



**SEMIPACK® 1**

## Rectifier Diode Modules

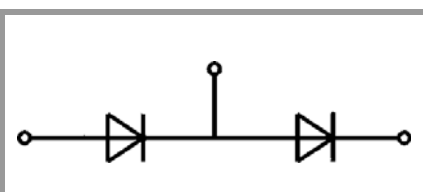
### SKKD 75/16

#### 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



**SKKD**

Absolute Maximum Ratings				
Symbol	Conditions		Values	Unit
<b>Rectifier Diode</b>				
$I_{FAV}$	sin. 180° $T_{j\max} = 130\text{ °C}$	$T_c = 85\text{ °C}$	75	A
		$T_c = 100\text{ °C}$	57	A
$I_{FSM}$	$t_p = 10\text{ ms}$	$T_j = 25\text{ °C}$	1700	A
		$T_j = 130\text{ °C}$	1450	A
$i^2t$	$t_p = 10\text{ ms}$	$T_j = 25\text{ °C}$	14450	A <sup>2</sup> s
		$T_j = 130\text{ °C}$	10513	A <sup>2</sup> s
$V_{RSM}$	$T_j = 25\text{ °C}$		1700	V
$V_{RRM}$	$T_j = 25\text{ °C}$		1600	V
$T_j$			-40 ... 130	°C
<b>Module</b>				
$T_{stg}$			-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
<b>Diode</b>						
$V_F$	$T_j = 25\text{ °C}, I_F = 225\text{ A}$				1.65	V
$V_{F0}$	$T_j = 130\text{ °C}$				0.85	V
$r_F$	$T_j = 130\text{ °C}$				3.90	mΩ
$I_R$	$T_j = 130\text{ °C}, V_{RD} = V_{RRM}$				1.7	mA
$R_{th(j-c)}$	cont.	per chip			0.3	K/W
		per module			0.15	K/W
$R_{th(j-c)}$	sin. 180°	per chip			0.38	K/W
		per module			0.19	K/W
<b>Module</b>						
$R_{th(c-s)}$	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 <sup>2</sup>
$w$				75		g

