



SEMIPACK® 1

Rectifier Diode Modules

SKKD 101/16

Features*

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

Typical Applications

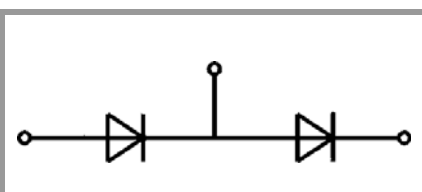
- Non-controllable rectifiers for AC/AC converters
- Line rectifiers for transistorized AC motor controllers
- Field supply for DC motors

Absolute Maximum Ratings

Symbol	Conditions		Values	Unit
Rectifier Diode				
I _{FAV}	sin. 180°	T _c = 85 °C	143	A
	T _{j max} = 130 °C	T _c = 100 °C	108	A
I _{FSM}	10 ms	T _j = 25 °C	2600	A
		T _j = 130 °C	2210	A
i ² t	10 ms	T _j = 25 °C	33800	A ² s
		T _j = 130 °C	24421	A ² s
V _{RSM}	T _j = 25 °C		1700	V
V _{RRM}	T _j = 25 °C		1600	V
T _j			-40 ... 130	°C
Module				
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
Diode					
V_F	$T_j = 25\text{ °C}$, $I_F = 420\text{ A}$		1.50	1.65	V
V_{F0}	$T_j = 130\text{ °C}$		0.77	0.85	V
r_F	$T_j = 130\text{ °C}$		1.85	2.05	mΩ
I_R	$T_j = 130\text{ °C}$, V_{RRM}			3	mA
$R_{th(j-c)}$	cont.			0.15	K/W
				0.075	K/W
$R_{th(j-c)}$	sin. 180°			0.2	K/W
				0.1	K/W
Module					
$R_{th(c-s)}$	chip		0.09		K/W
	module		0.05		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 ²
w			75		g



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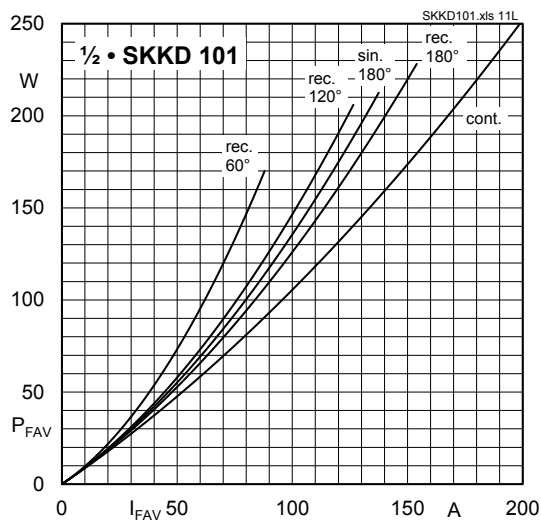


