

# SKKD 353/18



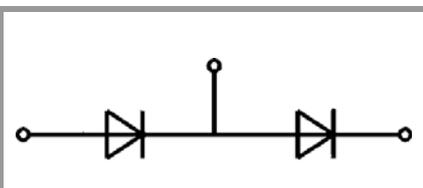
**SEMIPACK® 3**

## Rectifier Diode Modules

### SKKD 353/18

#### Features\*

- Industrial standard package
- Electrically insulated base plate
- Heat transfer through aluminum oxide ceramic insulated metal base plate
- Chip soldered on direct copper bonded Al<sub>2</sub>O<sub>3</sub> ceramic
- UL recognition, file no. E63532



**SKKD**

Absolute Maximum Ratings				
Symbol	Conditions		Values	Unit
<b>Rectifier Diode</b>				
I <sub>FAV</sub>	sin. 180° T <sub>j</sub> = 130 °C	T <sub>c</sub> = 85 °C	350	A
		T <sub>c</sub> = 100 °C	260	A
I <sub>FSM</sub>	t <sub>p</sub> = 10 ms	T <sub>j</sub> = 25 °C	10500	A
		T <sub>j</sub> = 130 °C	9500	A
i <sup>2</sup> t	t <sub>p</sub> = 10 ms	T <sub>j</sub> = 25 °C	551250	A <sup>2</sup> s
		T <sub>j</sub> = 130 °C	451250	A <sup>2</sup> s
V <sub>RSM</sub>	T <sub>j</sub> = 25 °C		1900	V
V <sub>RRM</sub>	T <sub>j</sub> = 25 °C		1800	V
T <sub>j</sub>			-40 ... 130	°C
<b>Module</b>				
T <sub>stg</sub>			-40 ... 125	°C
V <sub>isol</sub>	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 <sub>F</sub>	T <sub>j</sub> = 25 °C, I <sub>F</sub> = 750 A				1.38	V
V <sub>F0</sub>	T <sub>j</sub> = 130 °C				0.84	V
r <sub>F</sub>	T <sub>j</sub> = 130 °C				0.67	mΩ
I <sub>R</sub>	T <sub>j</sub> = 130 °C, V <sub>RD</sub> = V <sub>RRM</sub>				15	mA
R <sub>th(j-c)</sub>	cont.	per chip			0.09	K/W
		per module			0.045	K/W
R <sub>th(j-c)</sub>	sin. 180°	per chip			0.092	K/W
		per module			0.046	K/W
<b>Module</b>						
R <sub>th(c-s)</sub>	chip, P12 (reference)			0.08		K/W
	module, P12 (reference)			0.04		K/W
M <sub>s</sub>	to heatsink M5		4.25		5.75	Nm
M <sub>t</sub>	to terminals M8		7.65		10.35	Nm
a					5 * 9.81	m/s <sup>2</sup>
w				410		g

