SKKD 353/12

SEMIPACK® 3

Rectifier Diode Modules

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Features*

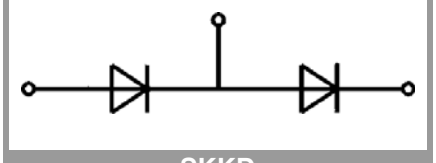
- Industrial standard package
- Electrically insulated base plate
- Heat transfer through aluminum oxide ceramic insulated metal base plate
- Chip soldered on direct copper bonded Al_2O_3 ceramic
- UL recognition, file no. E63532

Absolute Maximum Ratings

Symbol	Conditions		Values	Unit
Recitifier Diode				
I_{FAV}	sin. 180°	T_c = 85 °C	350	A
	$T_{j\,max}$ = 130 °C	T_c = 100 °C	260	A
I_{FRMS}	continuous operation		580	A
I_{FSM}	10 ms	T_j = 25 °C	10500	A
		T_j = 130 °C	9500	A
i^2t	10 ms	T_j = 25 °C	551250	A^2s
		T_j = 130 °C	451250	A^2s
V_{RSM}	T_j = 25 °C		1300	V
V_{RRM}	T_j = 25 °C		1200	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 = 750 A				1.38	V
V_{F0}	T_j = 130 °C				0.84	V
r_F	T_j = 130 °C				0.67	mΩ
I_R	T_j = 130 °C, V_{RD} = V_{RRM}				15	mA
$R_{th(j-c)}$	cont.	per chip			0.09	K/W
		per module			0.045	K/W
$R_{th(j-c)}$	sin. 180°	per chip			0.092	K/W
		per module			0.046	K/W
Module						
$R_{th(c-s)}$	chip			0.08		K/W
	module			0.04		K/W
M_s	to heatsink M5		4.25		5.75	Nm
M_t	to terminals M8		7.65		10.35	Nm
a					5 * 9.81	m/s^2
w				410		g



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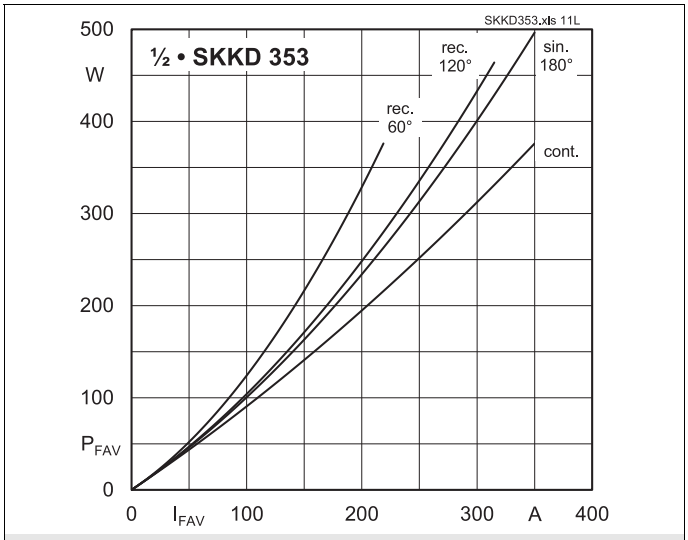

