



**SEMIPACK® 1**

## Rectifier Diode Modules

### SKKD 101/16

#### Features

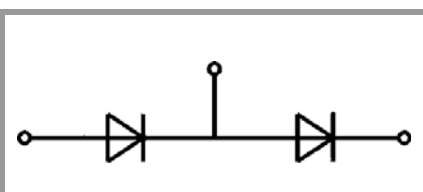
- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- UL recognized, file no. E63532

#### Typical Applications\*

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

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

Characteristics						
Symbol	Conditions		min.	typ.	max.	Unit
<b>Diode</b>						
$V_F$	$T_j = 25\text{ °C}, I_F = 300\text{ A}$		1.45	1.60		V
$V_{(TO)}$	$T_j = 130\text{ °C}$		0.75	0.87		V
$r_T$	$T_j = 130\text{ °C}$		2.20	2.45		mΩ
$I_{RD}$	$T_j = 130\text{ °C}, V_{RRM}$				3	mA
$R_{th(j-c)}$	cont.	per chip			0.19	K/W
		per module			0.095	K/W
$R_{th(j-c)}$	sin. 180°	per chip			0.2	K/W
		per module			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	m/s <sup>2</sup>
$w$				75		g



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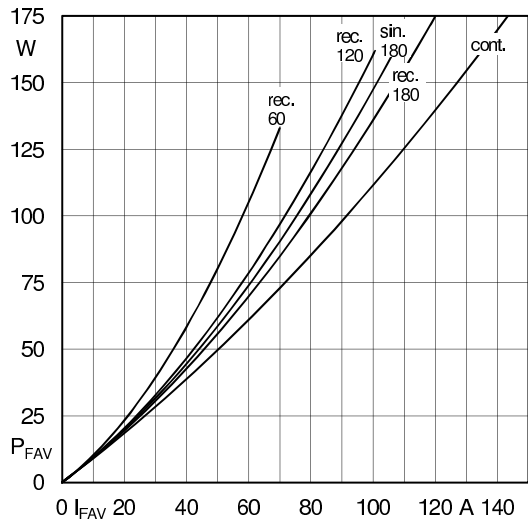


