

SK55TAA12p



SEMITOP® 2 Press-Fit

Two separated thyristors

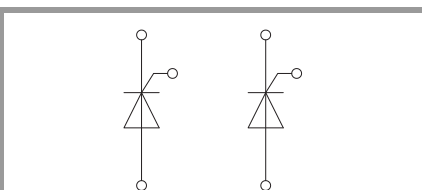
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Features*

- Compact design
- One screw mounting
- Solder free mounting with Press-Fit terminals
- Fully compatible with SEMITOP® Press-Fit types
- High current density due to double mesa technology
- Heat transfer and isolation through direct copper bonded alumina oxide ceramic (DBC)
- High surge currents
- UL recognized, file no. E 63 532

Typical Applications

- Controlled rectifier circuit
- Solid state relays



TAA

Absolute Maximum Ratings			
Symbol	Conditions	Values	Unit
Thyristor 1			
V_{RRM}		1200	V
V_{DRM}		1200	V
$I_{T(AV)}$	$T_j = 130\text{ °C}, T_s = 70\text{ °C}$	47	A
I_{TSM}	$t_p = 10\text{ ms}, \sin 180^\circ, T_j = 25\text{ °C}$	1100	A
i^2t	$t_p = 10\text{ ms}, \sin 180^\circ, T_j = 25\text{ °C}$	6050	A ² s
T_j		-40 ... 130	°C

Absolute Maximum Ratings			
Symbol	Conditions	Values	Unit
Module			
$I_{T(RMS)}$	$\Delta T_{\text{terminal}}$ at PCB joint = 30 K, per pin	35	A
T_{stg}	module without TIM	-40 ... 125	°C
V_{isol}	AC, sinusoidal, t = 1 min	2500	V

Characteristics					
Symbol	Conditions	min.	typ.	max.	Unit
Thyristor 1					
V_T	$T_j = 25\text{ °C}, I_T = 80\text{ A}$			1.26	V
$V_{T(TO)}$	$T_j = 130\text{ °C}$			0.85	V
r_T	$T_j = 130\text{ °C}$			4.38	mΩ
$I_{DD}; I_{RD}$	$T_j = 130\text{ °C}, V_{DD} = V_{DRM}; V_{RD} = V_{RRM}$			9	mA
t_{gd}	$T_j = 25\text{ °C}, I_G = 1\text{ A}, di_G/dt = 1\text{ A}/\mu\text{s}$		1		μs
t_{gr}	$V_D = 0.67 * V_{DRM}$		2		μs
t_q	$T_j = 130\text{ °C}$		150		μs
I_H	$T_j = 25\text{ °C}$	220			mA
I_L	$T_j = 25\text{ °C}, R_G = 33\text{ }\Omega$	440			mA
V_{GT}	$T_j = 25\text{ °C}, \text{d.c.}$	2			V
I_{GT}	$T_j = 25\text{ °C}, \text{d.c.}$	100			mA
V_{GD}	$T_j = 130\text{ °C}, \text{d.c.}$			0.25	V
I_{GD}	$T_j = 130\text{ °C}, \text{d.c.}$			6	mA
$R_{th(j-s)}$	per thyristor, $\lambda_{\text{paste}}=0.8\text{ W}/(\text{mK}), \sin. 180^\circ$		0.94		K/W