Fig. 11L: Power dissipation per diode vs. forward current

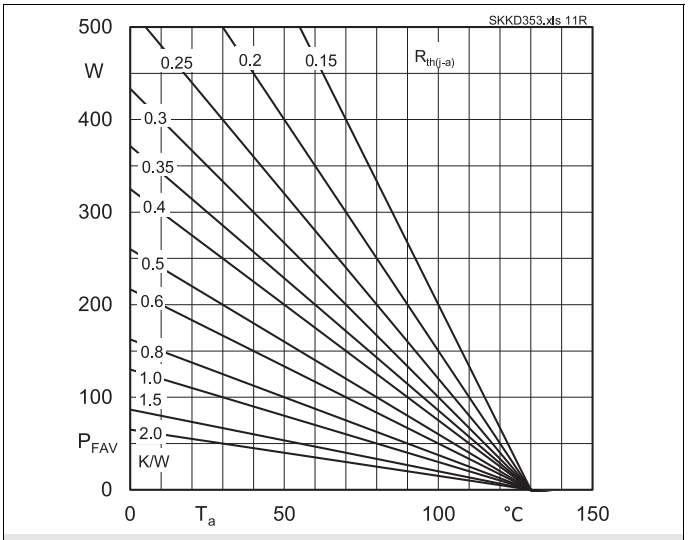

Fig. 11R: Power dissipation per diode vs. ambient temperature

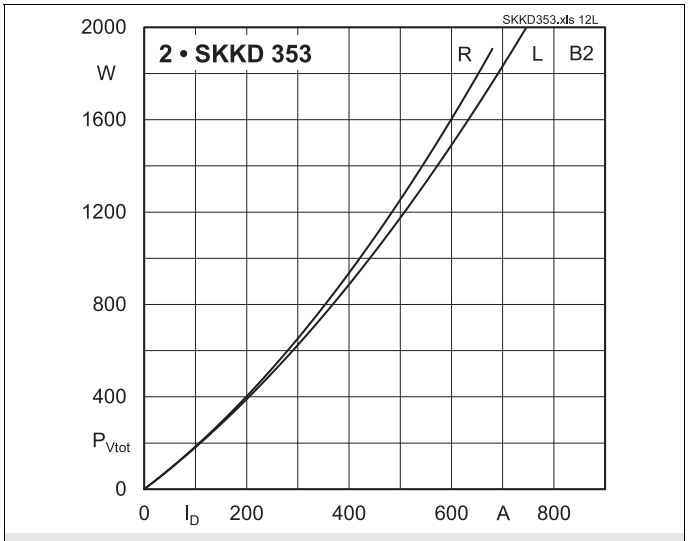

Fig. 12L: Power dissipation of two modules vs. direct current

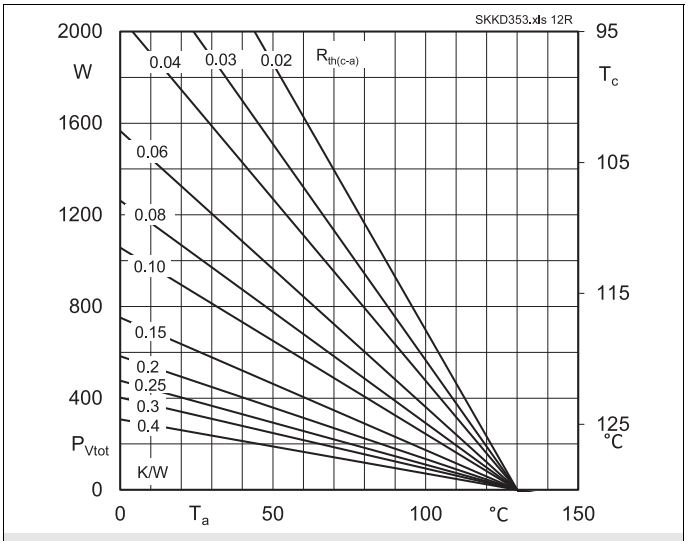

