SKKD 101/16

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

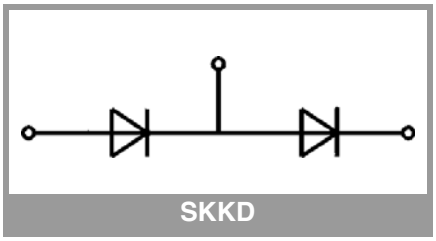
- Non-controllable rectifiers for AC/AC converters
- Line rectifiers for transistorized AC motor controllers
- Field supply for DC motors

Absolute Maximum Ratings

Symbol	Conditions		Values	Unit
Recitifier Diode				
I_{FAV}	sin. 180°	T_c = 85 °C	134	A
	$T_{j\,max}$ = 130 °C	T_c = 100 °C	101	A
I_{FSM}	10 ms	T_j = 25 °C	2500	A
		T_j = 130 °C	2000	A
i^2t	10 ms	T_j = 25 °C	31250	A^2s
		T_j = 130 °C	20000	A^2s
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 °C, I_F = 300 A			1.45	1.60	V
V_{F0}	T_j = 130 °C			0.75	0.87	V
r_F	T_j = 130 °C			2.20	2.45	mΩ
I_R	T_j = 130 °C, V_{RRM}				3	mA
$R_{th(j-c)}$	cont.	per chip			0.15	K/W
		per module			0.075	K/W
$R_{th(j-c)}$	sin. 180°	per chip			0.2	K/W
		per module			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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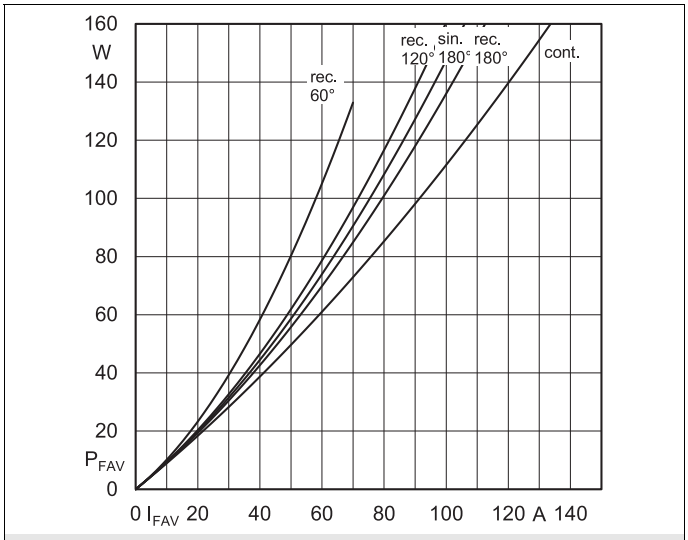