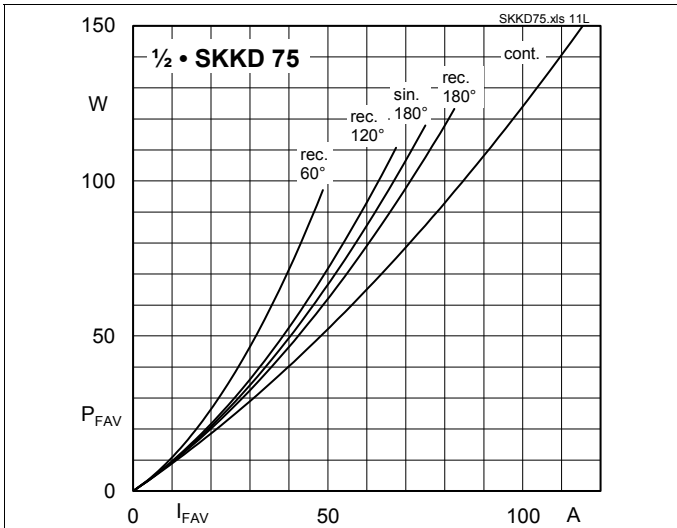


Fig. 11L: Power dissipation per diode vs. forward current

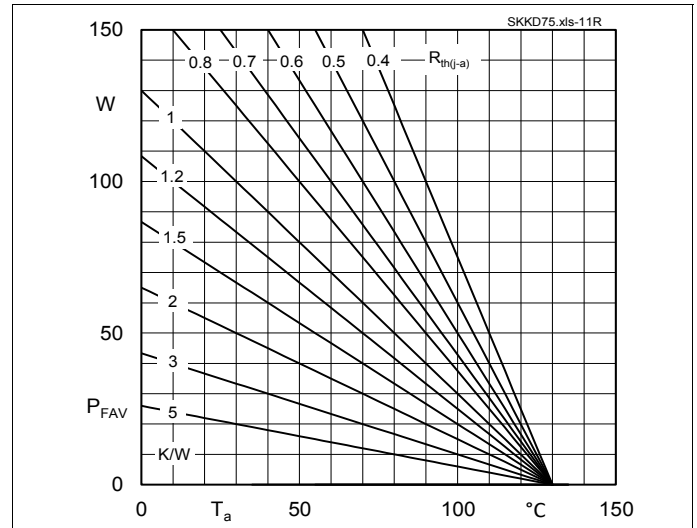


Fig. 11R: Power dissipation per diode vs. ambient temperature

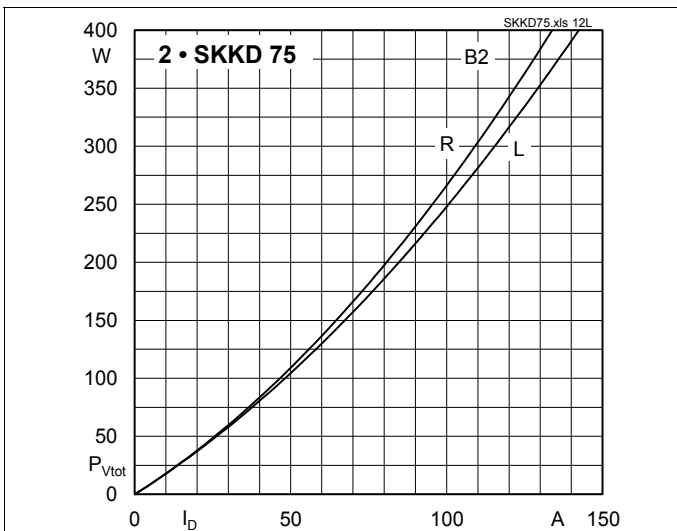


Fig. 12L: Power dissipation of two modules vs. direct current

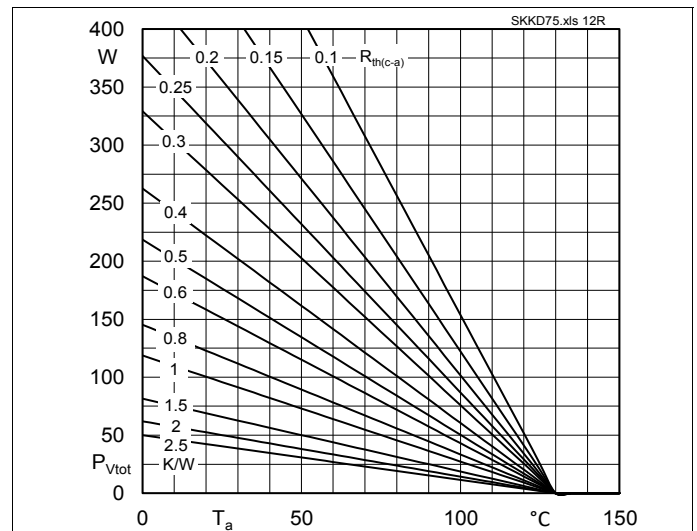


