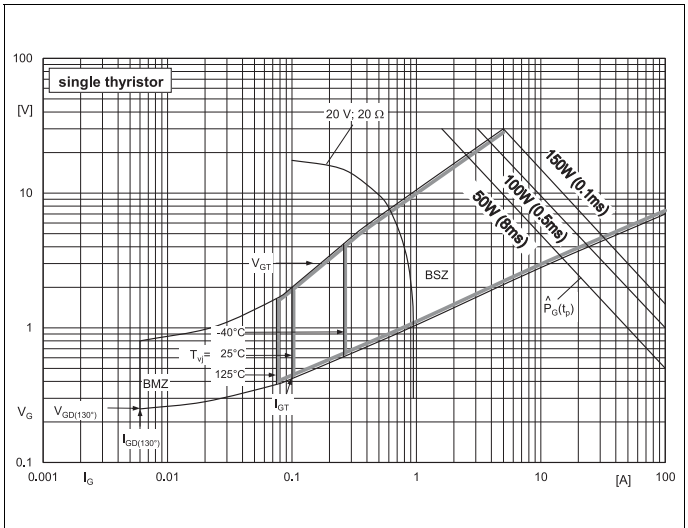
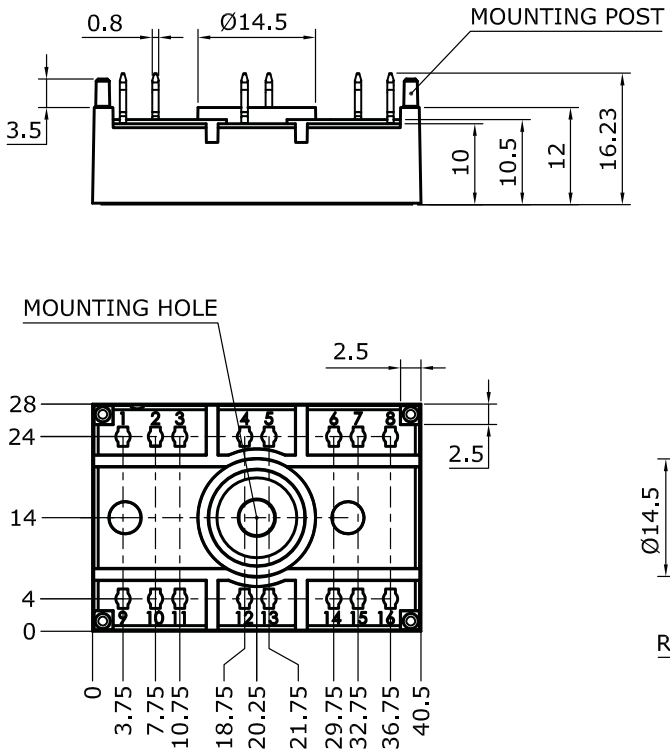


Fig. 5: Gate trigger characteristic

Dimensions: mm
Tolerance system: ISO 2768-m



Suggested drilled hole diameter for terminal pins in the circuit board:

- minimum: 1.575 mm
- typical: 1.6 mm
- maximum: 1.625 mm

Suggested hole diameter for the mounting post in the circuit board:

- 2 mm

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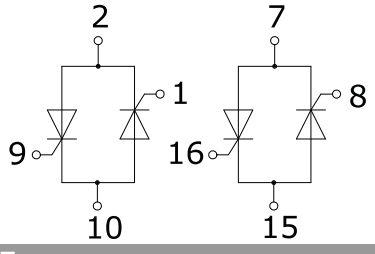

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This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, chapter IX.

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