Fig. 11L: Power dissipation per diode vs. forward current

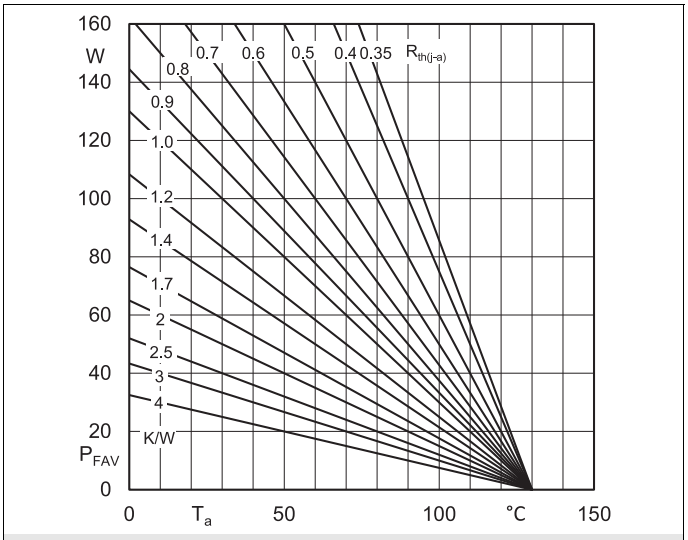


Fig. 11R: Power dissipation per diode vs. ambient temperature

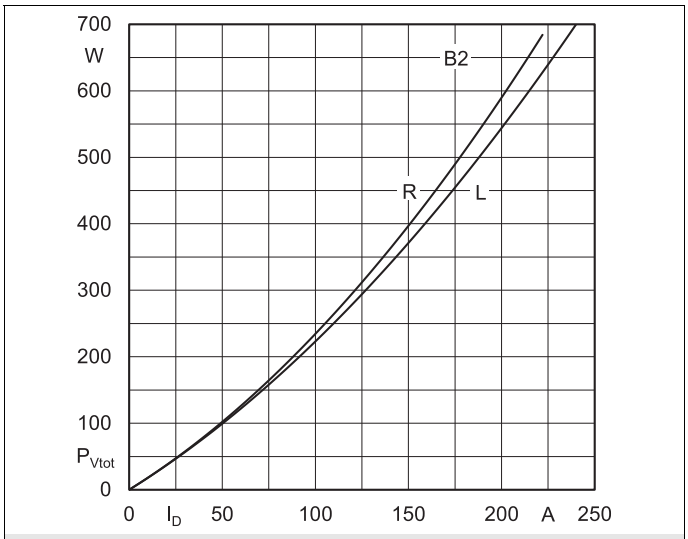


Fig. 12L: Power dissipation of two modules vs. direct current

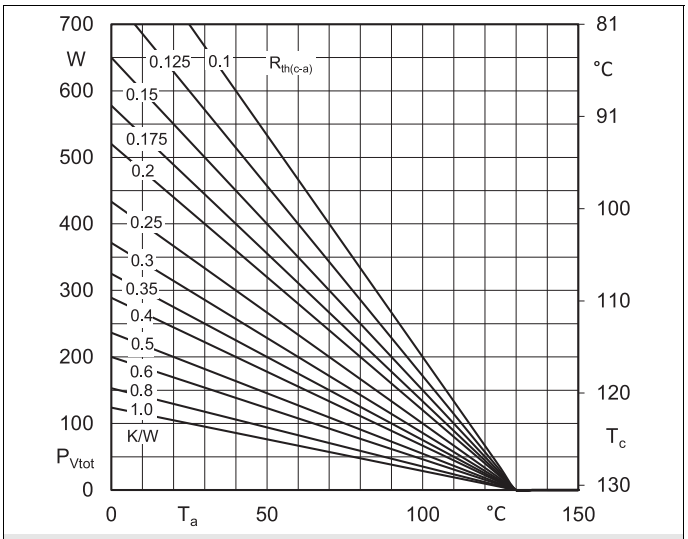


Fig. 12R: Power dissipation of two modules vs. case temperature

