



## SEMIPACK<sup>®</sup> 1

### Rectifier Diode Modules

#### SKKD 100

#### Features

- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Hard soldered joints for high reliability
- SKKD half bridge connection center-tap connections
- UL recognized, file no. E 63 532

#### Typical Applications\*

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

$V_{RSM}$ V	$V_{RRM}$ V	$I_{FRMS} = 175$ A (maximum value for continuous operation) $I_{FAV} = 100$ A (sin. 180; $T_c = 85$ °C)	
500	400	SKKD 100/04	
900	800	SKKD 100/08	
1300	1200	SKKD 100/12	
1500	1400	SKKD 100/14	
1700	1600	SKKD 100/16	
1900	1800	SKKD 100/18	

Symbol	Conditions	Values	Units
$I_{FAV}$	sin. 180; $T_c = 85$ (100) °C	100 (67)	A
$I_D$	P3/180; $T_a = 45$ °C; B2 / B6	73 / 91	A
	P3/180F; $T_a = 35$ °C; B2 / B6	150 / 190	A
$I_{FSM}$	$T_{vj} = 25$ °C; 10 ms	2500	A
	$T_{vj} = 125$ °C; 10 ms	2000	A
$i^2t$	$T_{vj} = 25$ °C; 8,3 ... 10 ms	31250	A <sup>2</sup> s
	$T_{vj} = 125$ °C; 8,3 ... 10 ms	20000	A <sup>2</sup> s
$V_F$	$T_{vj} = 25$ °C; $I_F = 300$ A	max. 1,35	V
$V_{(TO)}$	$T_{vj} = 125$ °C	max. 0,85	V
$r_T$	$T_{vj} = 125$ °C	max. 1,3	mΩ
$I_{RD}$	$T_{vj} = 125$ °C; $V_{RD} = V_{RRM}$	max. 5	mA
$R_{th(j-c)}$	per diode / per module	0,35 / 0,175	K/W
$R_{th(c-s)}$	per diode / per module	0,2 / 0,1	K/W
$T_{vj}$		- 40 ... + 125	°C
$T_{stg}$		- 40 ... + 125	°C
$V_{isol}$	a. c. 50 Hz; r.m.s.; 1 s / 1 min.	3600 / 3000	V~
$M_s$	to heatsink	5 ± 15 %	Nm
$M_t$	to terminals	3 ± 15 %	Nm
a		5 * 9,81	m/s <sup>2</sup>
m	approx.	95	g
Case	SKKD	A 10	