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

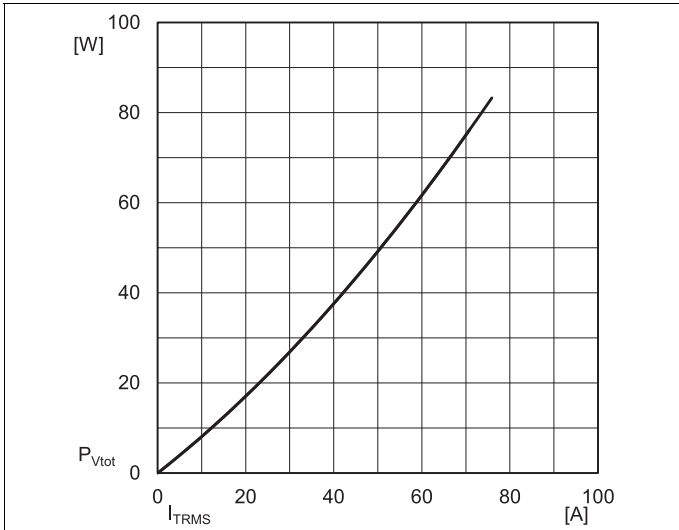


Fig. 1: Power dissipation per module vs. rms current

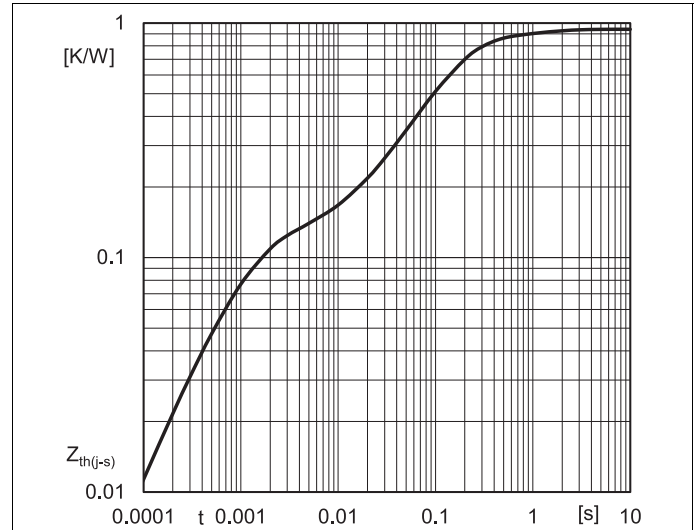


Fig. 2: Typ. transient thermal impedance vs. time

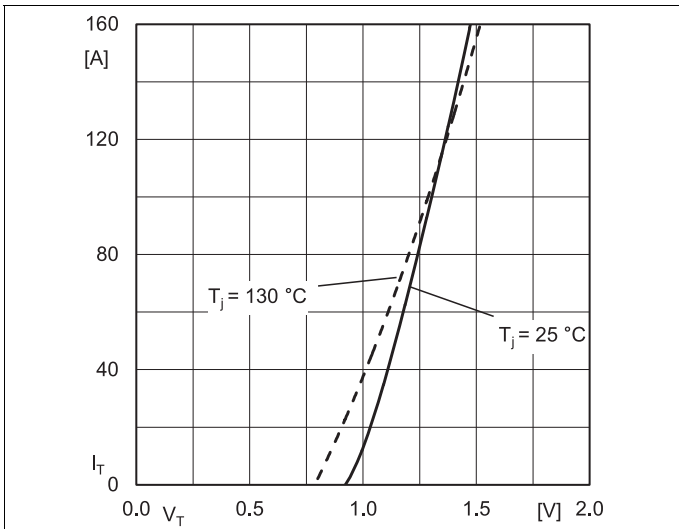


Fig. 3: Typ. forward characteristic of single thyristor

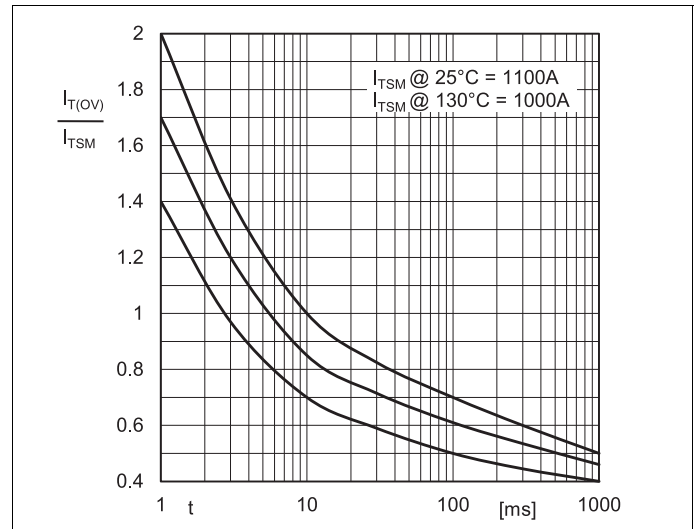


Fig. 4 : Surge overload current vs. time

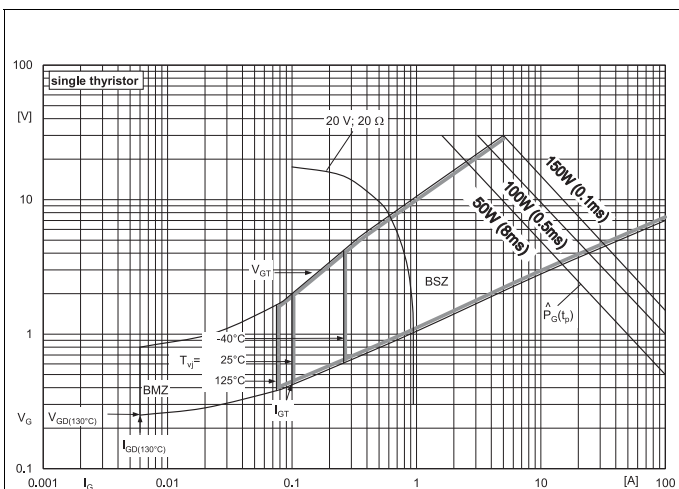
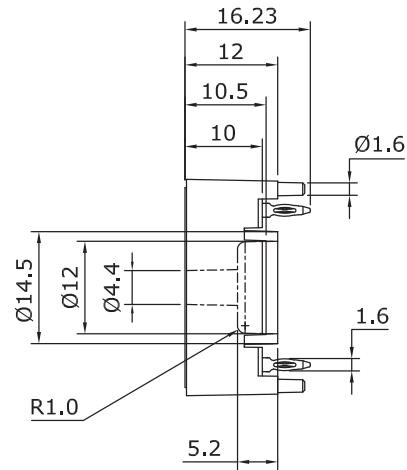
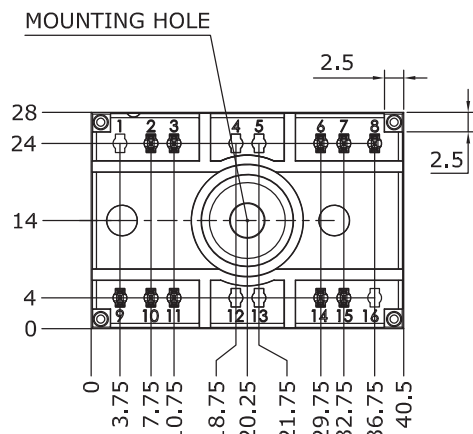
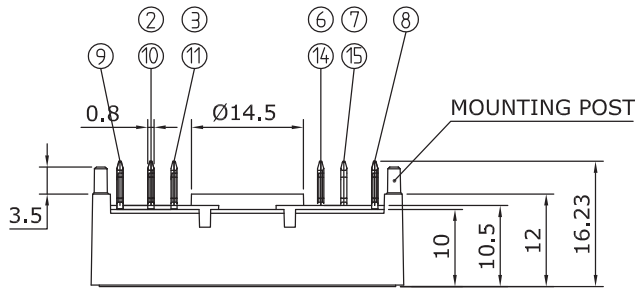


Fig. 5: Gate trigger characteristic

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Dimensions: mm

Tolerance system: ISO 2768-m



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

- refer Mounting Instruction SEMITOP® Classic

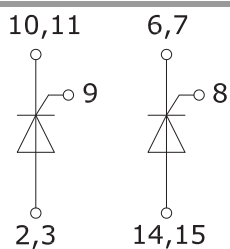
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SEMITOP 2 Press-Fit



TAA

This is an electrostatic discharge sensitive device (ESDS) due to international standard IEC 61340.

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