Fig. 11L: Power dissipation per diode vs. forward current

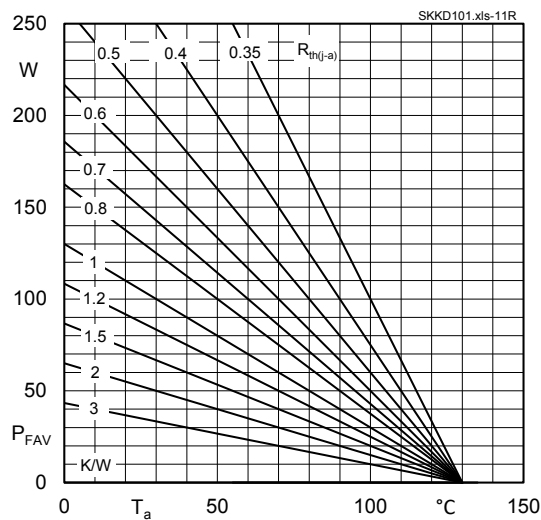


Fig. 11R: Power dissipation per diode vs. ambient temperature

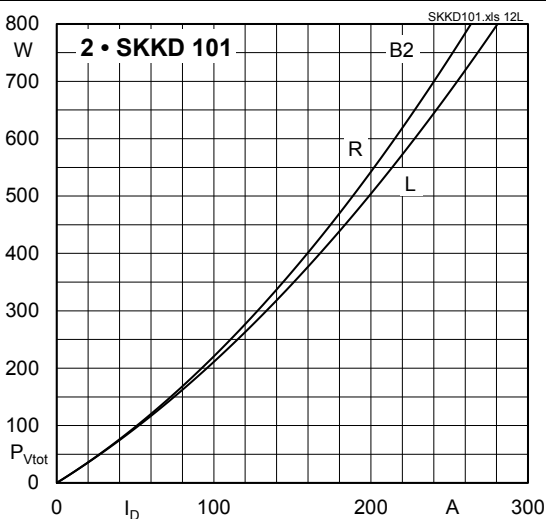


Fig. 12L: Power dissipation of two modules vs. direct current

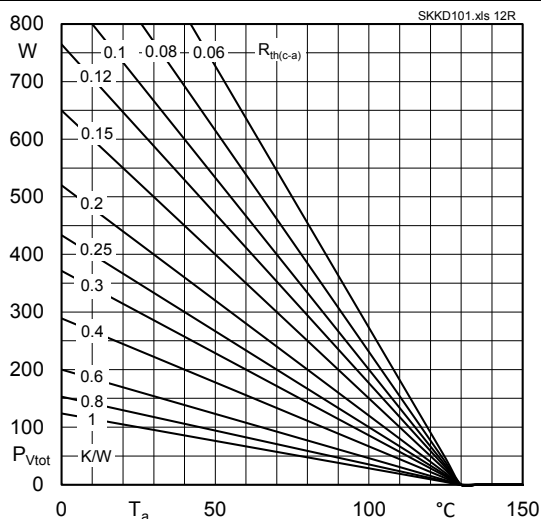


Fig. 12R: Power dissipation of two modules vs. case temperature

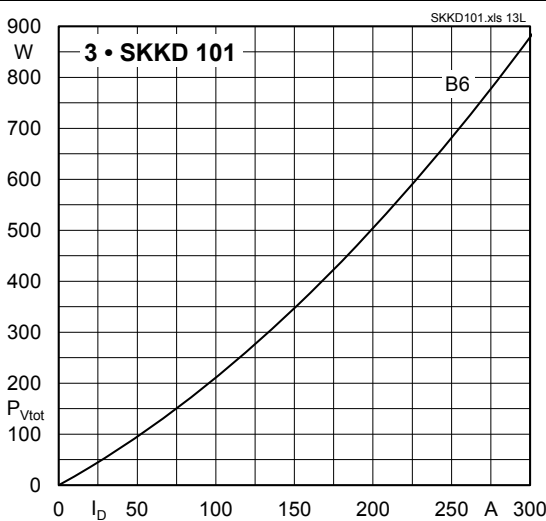


Fig. 13L: Power dissipation of three modules vs. direct current

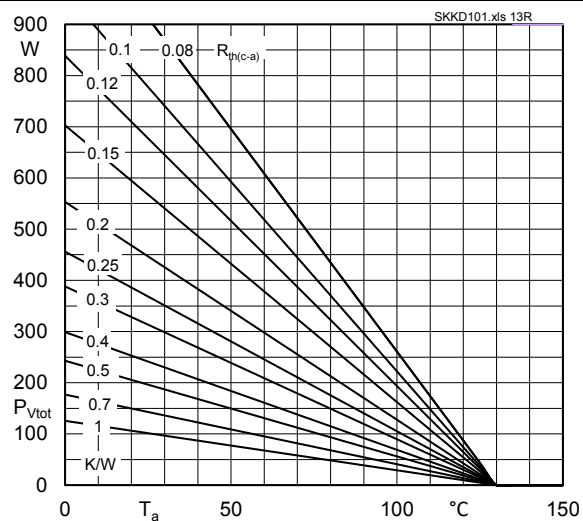


Fig. 13R: Power dissipation of three modules vs. case temperature

