



SEMIPACK® 1

Rectifier Diode Modules

SKKD 95/16

Features*

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

Typical Applications

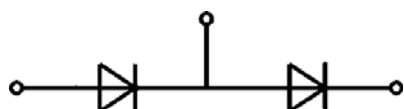
- Non-controllable rectifiers for AC/AC converters
- Line rectifiers for transistorized AC motor controllers
- Field supply for DC motors

Absolute Maximum Ratings

Symbol	Conditions		Values	Unit
Rectifier Diode				
I_{FAV}	sin. 180°	$T_c = 85\text{ °C}$	98	A
	$T_{j\max} = 130\text{ °C}$	$T_c = 100\text{ °C}$	74	A
I_{FSM}	$t_p = 10\text{ ms}$	$T_j = 25\text{ °C}$	1850	A
		$T_j = 130\text{ °C}$	1600	A
i^2t	$t_p = 10\text{ ms}$	$T_j = 25\text{ °C}$	17100	A ² s
		$T_j = 130\text{ °C}$	12800	A ² s
V_{RSM}	$T_j = 25\text{ °C}$		1700	V
V_{RRM}	$T_j = 25\text{ °C}$		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	$T_j = 25\text{ °C}$, $I_F = 300\text{ A}$			1.60	V
V_{F0}	$T_j = 130\text{ °C}$			0.85	V
r_F	$T_j = 130\text{ °C}$			2.80	mΩ
I_R	$T_j = 130\text{ °C}$, V_{RRM}			2	mA
$R_{th(j-c)}$	cont.			0.23	K/W
				0.115	K/W
$R_{th(j-c)}$	sin. 180°			0.30	K/W
				0.15	K/W
Module					
$R_{th(c-s)}$	per chip ($\lambda_{grease} = 0.81\text{ W/(m}^2\text{K)}$)		0.09		K/W
	per module ($\lambda_{grease} = 0.81\text{ W/(m}^2\text{K)}$)		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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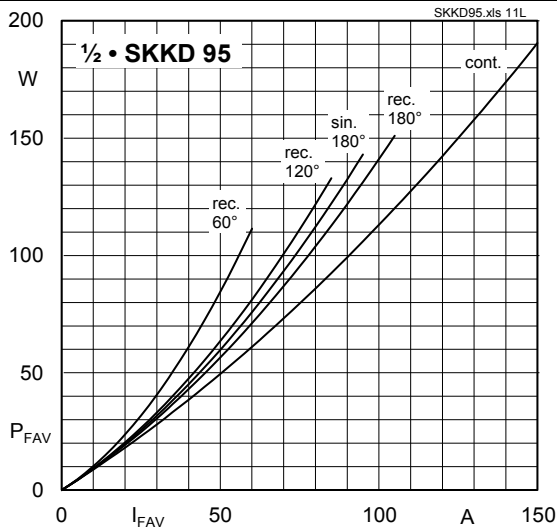