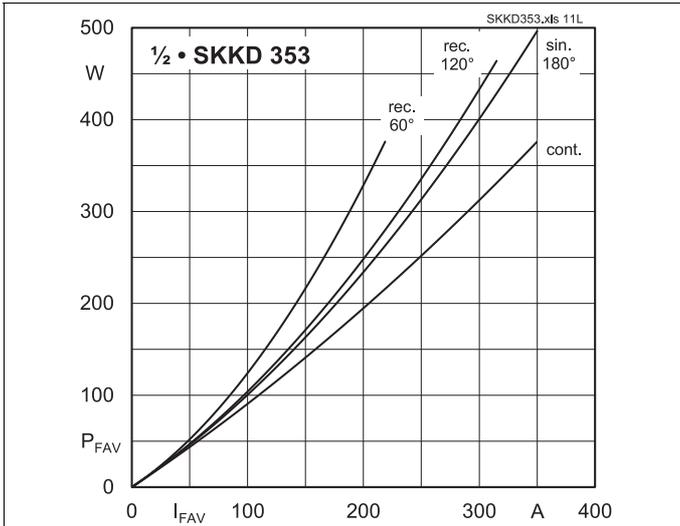


Fig. 11L: Max. power dissipation per diode vs. forward current

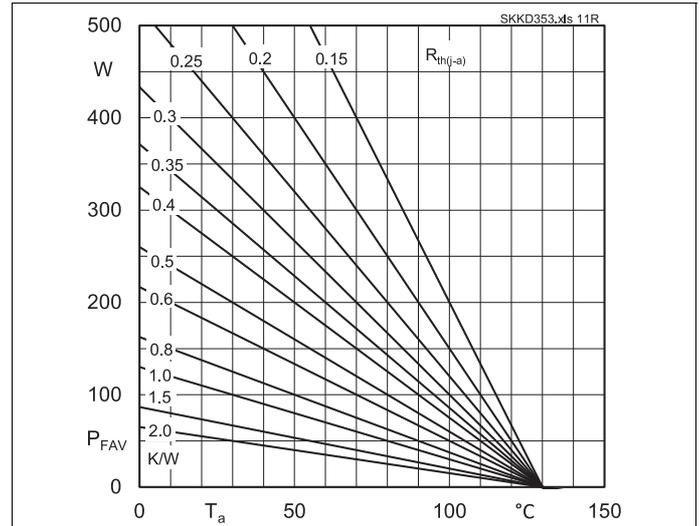


Fig. 11R: Max. power dissipation per diode vs. ambient temperature

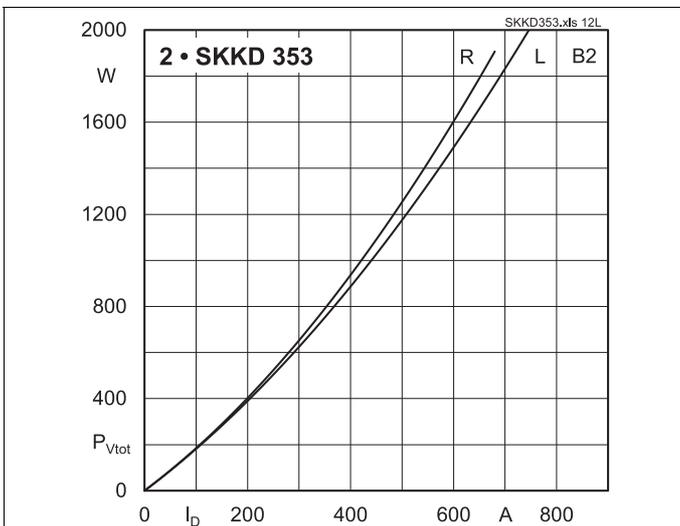


Fig. 12L: Max. power dissipation of two modules vs. direct current

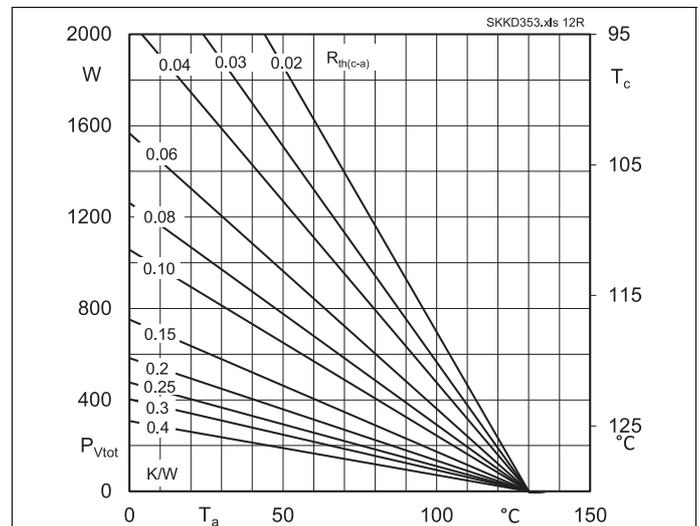


Fig. 12R: Max. power dissipation of two modules vs. ambient temperature