SKKD

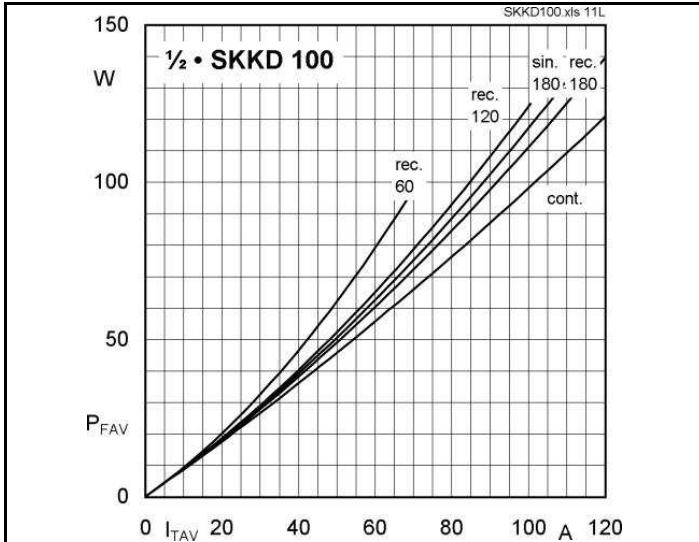


Fig. 11L Power dissipation per diode vs. forward current

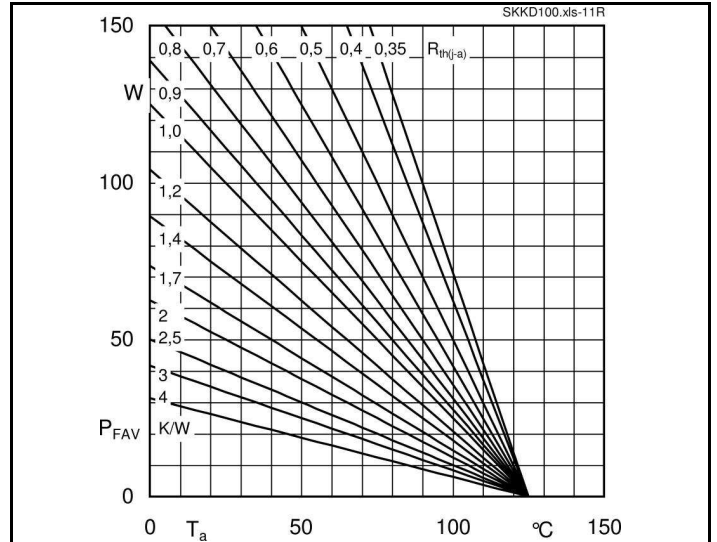


Fig. 11R Power dissipation per diode vs. ambient temperature

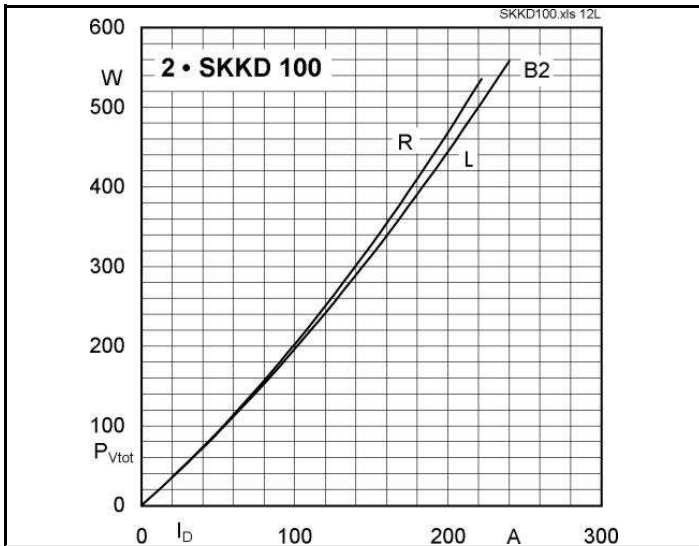


Fig. 12L Power dissipation of two modules vs. direct current