Fig. 11L: Power dissipation per diode vs. forward current

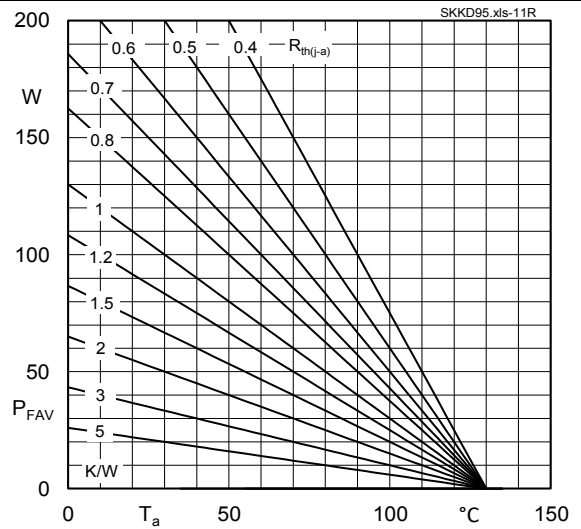


Fig. 11R: Power dissipation per diode vs. ambient temperature

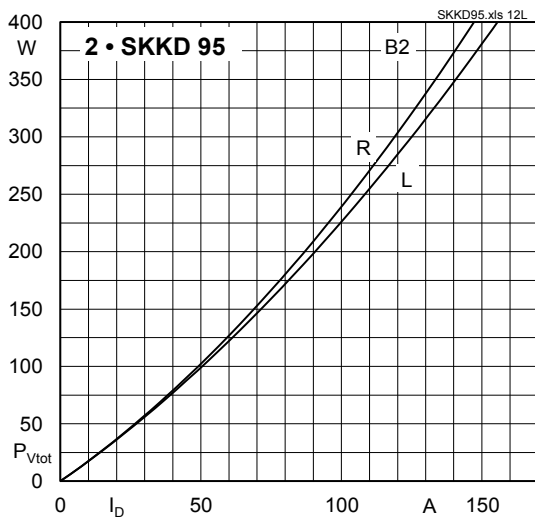


Fig. 12L: Power dissipation of two modules vs. direct current

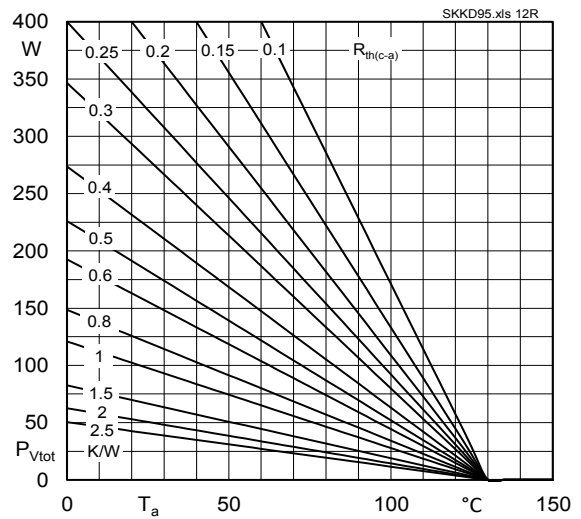


Fig. 12R: Power dissipation of two modules vs. ambient temperature

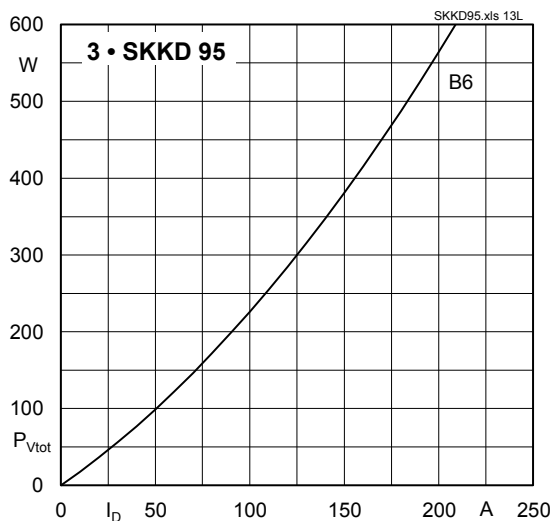


Fig. 13L: Power dissipation of three modules vs. direct current

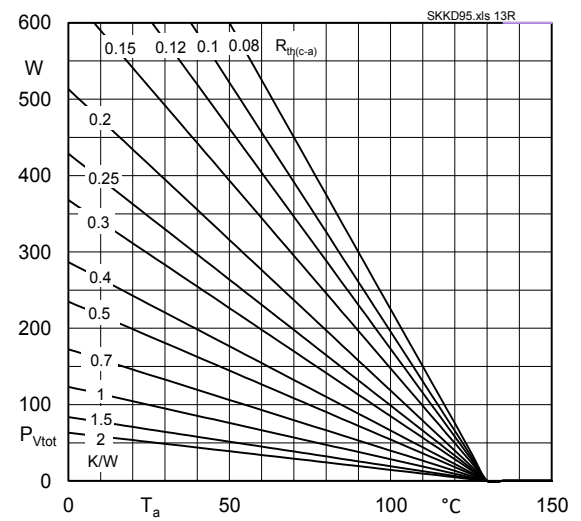


