



## Rectifier Diode Modules

### SKKD 101/16

#### Features

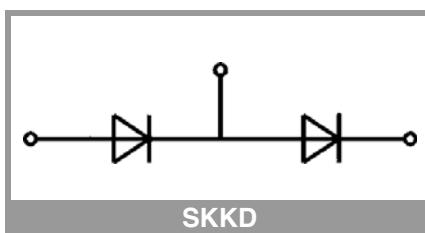
- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- UL recognized, file no. E63532

#### Typical Applications\*

- Non-controllable rectifiers for AC/AC converters
- Line rectifiers for transistorized AC motor controllers
- Field supply for DC motors

Absolute Maximum Ratings		Values		Unit
Symbol	Conditions	Values	Unit	
<b>Rectifier Diode</b>				
$I_{FAV}$	sin. 180°	$T_c = 85^\circ\text{C}$ $T_c = 100^\circ\text{C}$	134 101	A
$I_{FRMS}$	continuous operation		210	A
$I_{FSM}$	10 ms	$T_j = 25^\circ\text{C}$ $T_j = 130^\circ\text{C}$	2500 2000	A
$i^2t$	10 ms	$T_j = 25^\circ\text{C}$ $T_j = 130^\circ\text{C}$	31250 20000	$\text{A}^2\text{s}$
$V_{RSM}$			1700	V
$V_{RRM}$			1600	V
$T_j$			-40 ... 130	$^\circ\text{C}$
<b>Module</b>				
$T_{stg}$			-40 ... 125	$^\circ\text{C}$
$V_{isol}$	a.c.; 50 Hz; r.m.s.	1 min 1 s	3000 3600	V

Characteristics		min.	typ.	max.	Unit
Symbol	Conditions				
<b>Diode</b>					
$V_F$	$T_j = 25^\circ\text{C}$ , $I_F = 300\text{ A}$		1.45	1.60	V
$V_{(TO)}$	$T_j = 130^\circ\text{C}$		0.75	0.87	V
$r_T$	$T_j = 130^\circ\text{C}$		2.20	2.45	$\text{m}\Omega$
$I_{RD}$	$T_j = 130^\circ\text{C}$ , $V_{RRM}$			3	$\text{mA}$
$R_{th(j-c)}$	cont.	per chip per module		0.19 0.095	K/W
$R_{th(j-c)}$	sin. 180°	per chip per module		0.2 0.1	K/W
<b>Module</b>					
$R_{th(c-s)}$	chip		0.22		K/W
	module		0.11		K/W
$M_s$	to heatsink M5		4.25	5.75	Nm
$M_t$	to terminals M5		2.55	3.45	Nm
$a$				5 * 9,81	$\text{m/s}^2$
$w$			75		g