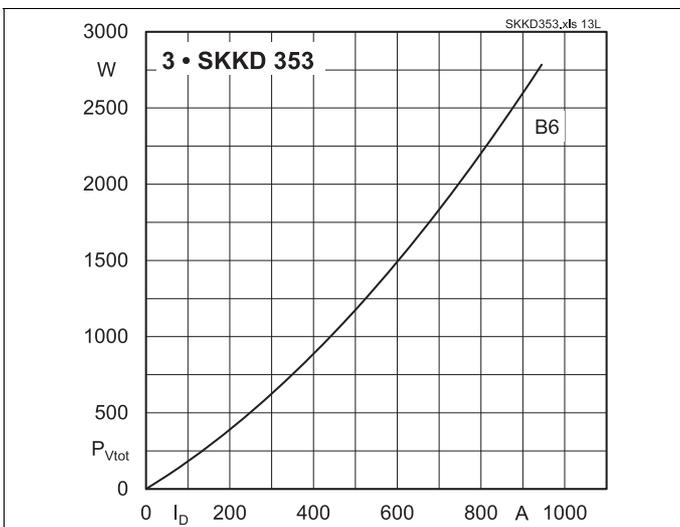


Fig. 13L: Max. power dissipation of three modules vs. direct current

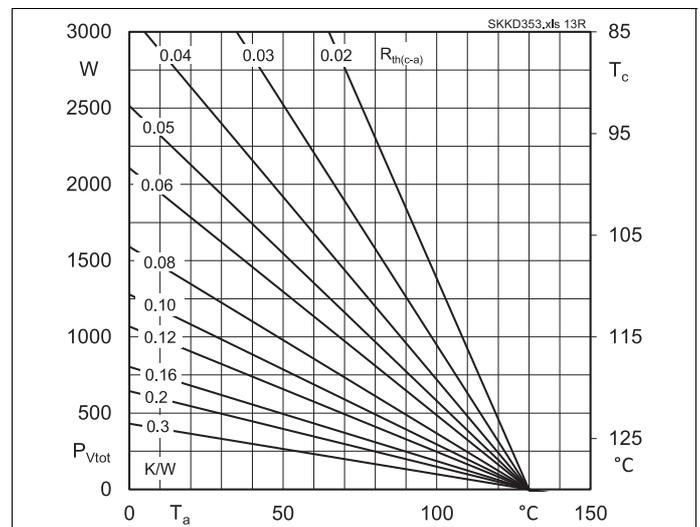


Fig. 13R: Max. power dissipation of three modules vs. ambient temperature

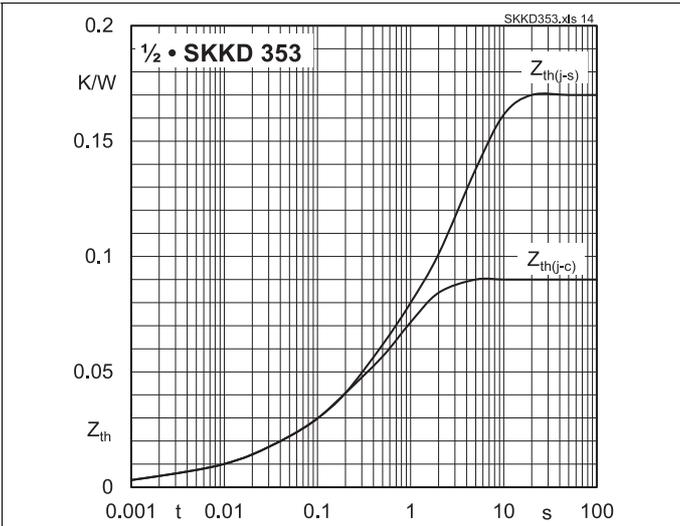


Fig. 14: Transient thermal impedance vs. time

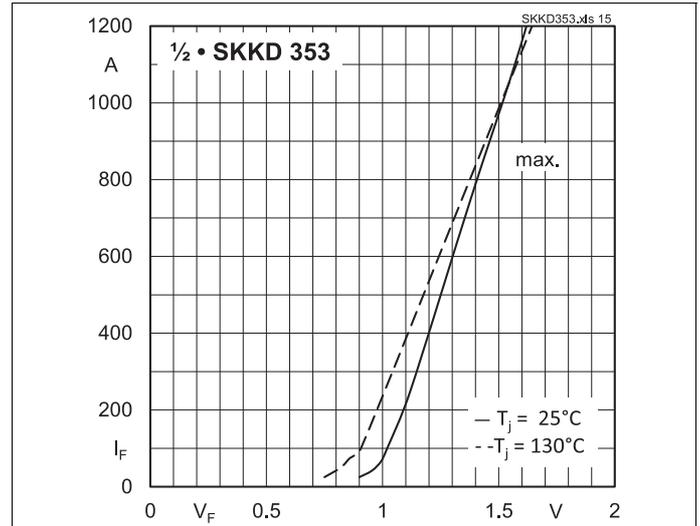


Fig. 15: Forward characteristics

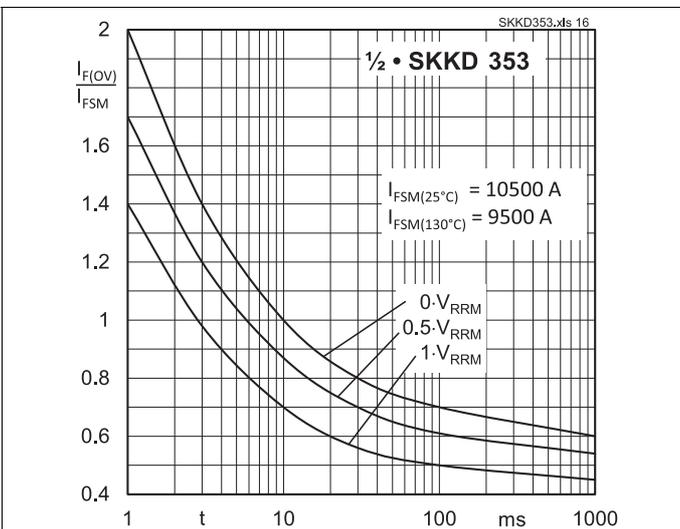
