



SEMIX® 2s

## Rectifier Diode Module

### SEMIX 302KD

### Preliminary Data

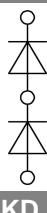
### Features

- Terminal height 17 mm
- Chips soldered directly to isolated substrate

### Typical Applications

- Input Bridge Rectifier for
- AC/DC motor control
- power supply

$V_{RSM}$ V 1700	$V_{RRM}$ V 1600	$I_{FRMS} = 510 \text{ A}$ (maximum value for continuous operation) $I_{FAV} = 300 \text{ A}$ (sin. 180; $T_c = 85 = {}^\circ\text{C}$ ) SEMIX 302KD16s		
$I_{FAV}$ sin. 180; $T_c = 85 (100) {}^\circ\text{C}$		300 (240)	A	
$I_{FSM}$ $T_{vj} = 25 {}^\circ\text{C}; 10 \text{ ms}$ $T_{vj} = 130 {}^\circ\text{C}; 10 \text{ ms}$		8500 7500	A A	
$i^2t$ $T_{vj} = 25 {}^\circ\text{C}; 8,3 \dots 10 \text{ ms}$ $T_{vj} = 130 {}^\circ\text{C}; 8,3 \dots 10 \text{ ms}$		361000 281000	$\text{A}^2\text{s}$ $\text{A}^2\text{s}$	
$V_F$ $V_{(TO)}$ $r_T$ $I_{RD}$	$T_{vj} = 25 {}^\circ\text{C}; I_F = 900 \text{ A}$ $T_{vj} = 130 {}^\circ\text{C}$ $T_{vj} = 130 {}^\circ\text{C}$ $T_{vj} = 130 {}^\circ\text{C}; V_{RD} = V_{RRM}$	max. 1,6 max. 0,85 max. 1,1 max. 15	V V $\text{m}\Omega$ mA	
$R_{th(j-c)}$ $R_{th(c-s)}$ $T_{vj}$ $T_{stg}$	per diode per module	0,091 0,045 - 40 ... + 130 - 40 ... + 125	K/W K/W °C °C	
$V_{isol}$ $M_s$ $M_t$ $a$ $m$	AC, 50Hz; rms; 1s/1min (min./max.) (min./max.) approx.	4800 / 4000 3/5 2,5/5 5 * 9,81 220	V~ Nm Nm $\text{m/s}^2$ g	
Case	SEMIX 2s			