Fig. 11L: Power dissipation per diode vs. forward current

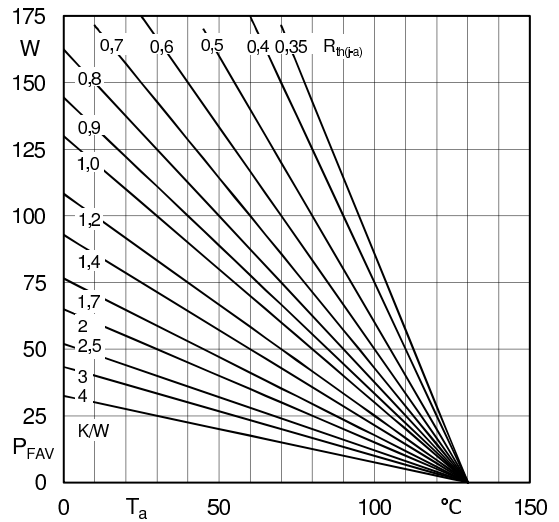


Fig. 11R: Power dissipation per diode vs. ambient temperature

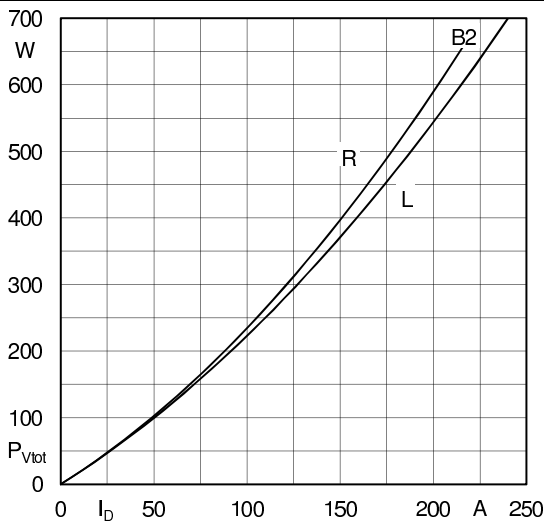


Fig. 12L: Power dissipation of two modules vs. direct current

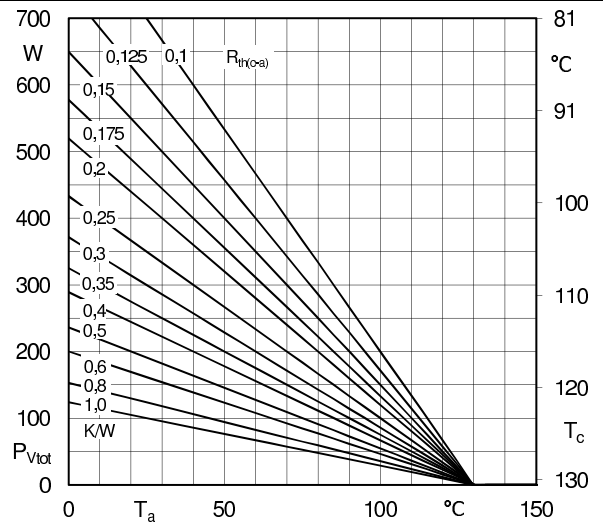


Fig. 12R: Power dissipation of two modules vs. case temperature

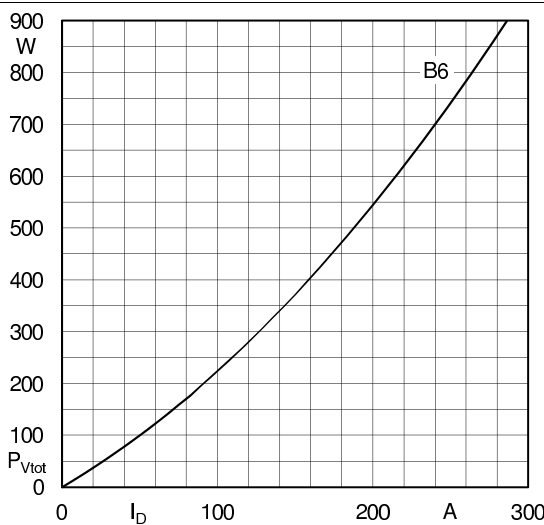


Fig. 13L: Power dissipation of three modules vs. direct current

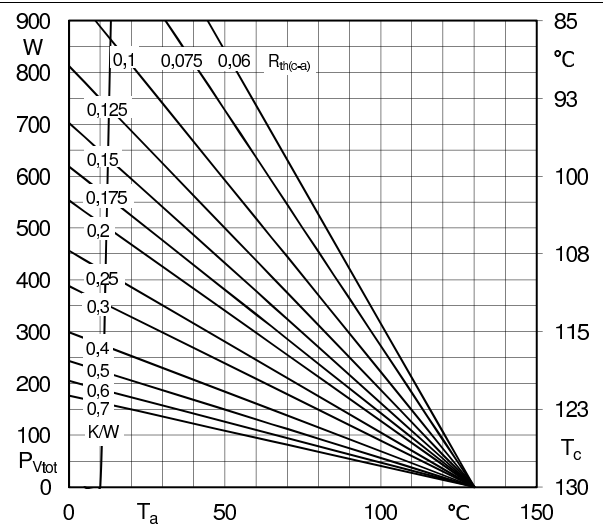