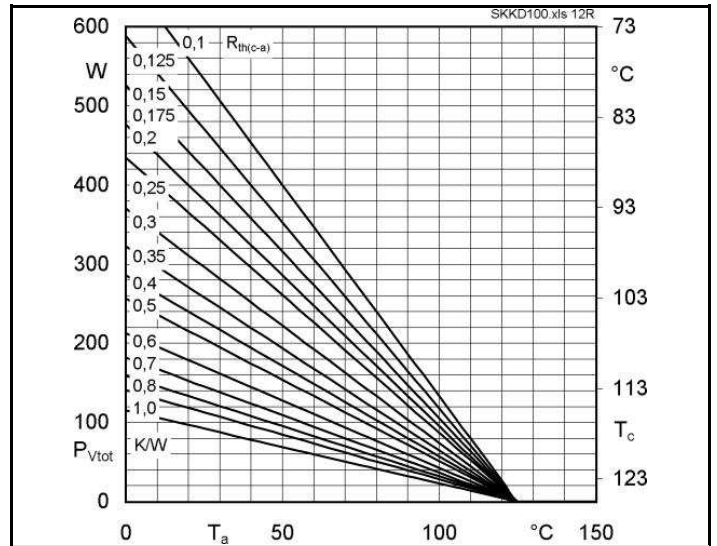


Fig. 12R Power dissipation of two modules vs case temperature

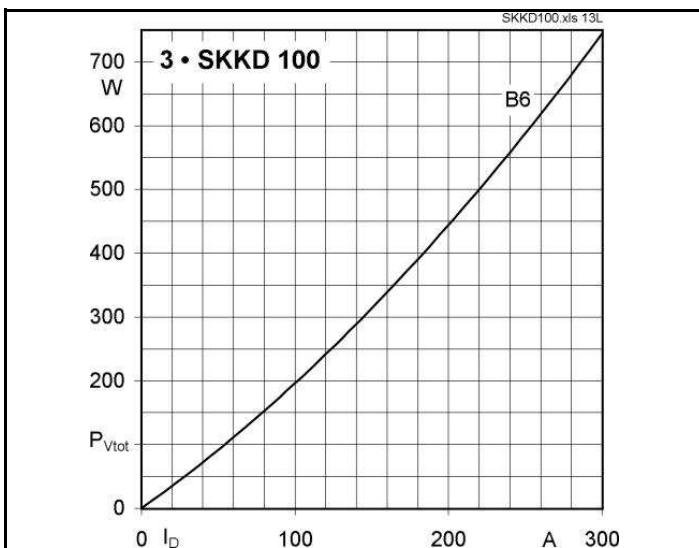


Fig. 13L Power dissipation of three modules vs. direct current

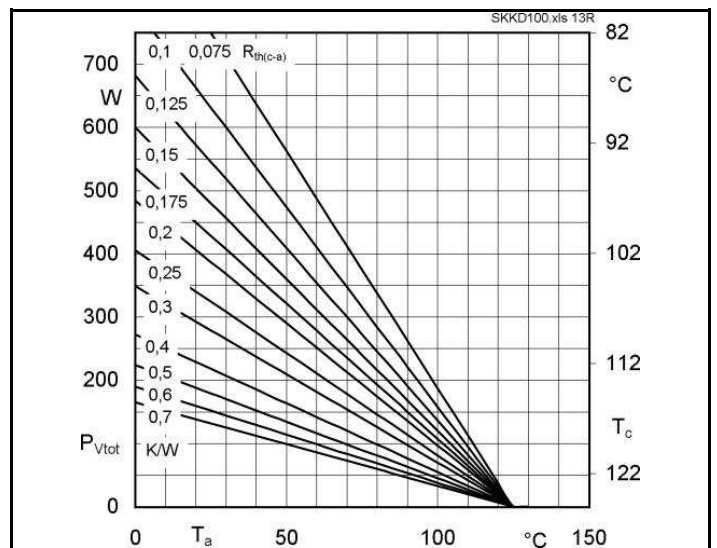