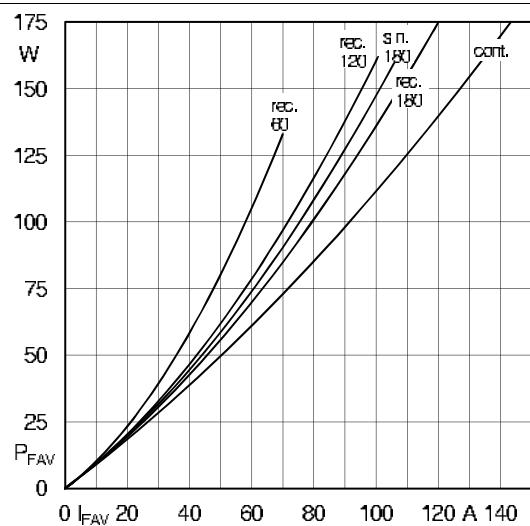


Fig. 11L: Power dissipation per diode vs. forward current

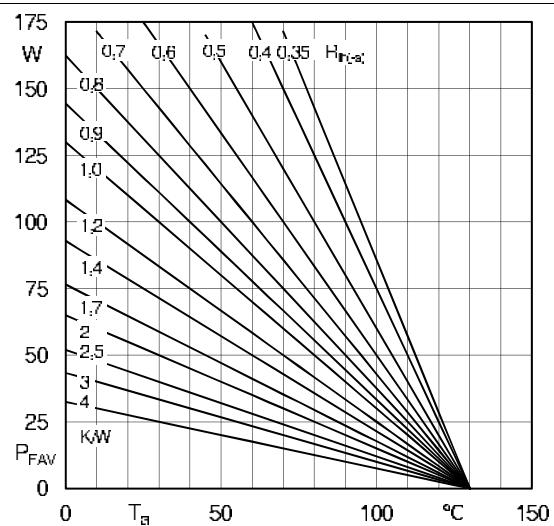


Fig. 11R: Power dissipation per diode vs. ambient temperature

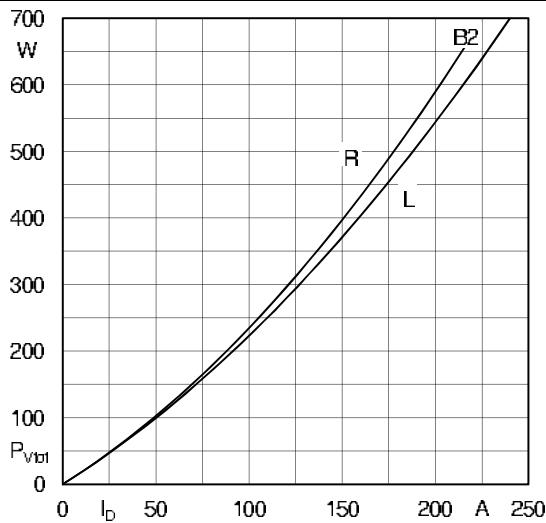


Fig. 12L: Power dissipation of two modules vs. direct current

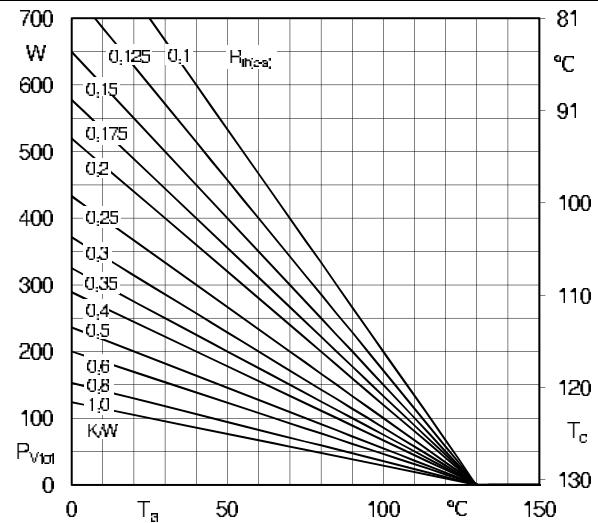