Fig. 12R: Power dissipation of two modules vs. ambient temperature

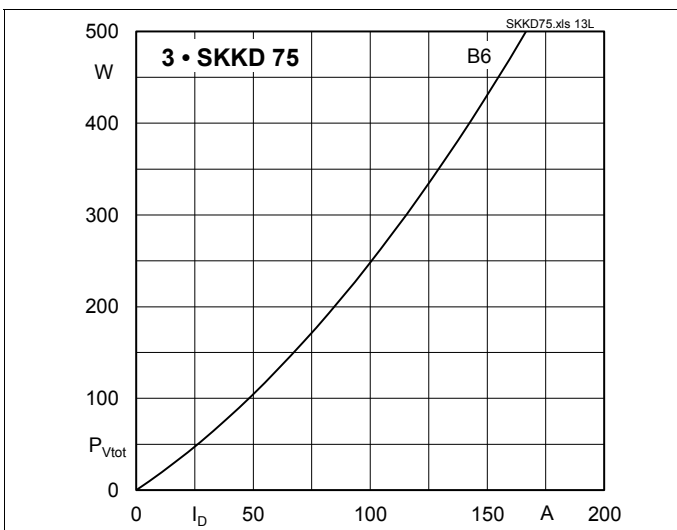


Fig. 13L: Power dissipation of three modules vs. direct current

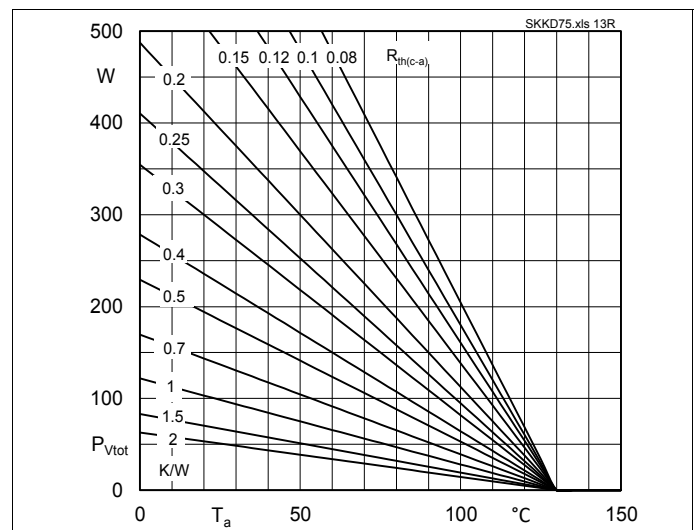


Fig. 13R: Power dissipation of three modules vs. ambient temperature

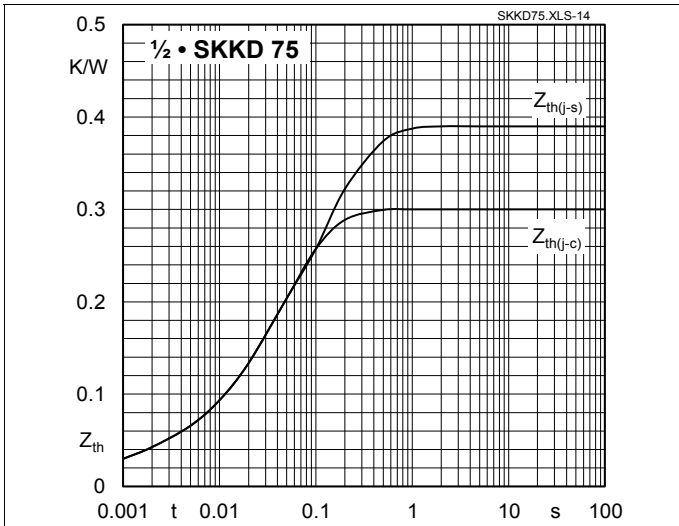


Fig. 14: Transient thermal impedance vs. time