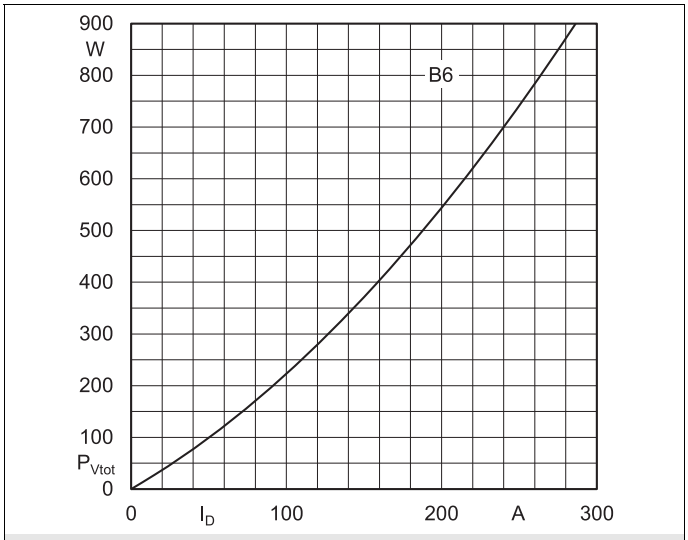


Fig. 13L: Power dissipation of three modules vs. direct current

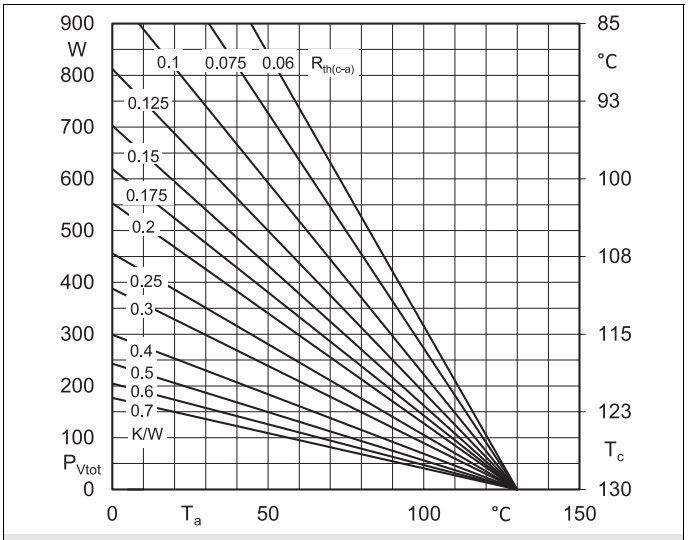


Fig. 13R: Power dissipation of three modules vs. case temperature

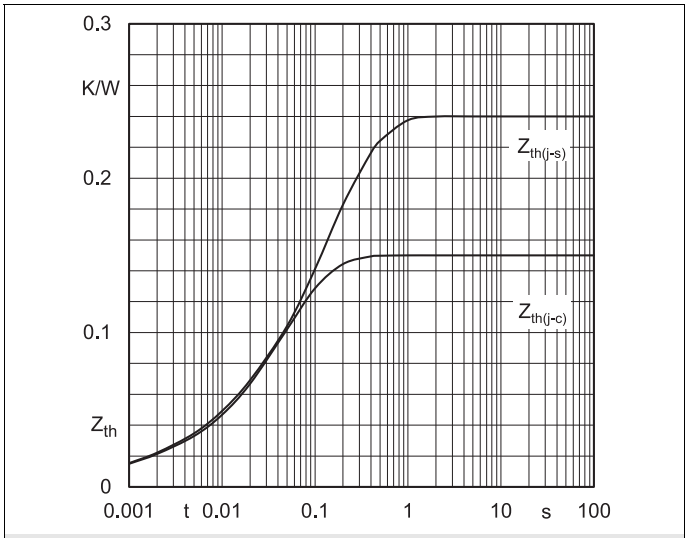


Fig. 14: Transient thermal impedance vs. time

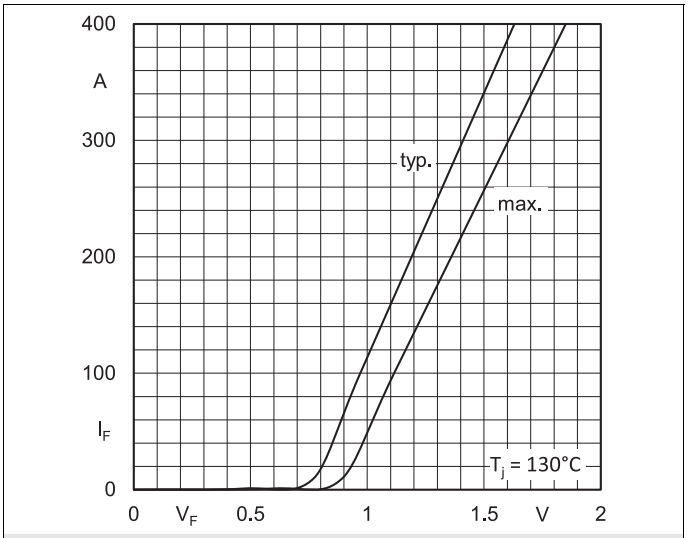


Fig. 15: Forward characteristics

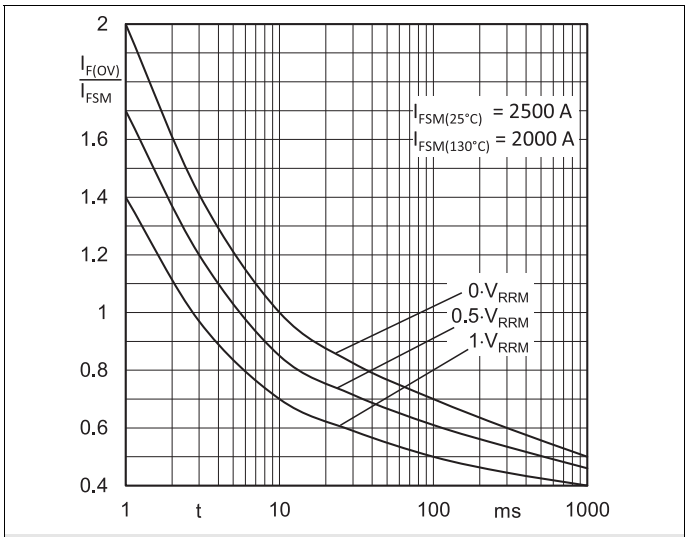