KD

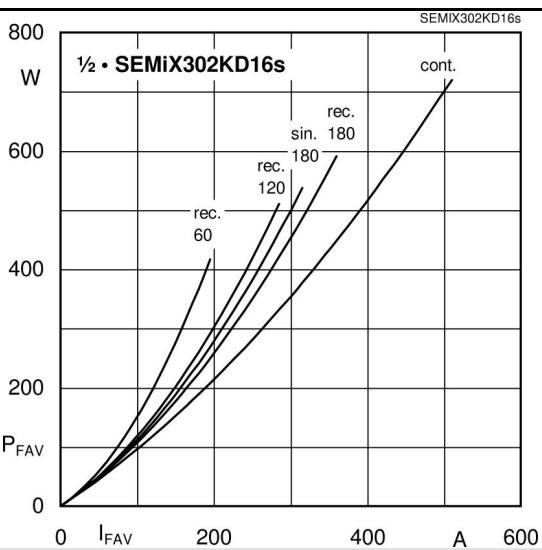


Fig. 1L Power dissipation per diode vs. forward current

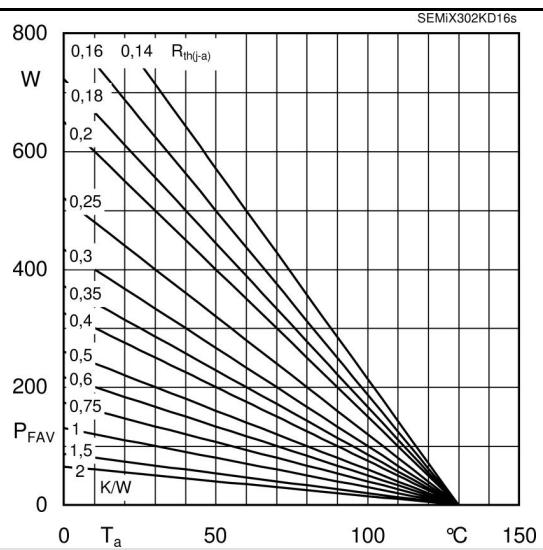


Fig. 1R Power dissipation per diode vs. ambient temperature

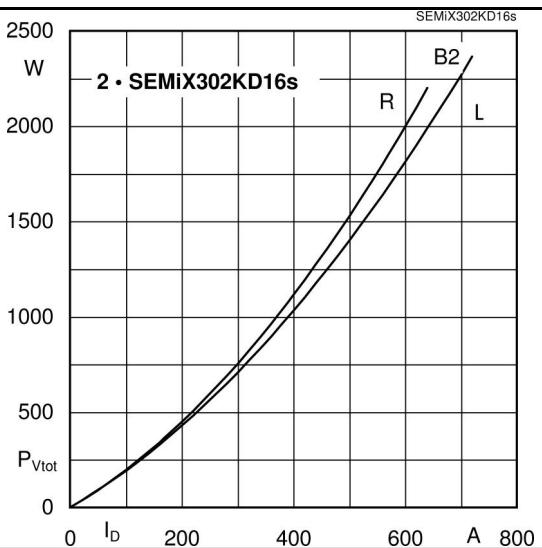


Fig. 3L Power dissipation of two modules vs. direct current

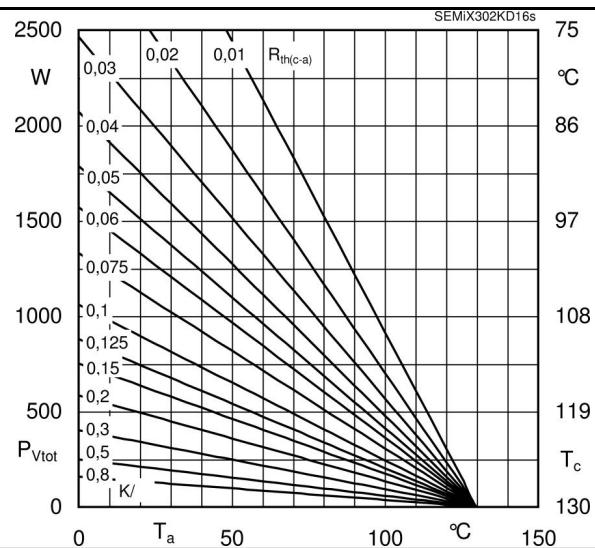


Fig. 3R Power dissipation of two modules vs. case temperature

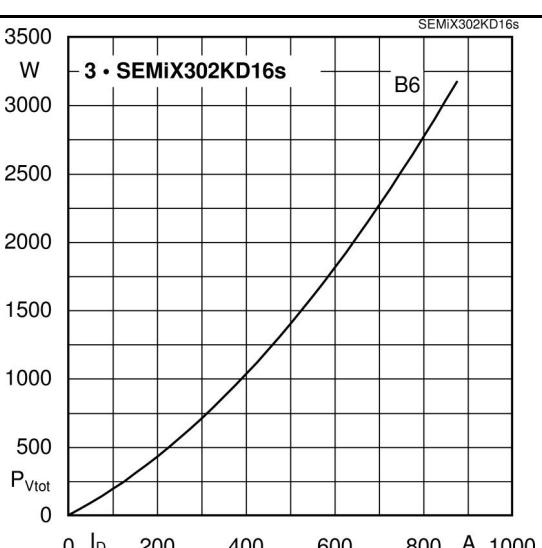


Fig. 4L Power dissipation of three modules vs. direct current

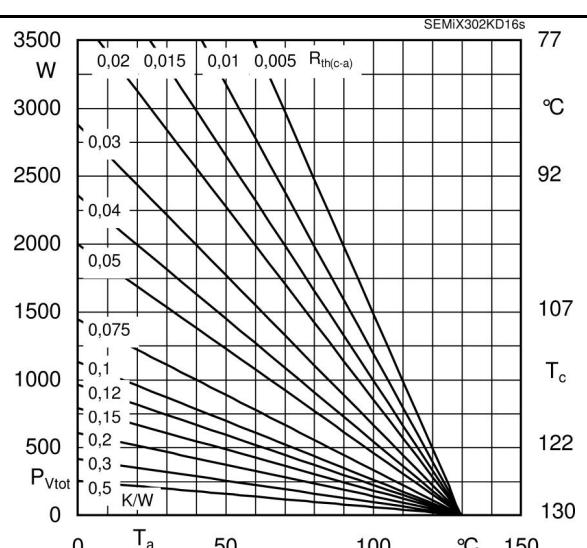