Fig. 13R: Power dissipation of three modules vs. ambient temperature

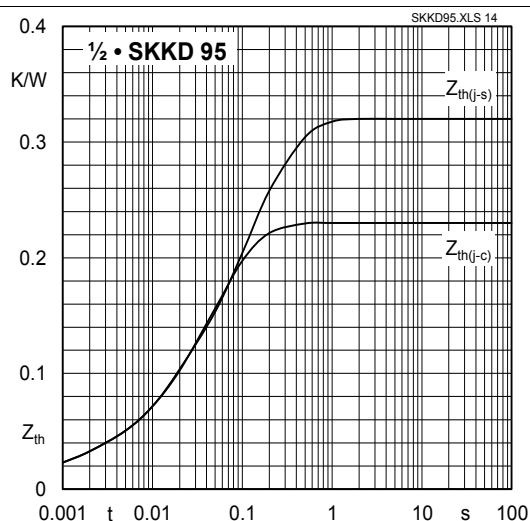


Fig. 14: Transient thermal impedance vs. time

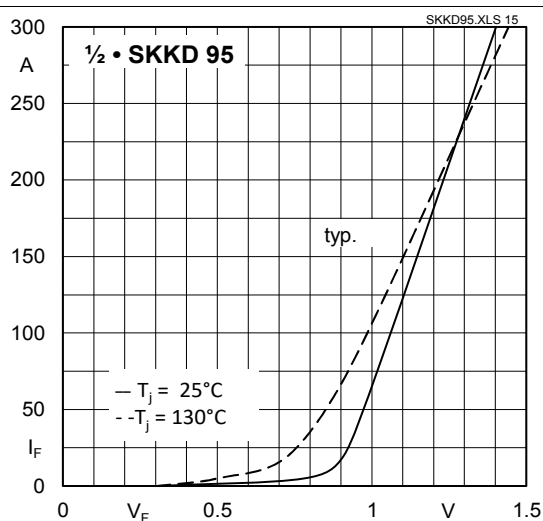


Fig. 15: Forward characteristics

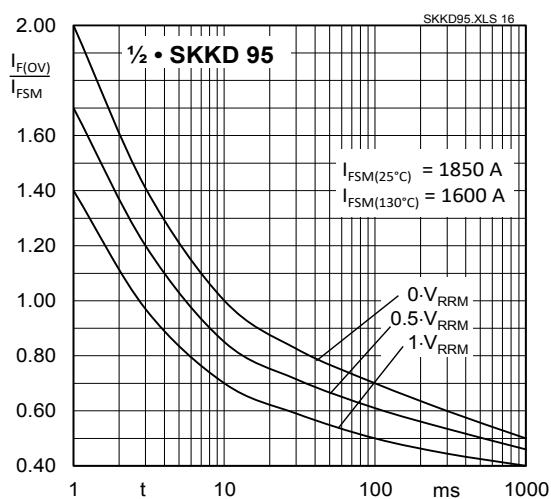
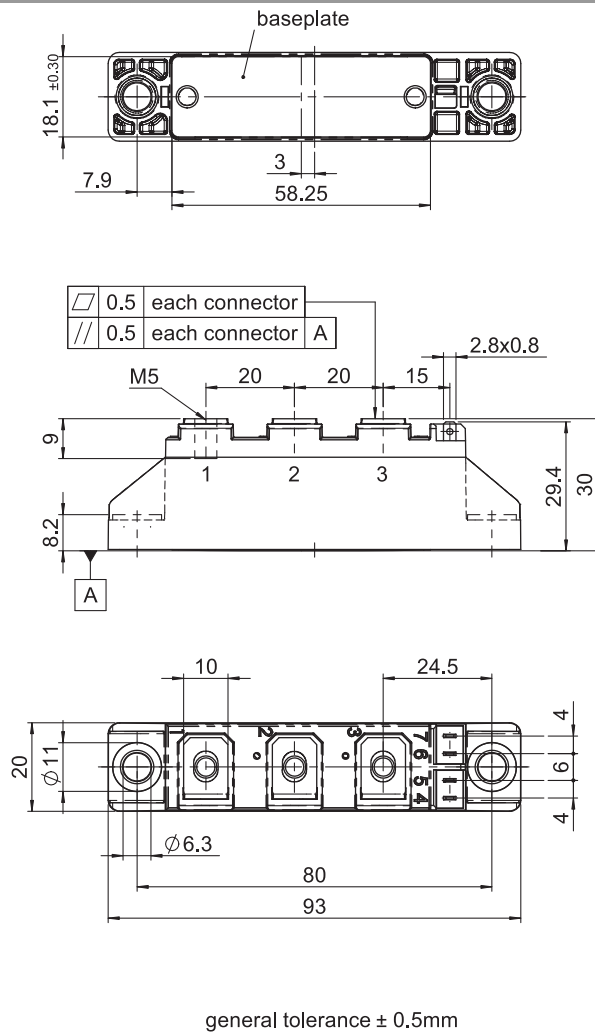
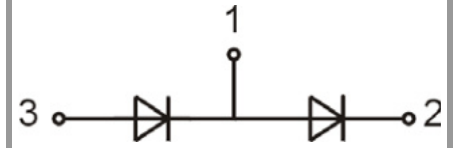


Fig. 16: Surge overload current vs. time



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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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