Fig. 12R: Power dissipation of two modules vs. case temperature

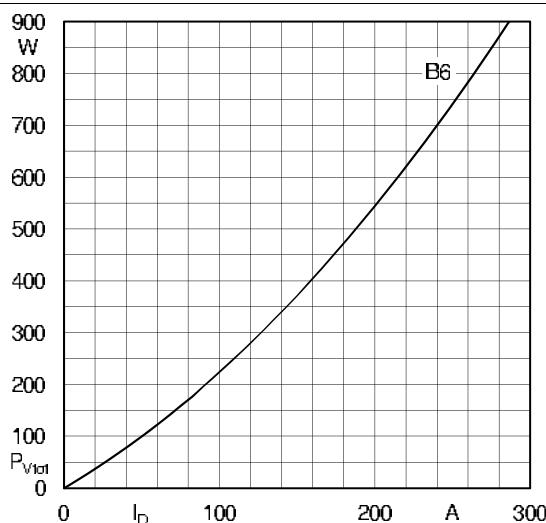


Fig. 13L: Power dissipation of three modules vs. direct current

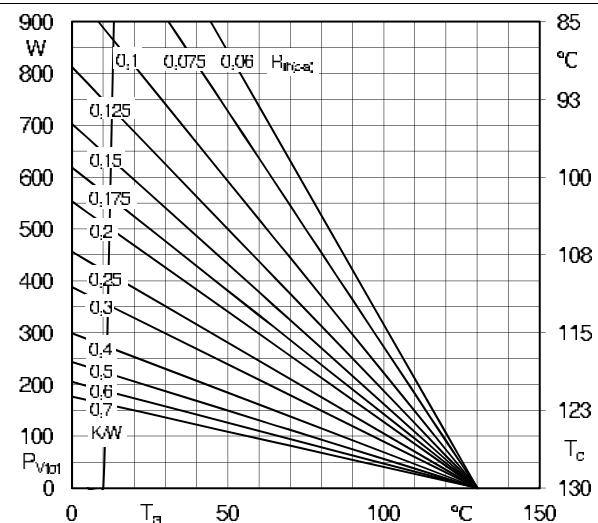


Fig. 13R: Power dissipation of three modules vs. case temperature

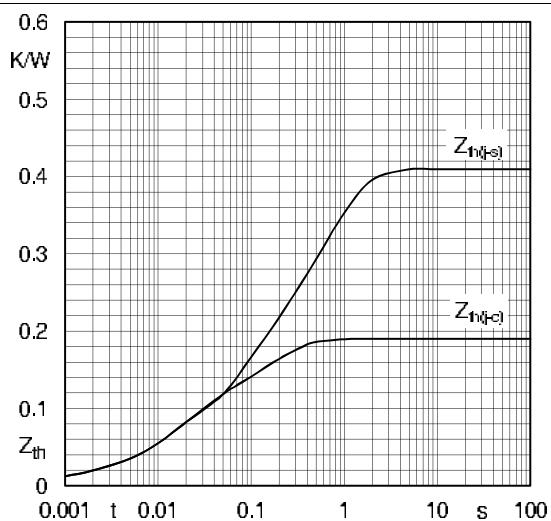


Fig. 14: Transient thermal impedance vs. time

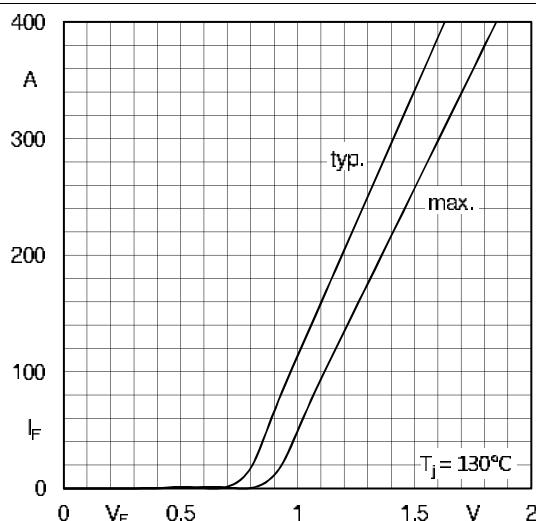