Fig. 4R Power dissipation of three modules vs. case temperature

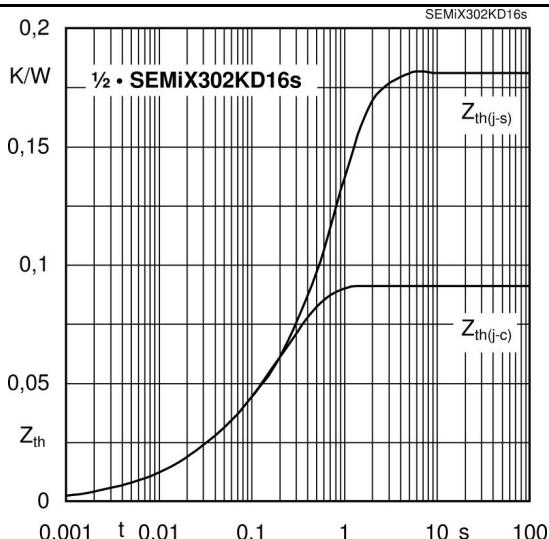


Fig. 6 Transient thermal impedance vs. time

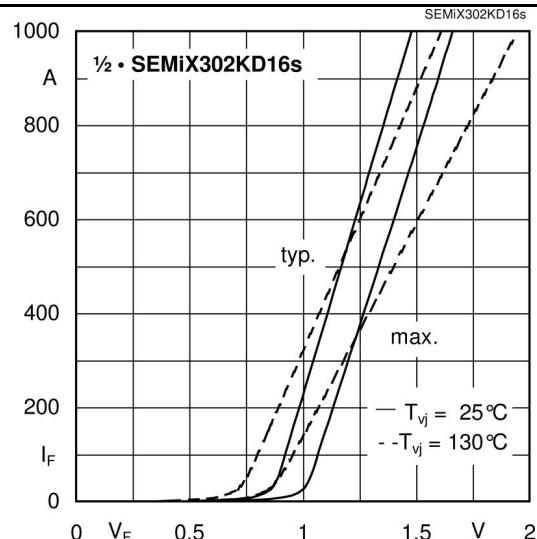


Fig. 7 Forward characteristics

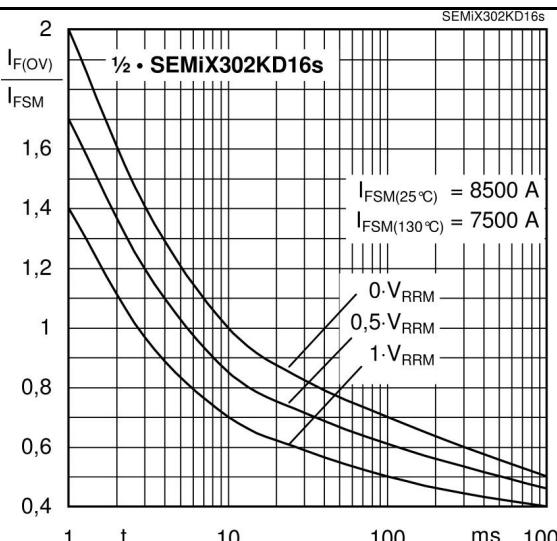
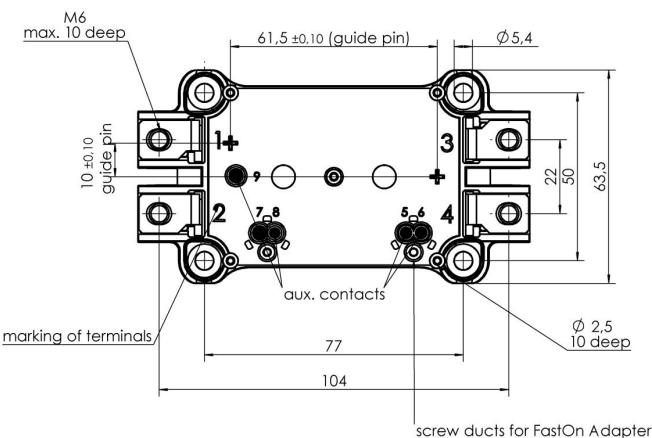
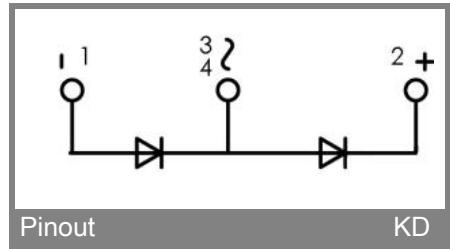
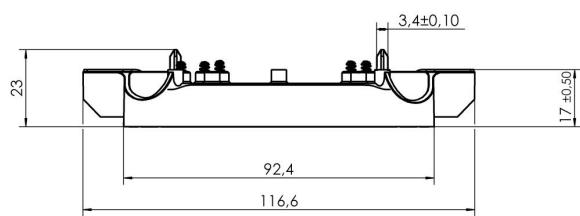


Fig. 8 Surge overload current vs. time

# RECTIFIER, DIODE, THYRISTOR MODULE

case SEMiX2 rectifier

Dimensions in mm



Case SEMiX2s

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