

SKET 740/22G H4



SEMIPACK® 6

Thyristor Modules

SKET 740/22G H4

Features

- Precious metal pressure contacts for high reliability
- Thyristor with amplifying gate
- UL recognized, file no. E 63 532

Typical Applications*

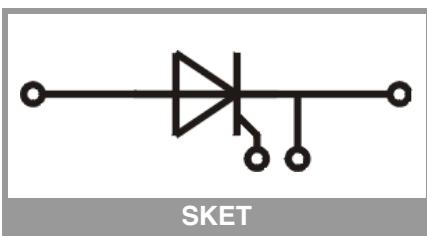
- DC motor control (e. g. for machine tools)
- Temperature control (e. g. for ovens, chemical processes)
- Softstart application

Footnotes

¹⁾ $T_{j\max}$ up to 130°C is allowable for overload conditions, max. time period for the overload condition is 20s

Absolute Maximum Ratings		Values	Unit
Symbol	Conditions		
Chip			
$I_{T(AV)}$	sinus 180°	699	A
		489	A
I_{TSM}	10 ms	36000	A
		31000	A
i^2t	10 ms	6480000	A ² s
		4805000	A ² s
V_{RSM}		2300	V
V_{RRM}		2200	V
V_{DRM}		2200	V
$(di/dt)_{cr}$	$T_j = 125^\circ C$	200	A/ μ s
$(dv/dt)_{cr}$	$T_j = 125^\circ C$	2000	V/ μ s
T_j	¹⁾	-40 ... 125	°C
Module			
T_{stg}		-40 ... 125	°C
V_{isol}	a.c.; 50 Hz; r.m.s.	4000	V
		4800	V

Symbol	Conditions	min.	typ.	max.	Unit
Chip					
V_T	$T_j = 25^\circ C$, $I_T = 3000 A$		1.55	1.65	V
$V_{T(TO)}$	$T_j = 125^\circ C$		0.82	0.88	V
r_T	$T_j = 125^\circ C$		0.25	0.28	mΩ
I_{DD}, I_{RD}	$T_j = 125^\circ C$, $V_{DD} = V_{DRM}$; $V_{RD} = V_{RRM}$			150	mA
t_{gd}	$T_j = 25^\circ C$, $I_G = 1 A$, $dI_G/dt = 1 A/\mu$ s		1		μs
t_{gr}	$V_D = 0.67 * V_{DRM}$		2		μs
t_q	$T_j = 125^\circ C$		200		μs
I_H	$T_j = 25^\circ C$		1000	2000	mA
I_L	$T_j = 25^\circ C$, $R_G = 33 \Omega$		1500	2500	mA
V_{GT}	$T_j = 25^\circ C$, d.c.	3			V
I_{GT}	$T_j = 25^\circ C$, d.c.	300			mA
V_{GD}	$T_j = 125^\circ C$, d.c.		0.25		V
I_{GD}	$T_j = 125^\circ C$, d.c.		10		mA
$R_{th(j-c)}$	continuous DC			0.0405	K/W
				0.0405	K/W
$R_{th(j-c)}$	sin. 180°			0.042	K/W
				0.042	K/W
$R_{th(j-c)}$	rec. 120°			0.043	K/W
				0.043	K/W
Module					
$R_{th(c-s)}$	chip			0.01	K/W
	module			0.01	K/W
M_s	to heatsink M6	5.1	6.9		Nm
M_t	to terminal M12	15.3	20.7		Nm
a			5 * 9,81		m/s ²
w		2150			g



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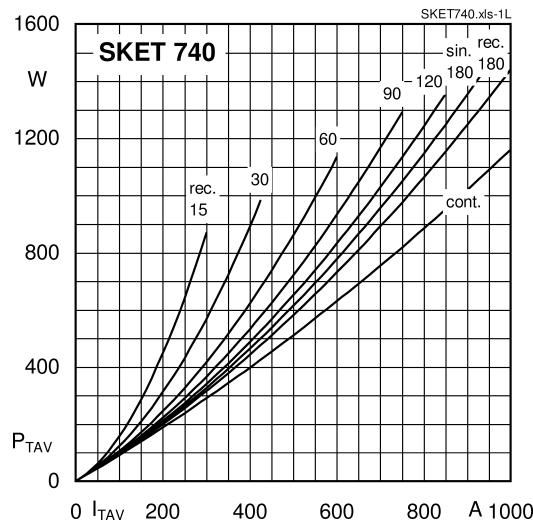