Fig. 13R: Power dissipation of three modules vs. case temperature

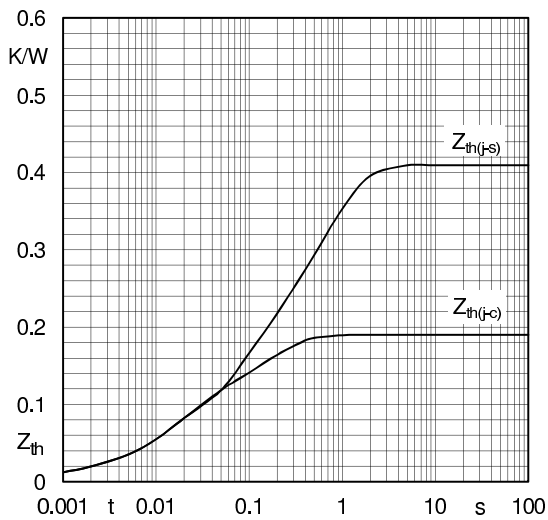


Fig. 14: Transient thermal impedance vs. time

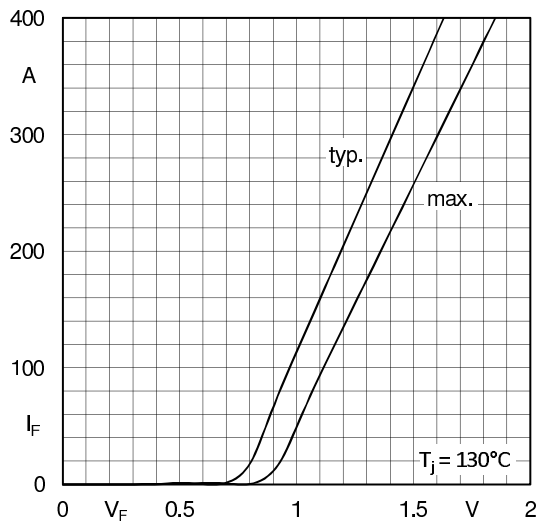


Fig. 15: Forward characteristics

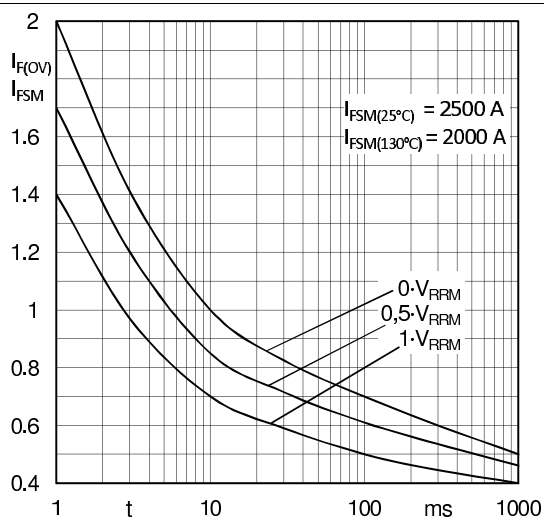
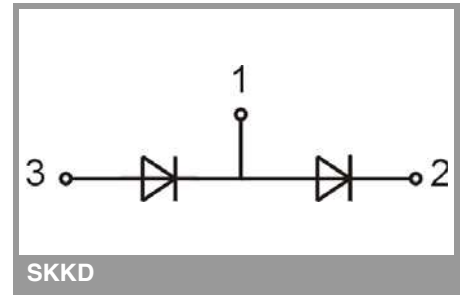
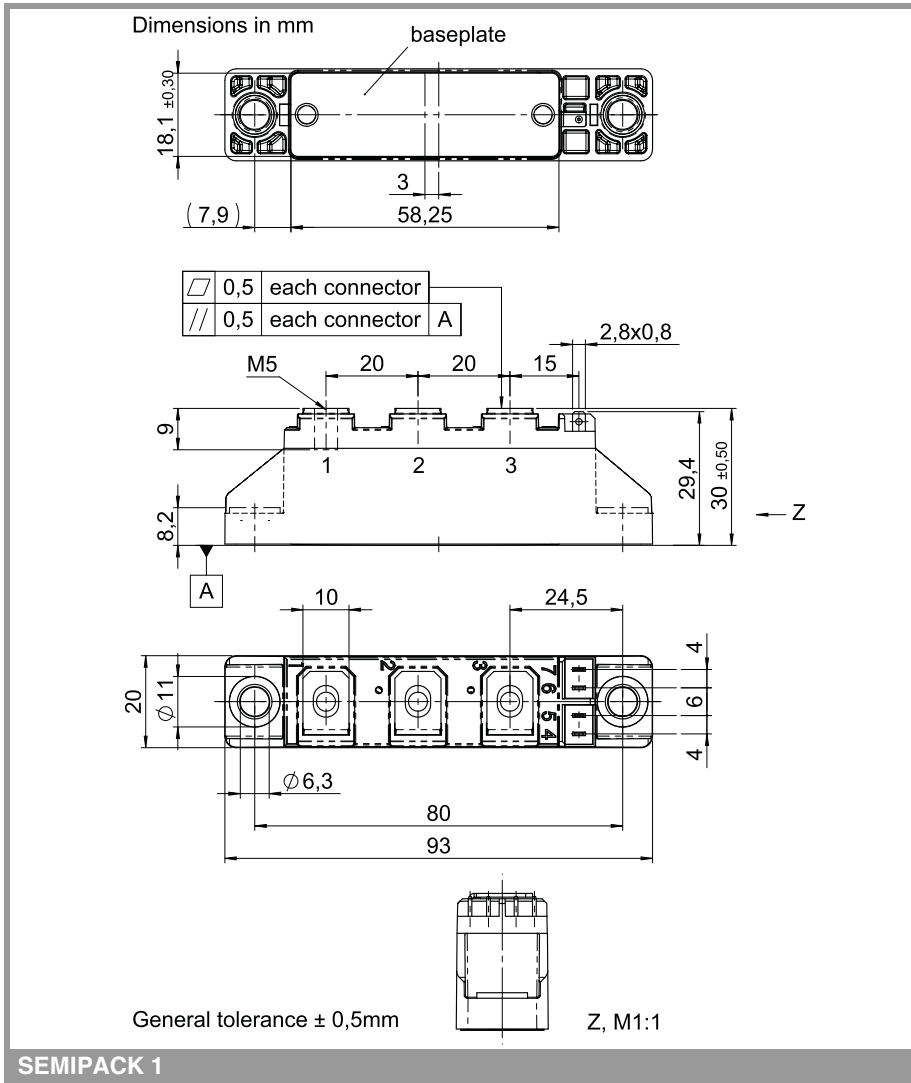


Fig. 16: Surge overload current vs. time



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

### \*IMPORTANT INFORMATION AND WARNINGS

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