Fig. 12R: Power dissipation of two modules vs. case temperature

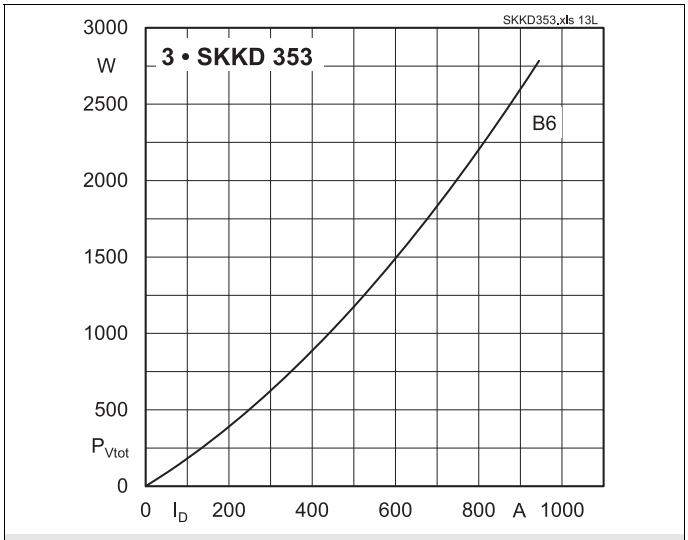

Fig. 13L: Power dissipation of three modules vs. direct current

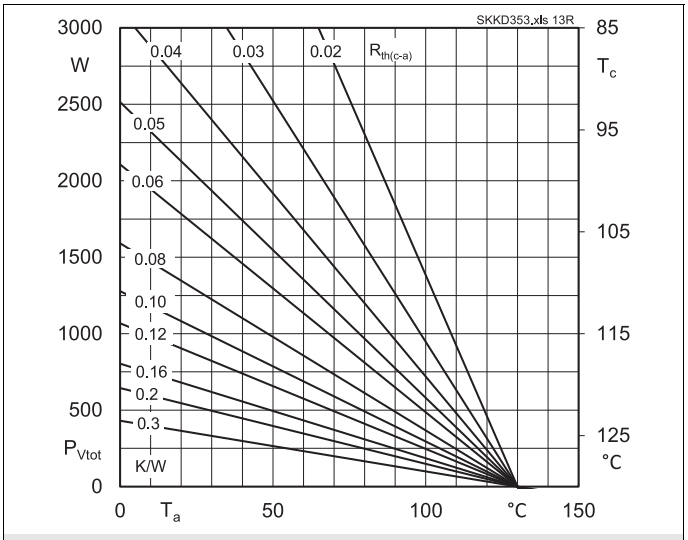

Fig. 13R: Power dissipation of three modules vs. case temperature

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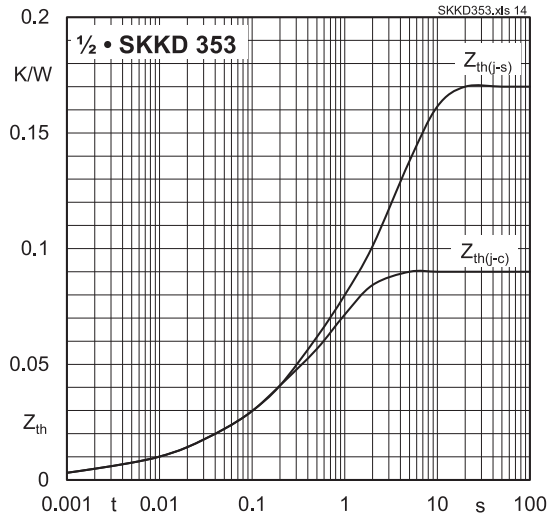