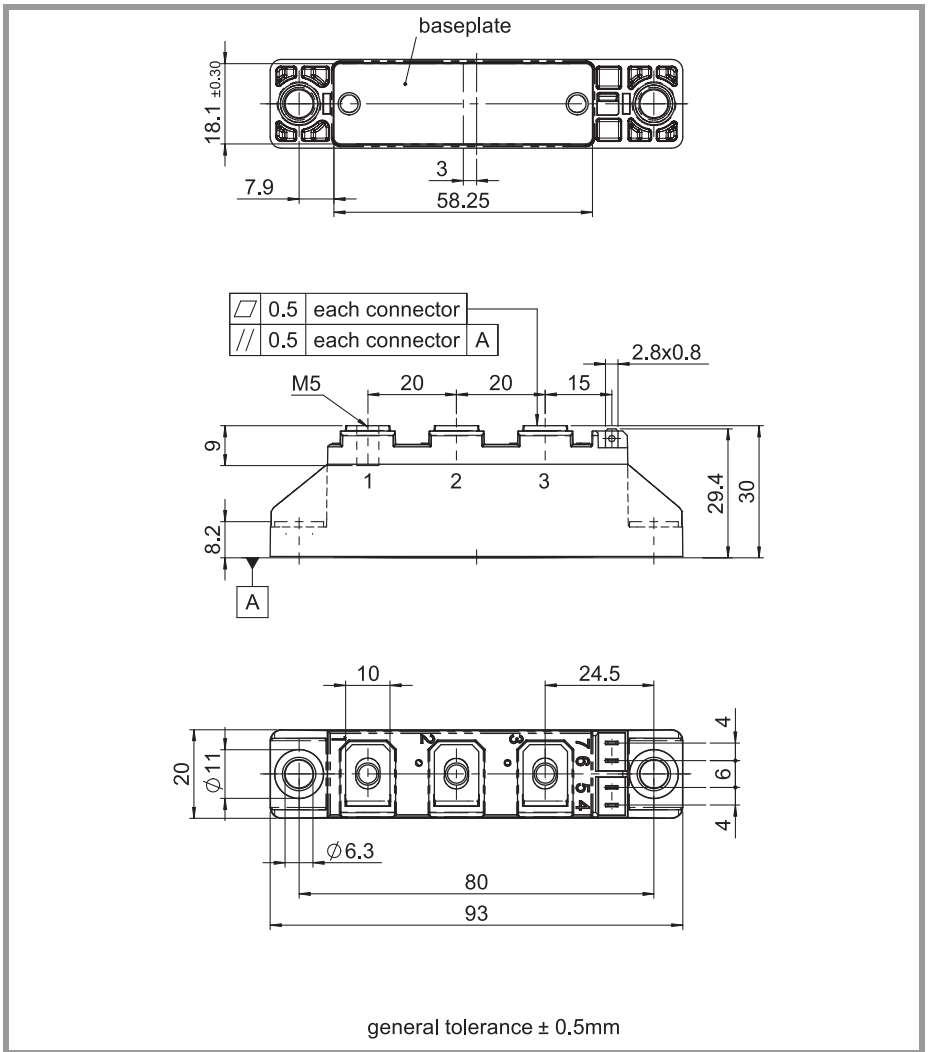


Fig. 16: Surge overload current vs. time



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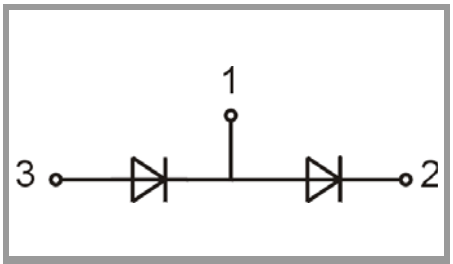

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This is an electrostatic discharge sensitive device (ESDS) due to international standard IEC 61340.

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