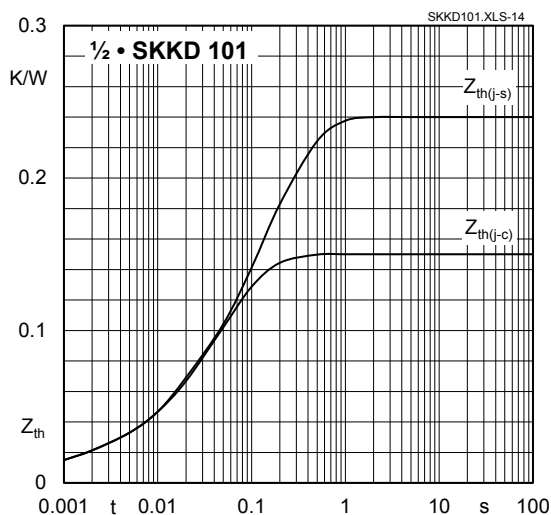


Fig. 14: Transient thermal impedance vs. time

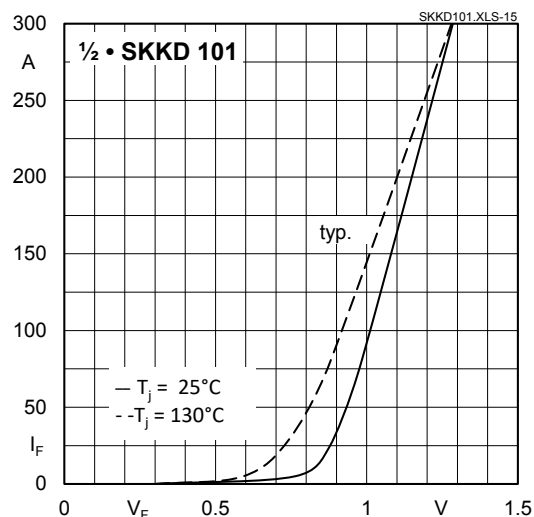


Fig. 15: Forward characteristics

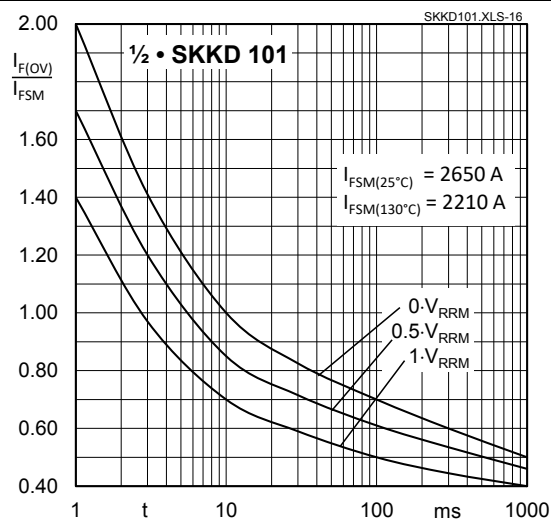
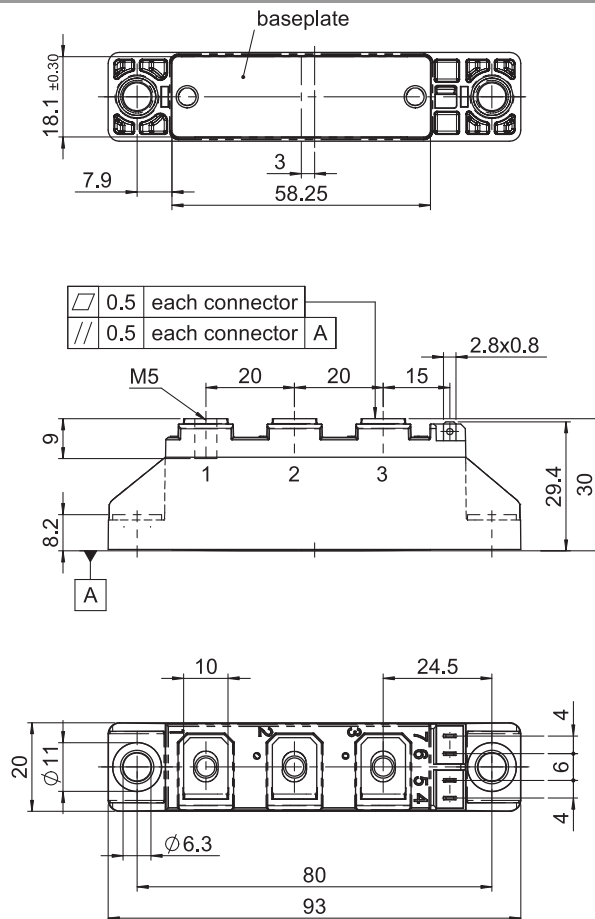
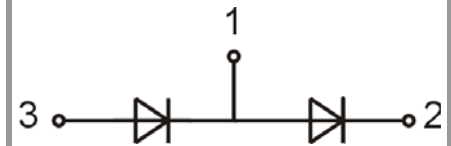


Fig. 16: Surge overload current vs. time



general tolerance $\pm 0.5\text{mm}$



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IMPORTANT INFORMATION AND WARNINGS

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

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