Fig. 15: Forward characteristics

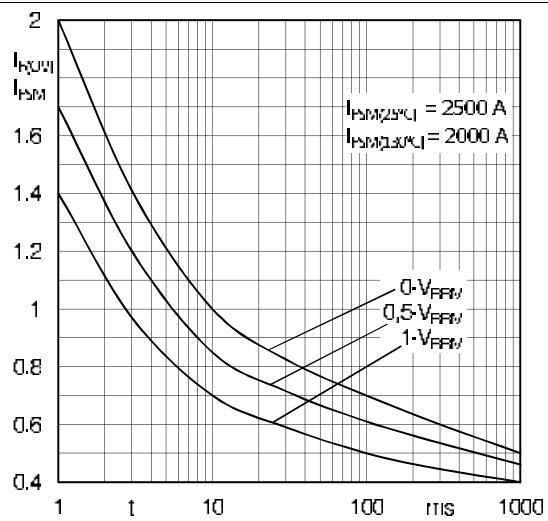
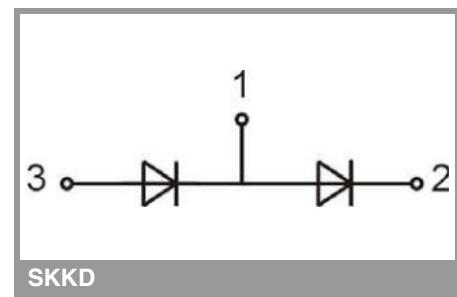
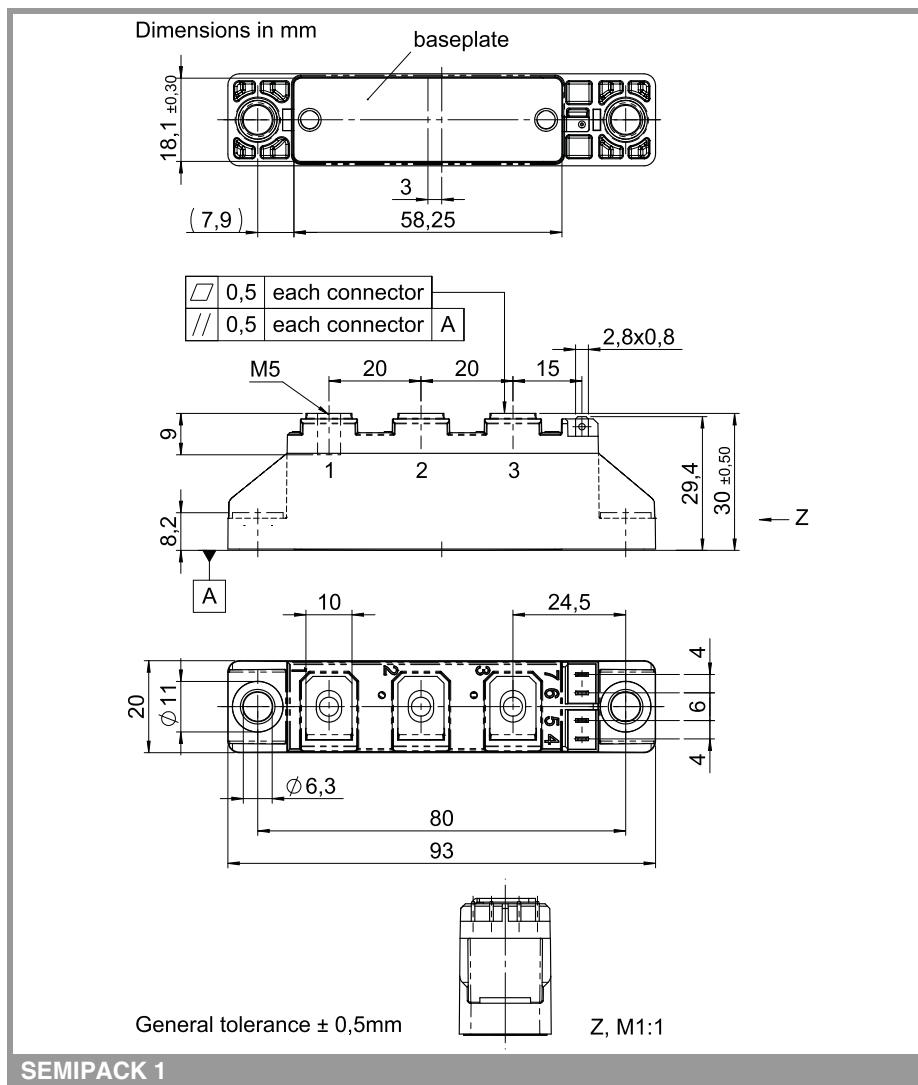


Fig. 16: Surge overload current vs. time



## SEMIPACK 1

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

### \*IMPORTANT INFORMATION AND WARNINGS

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