Fig. 1L: Power dissipation per thyristor vs. on-state current

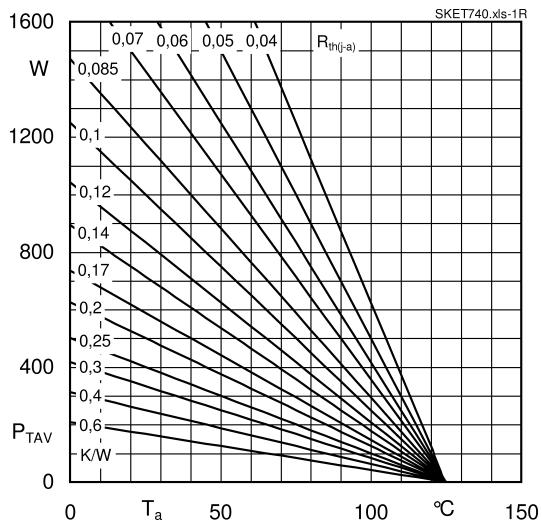


Fig. 1R: Power dissipation per thyristor vs. ambient temperature

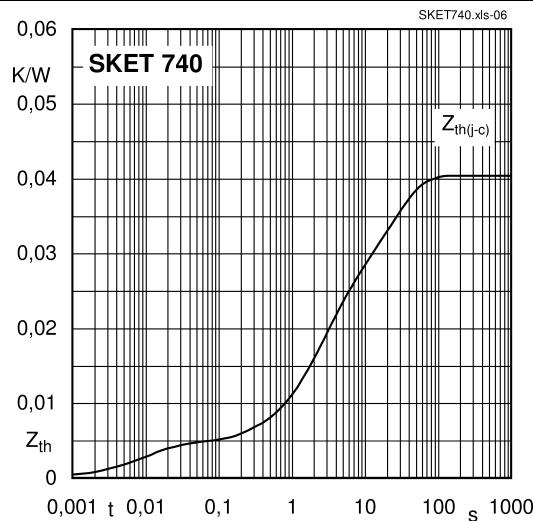


Fig. 6: Transient thermal impedance vs. time

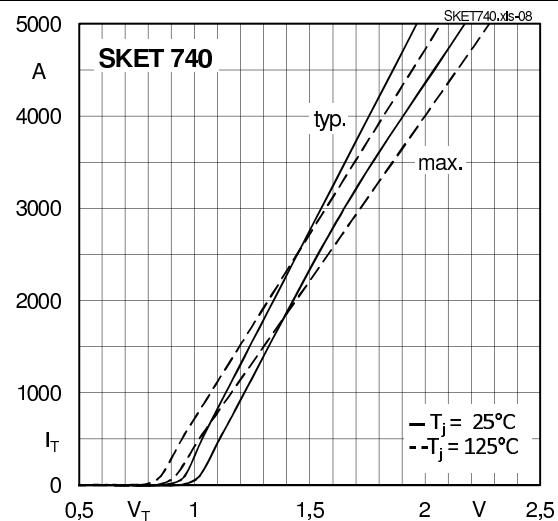


Fig. 7: On-state characteristics

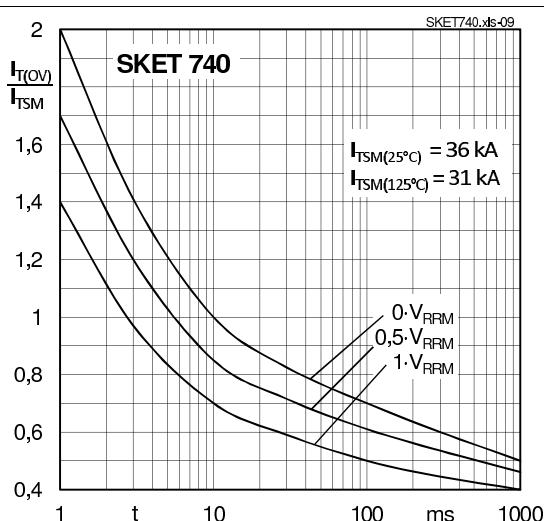


