

## SEMiX291D16s



SEMiX® 13

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## Features

- Terminal height 17 mm
- Chips soldered directly to isolated substrate
- UL recognised file no. E63532

## Typical Applications\*

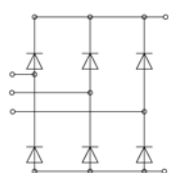
- Input Bridge Rectifier for AC/DC motor control
- Power supply

## Absolute Maximum Ratings

Symbol	Conditions		Values	Unit
Recitifier Diode				
I <sub>D</sub>	T <sub>j</sub> = 150 °C	T <sub>c</sub> = 85 °C	232	A
	sinus 180°	T <sub>c</sub> = 100 °C	196	A
I <sub>FSM</sub>	10 ms	T <sub>j</sub> = 25 °C	1600	A
		T <sub>j</sub> = 130 °C	1380	A
i <sup>2</sup> t	10 ms	T <sub>j</sub> = 25 °C	12800	A <sup>2</sup> s
		T <sub>j</sub> = 130 °C	9522	A <sup>2</sup> s
V <sub>RSM</sub>			1700	V
V <sub>RRM</sub>			1600	V
T <sub>j</sub>			-40 ... 150	°C
Module				
T <sub>stg</sub>			-40 ... 125	°C
V <sub>isol</sub>	AC sinus 50Hz	1 min	4000	V
		1 s	4800	V

## Characteristics

Symbol	Conditions		min.	typ.	max.	Unit
Diode						
V <sub>F</sub>	T <sub>J</sub> = 25 °C, I <sub>F</sub> = 231 A				2.06	V
V <sub>(TO)</sub>	T <sub>J</sub> = 130 °C				0.83	V
r <sub>T</sub>	T <sub>J</sub> = 130 °C				4.6	mΩ
I <sub>RD</sub>	T <sub>J</sub> = 130 °C, V <sub>RD</sub> = V <sub>RRM</sub>				1.1	mA
R <sub>th(j-c)</sub>	sin. 180	per diode			0.45	K/W
						K/W
Module						
R <sub>th(c-s)</sub>	per chip					K/W
	per module			0.04		K/W
M <sub>s</sub>	to heat sink (M5)		3		5	Nm
M <sub>t</sub>	to terminals (M6)		2.5		5	Nm
a					5 * 9,81	m/s <sup>2</sup>
w					350	g



D

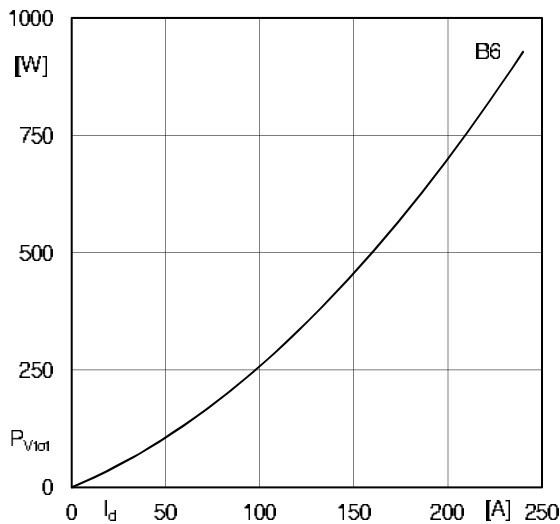


Fig. 4L: Power dissipation per module vs. direct current

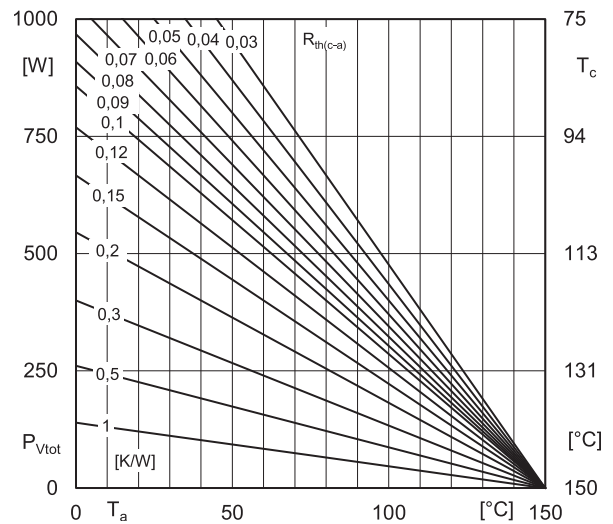


Fig. 4R: Power dissipation per module vs. case temperature

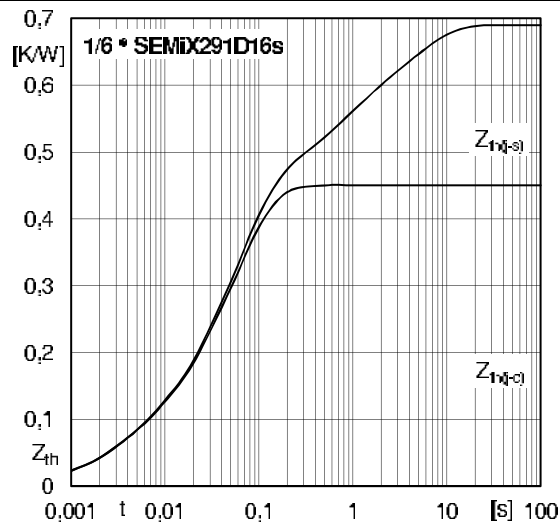


Fig. 6: Transient thermal impedance vs. time

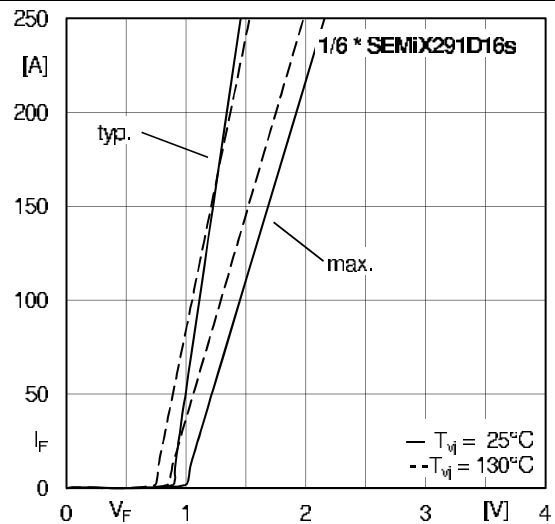


Fig. 7: On-state characteristics

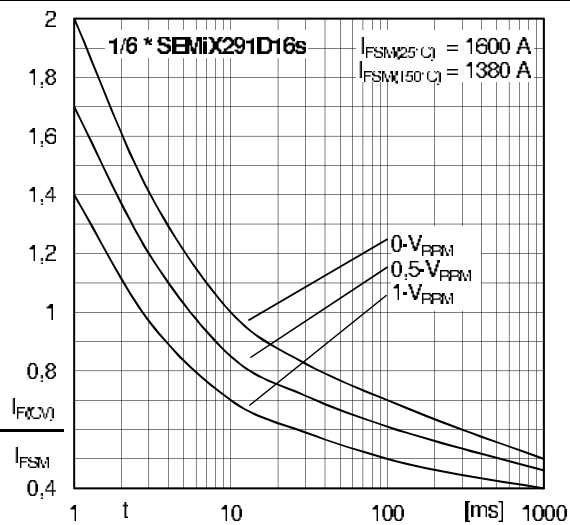


Fig. 8: Surge overload current vs. time

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