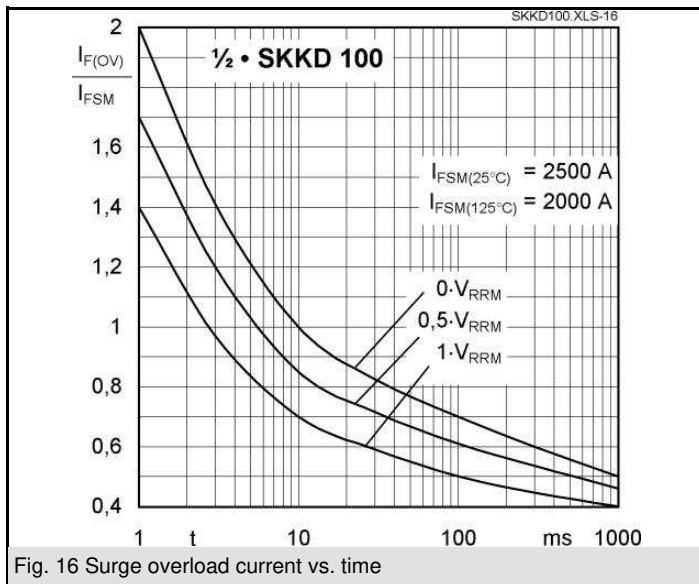
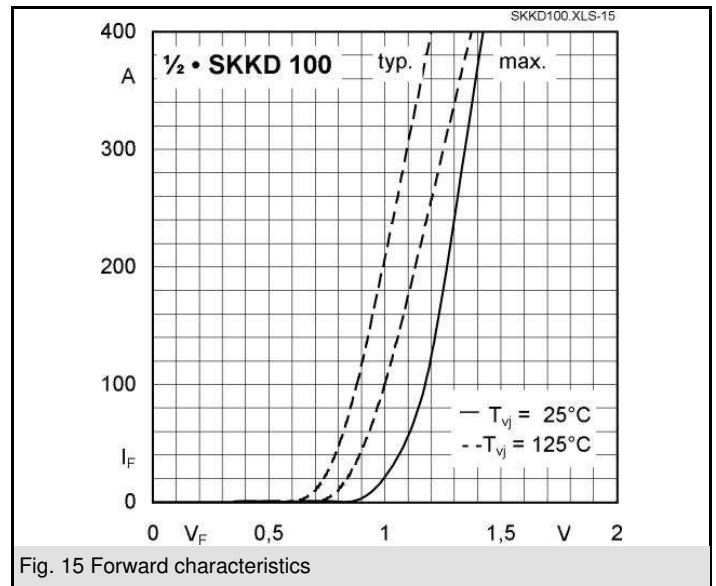
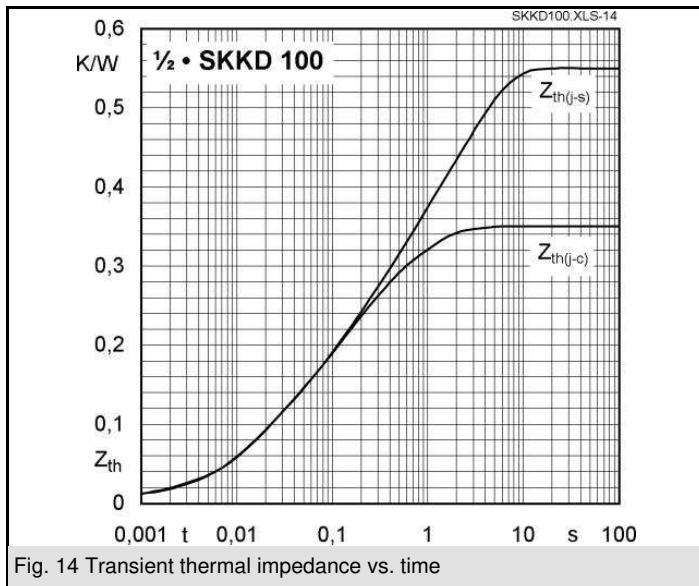
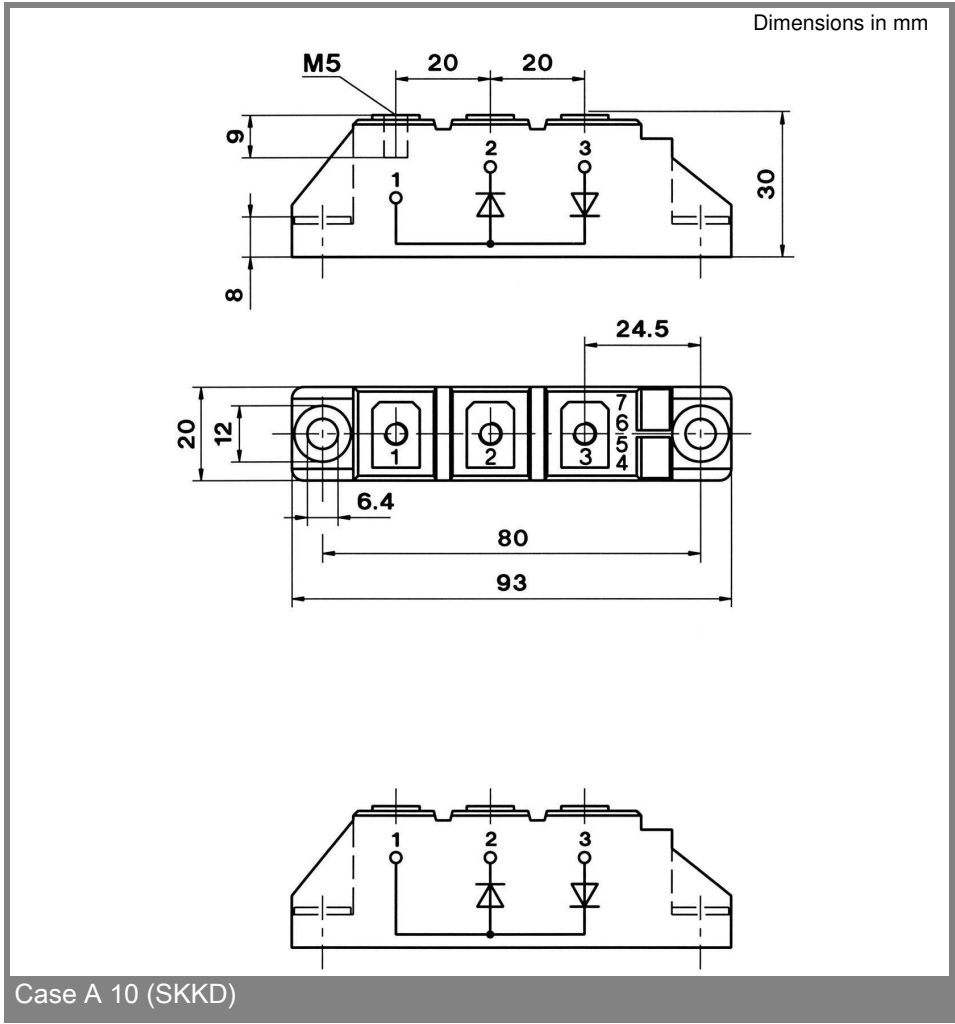


Fig. 13R Power dissipation of three modules vs. case temperature





\* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.