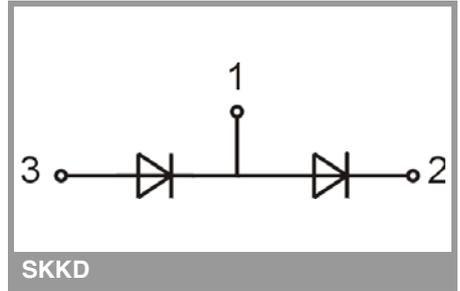
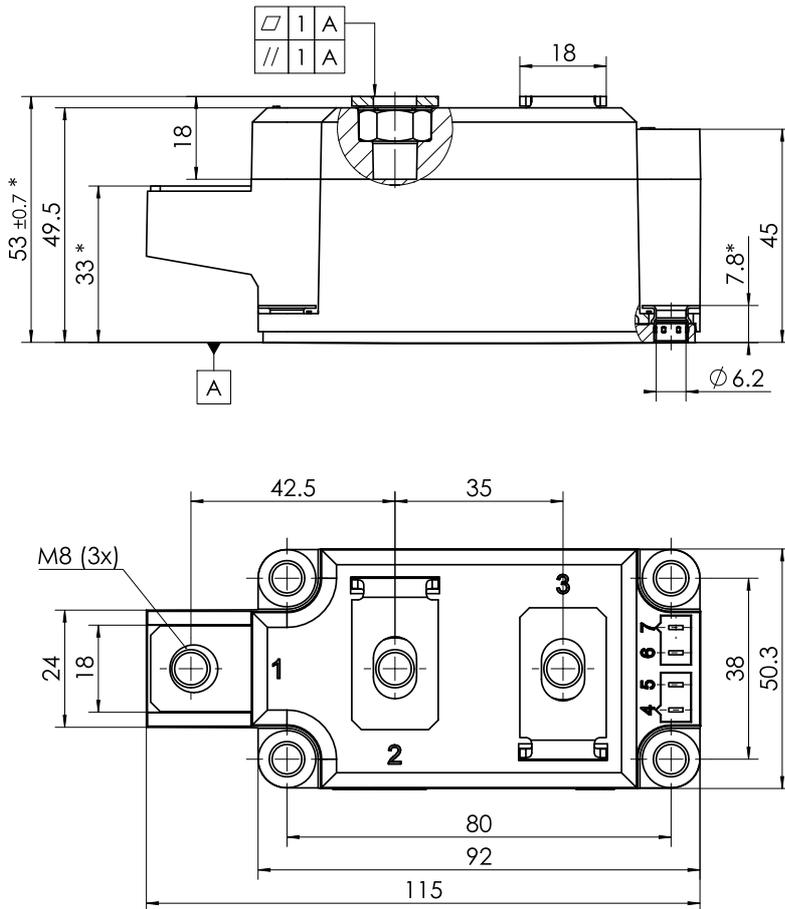


Fig. 16: Surge overload current vs. time



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General tolerance  $\pm 0.5$  mm  
 \* dimensions valid in assembled condition

SEMIPACK 3

## IMPORTANT INFORMATION AND WARNINGS

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

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