Fig. 8: Surge overload current vs. time

SKET 740/22G H4

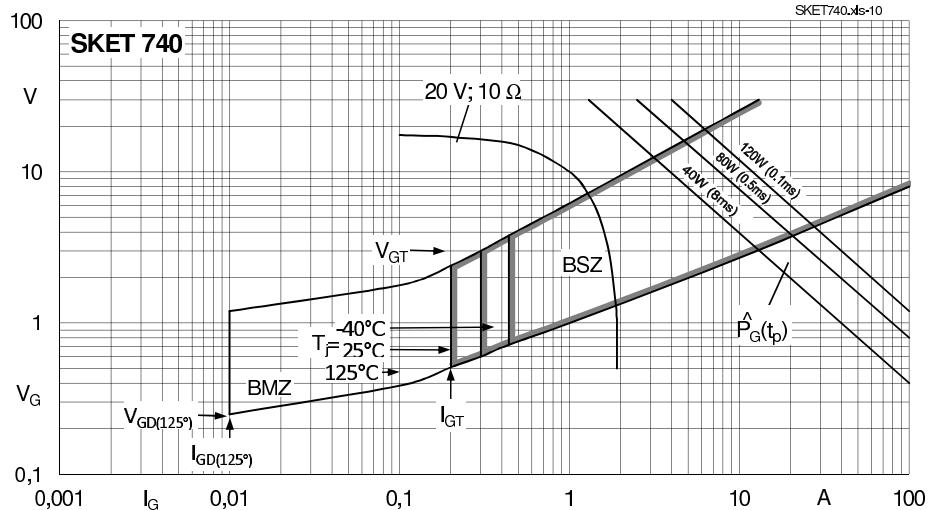
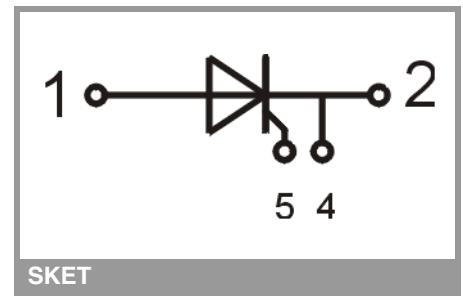
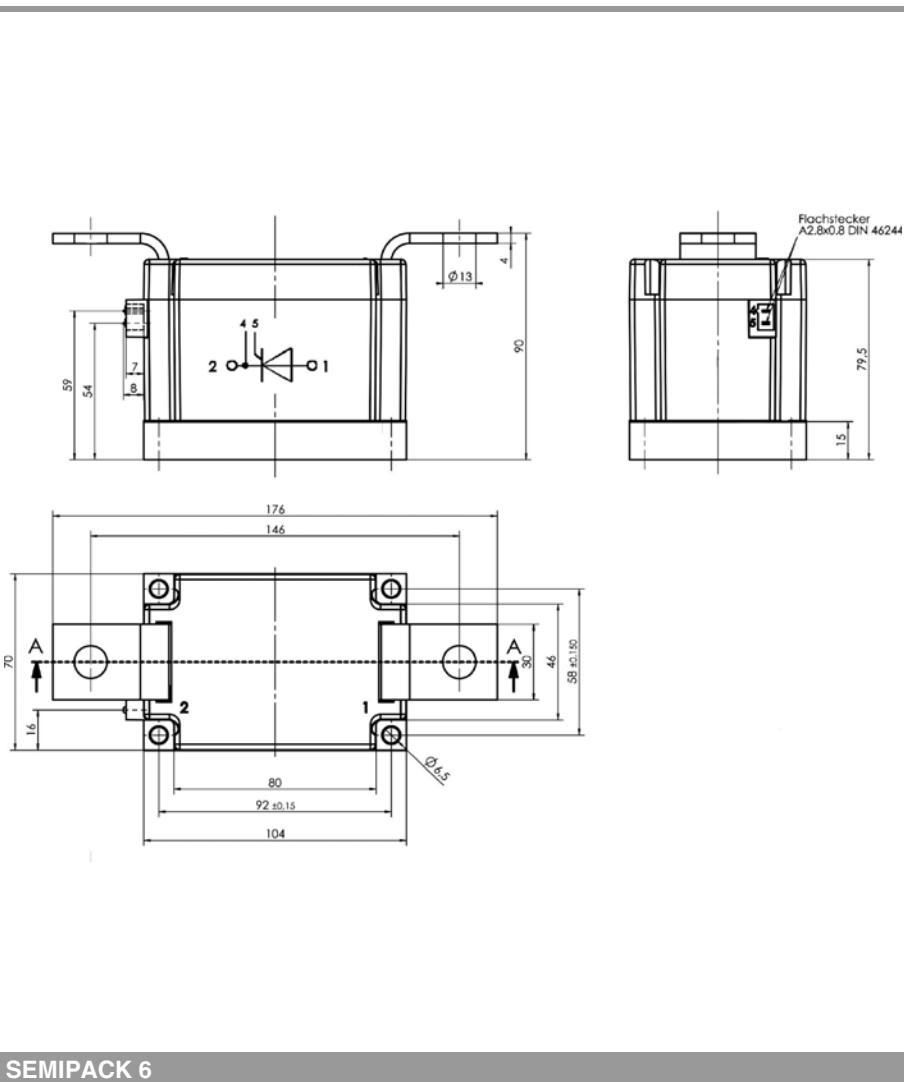


Fig. 9: Gate trigger characteristics



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

* 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 staff.