Fig. 14: Transient thermal impedance vs. time

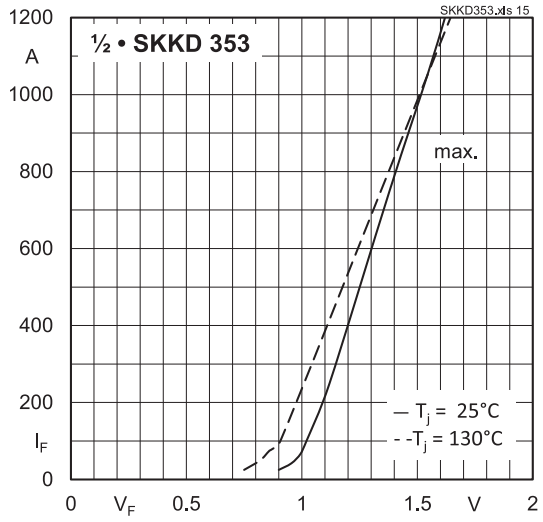

Fig. 15: Forward characteristics

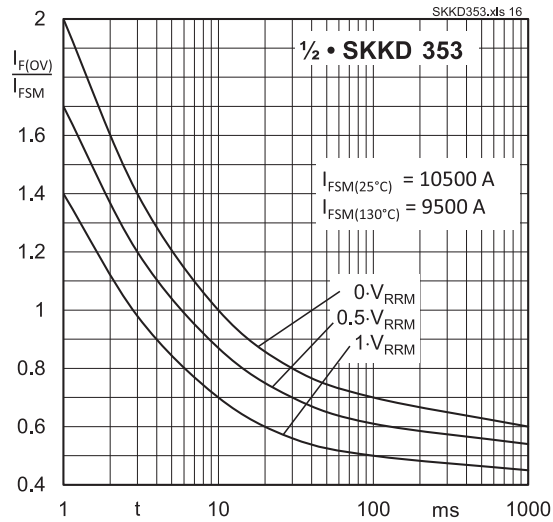

Fig. 16: Surge overload current vs. time

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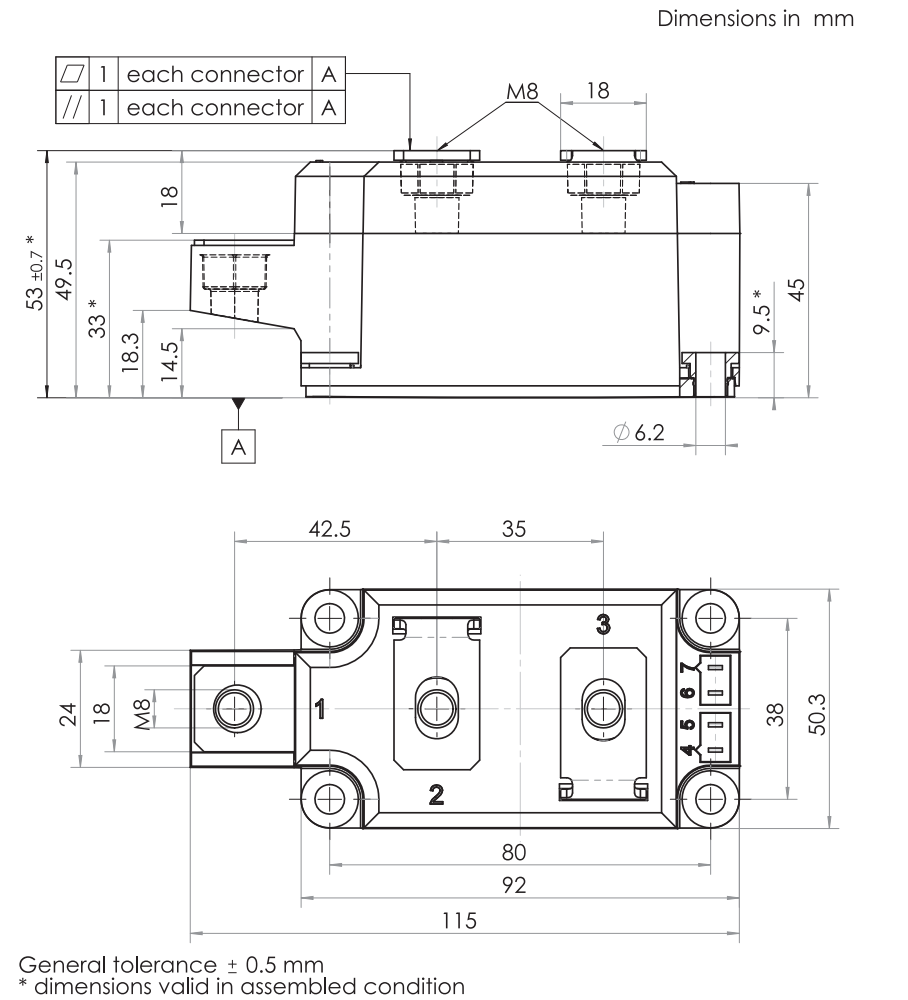

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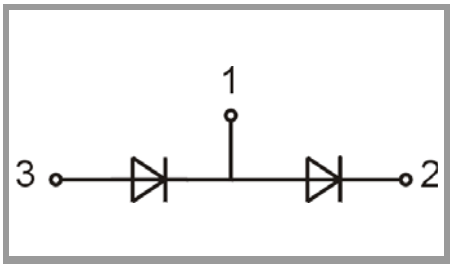

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This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, chapter IX.

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