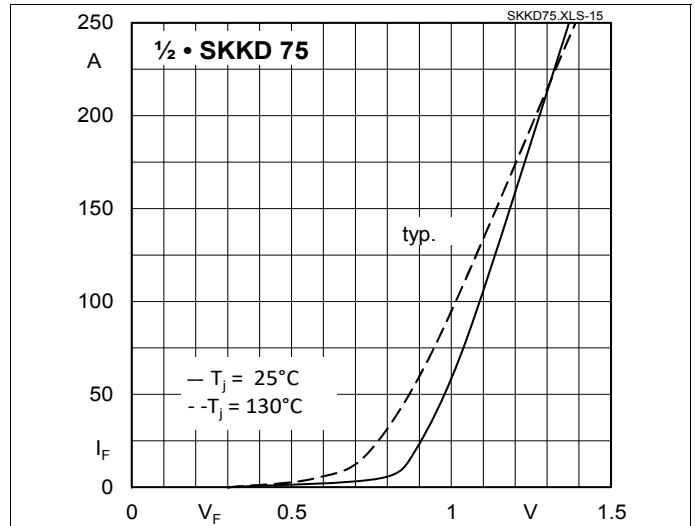


Fig. 15: Forward characteristics

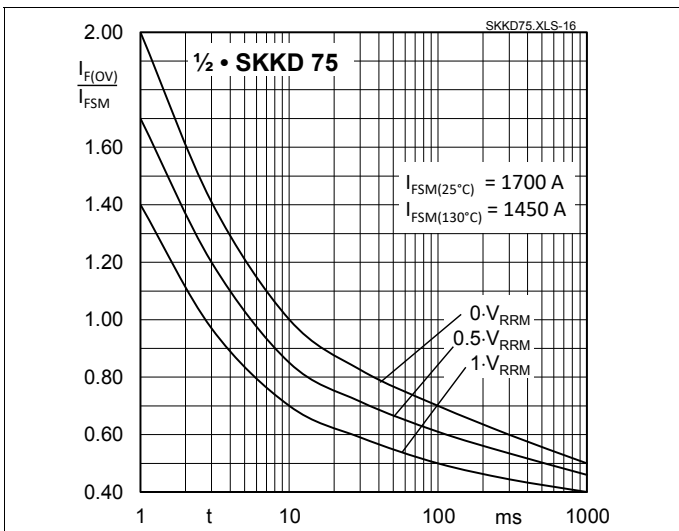
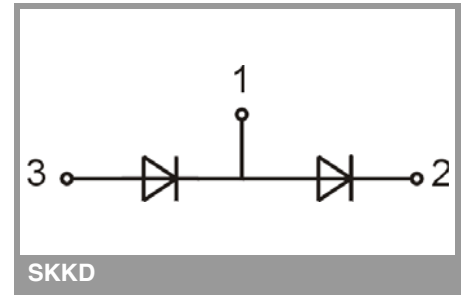
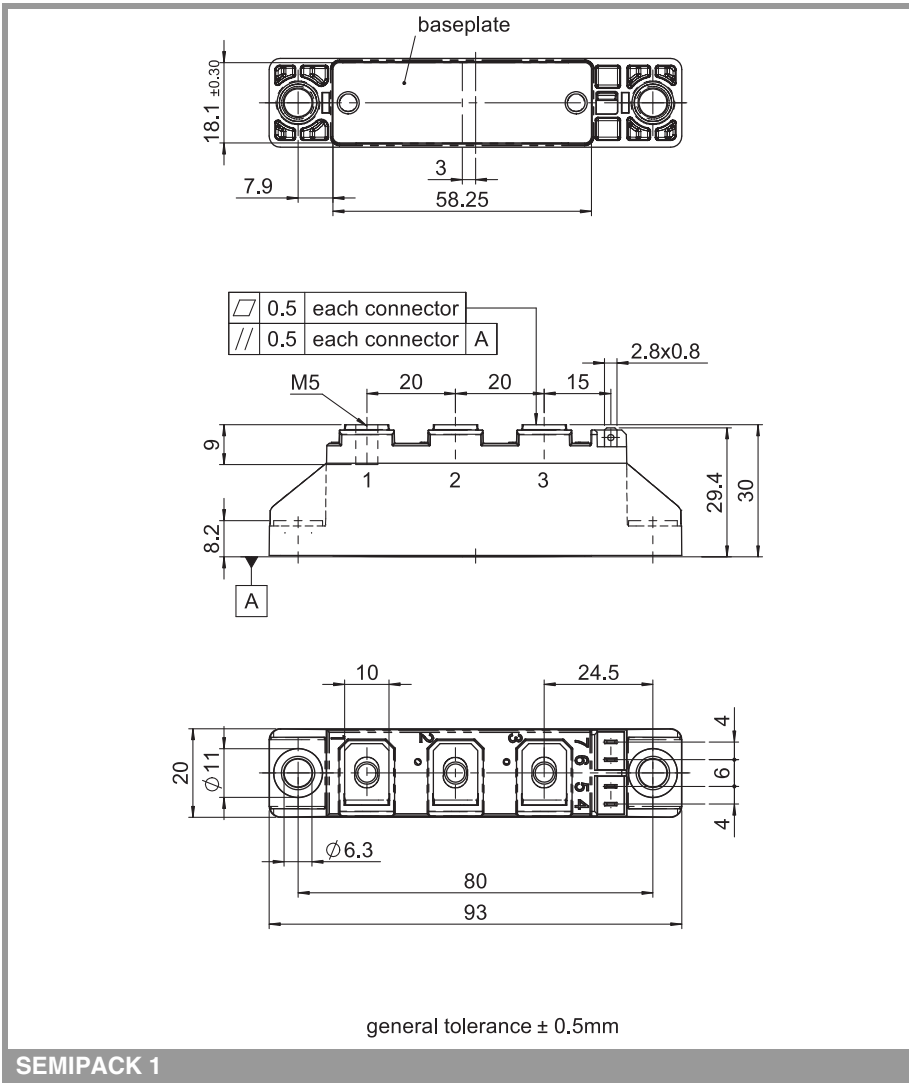


Fig. 16: Surge overload current vs. time



## IMPORTANT INFORMATION AND WARNINGS

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

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