SEMiX501D17Fs

SEMiX® 13

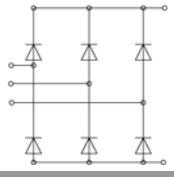
SEMiX501D17Fs

Features

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

Typical Applications*

- Fast Input Bridge Rectifier for AC/DC motor control
- Power supply
- High frequency applications



D

Absolute Maximum Ratings

Symbol	Conditions		Values	Unit
Rect. Diode				
I_D	T_j = 150 °C sinus 180°	T_c = 85 °C	494	A
		T_c = 100 °C	417	A
I_{FSM}	10 ms	T_j = 25 °C	2740	A
		T_j = 150 °C	2140	A
i^2t	10 ms	T_j = 25 °C	37538	A^2s
		T_j = 150 °C	22898	A^2s
V_{RSM}			1700	V
V_{RRM}			1700	V
T_j			-40 ... 150	°C
Module				
T_{stg}			-40 ... 125	°C
V_{isol}	AC sinus 50Hz	1 min	4000	V
		1 s	4800	V

Characteristics

Symbol	Conditions		min.	typ.	max.	Unit
Rectifier Diode						
V_F	T_j = 25 °C, I_F = 300 A, chiplevel				1.90	V
$V_{(TO)}$	T_j = 125 °C, chiplevel				1.10	V
r_T	T_j = 125 °C, chiplevel				2.7	mΩ
I_{RD}	T_j = 125 °C, V_{RD} = V_{RRM}				14.4	mA
$R_{th(j-c)}$	sin. 180	per diode			0.165	K/W
						K/W
Module						
$R_{CC'+EE'}$	measured per switch	T_C = 25 °C		0.7		mΩ
		T_C = 125 °C		1		mΩ
$R_{th(c-s)}$	per chip					K/W
	per module			0.04		K/W
M_s	to heat sink (M5)		3		5	Nm
M_t	to terminals (M6)		2.5		5	Nm
a					5 * 9,81	m/s^2
w					350	g
Temperature Sensor						
R_{100}	T_c=100°C (R_{25}=5 kΩ)			493 ± 5%		Ω
$B_{100/125}$	$R_{(T)}=R_{100}\exp[B_{100/125}(1/T-1/T_{100})]$; T[K];			3550 ±2%		K

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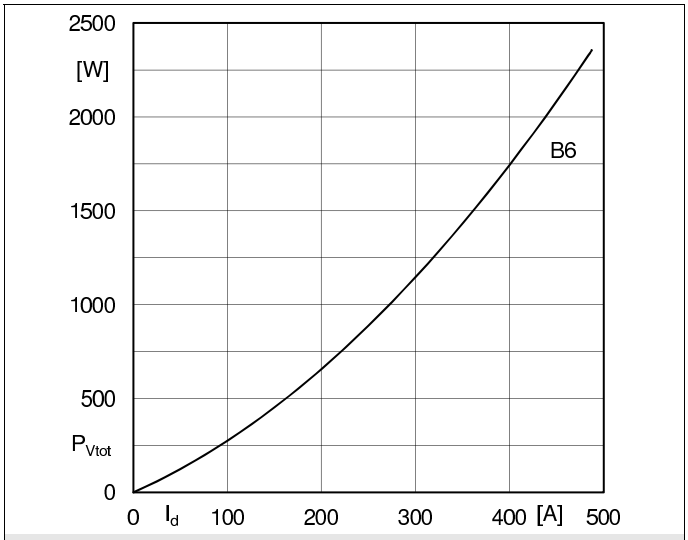

Fig. 4L: Power dissipation per module vs. direct current

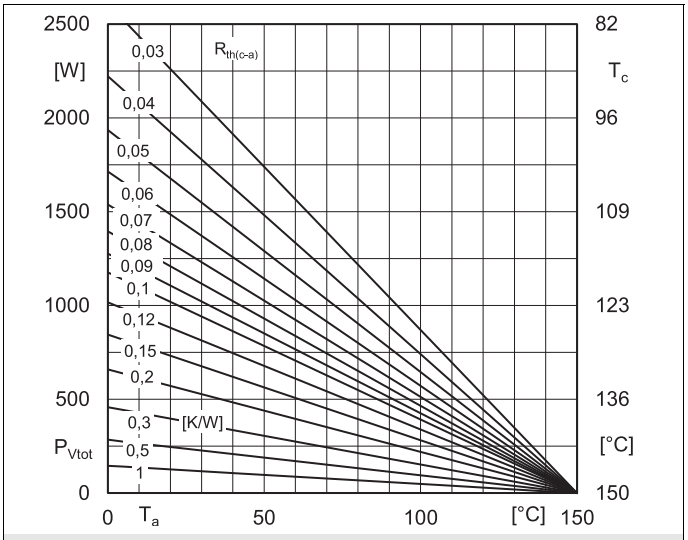

Fig. 4R: Power dissipation per module vs. case temperature

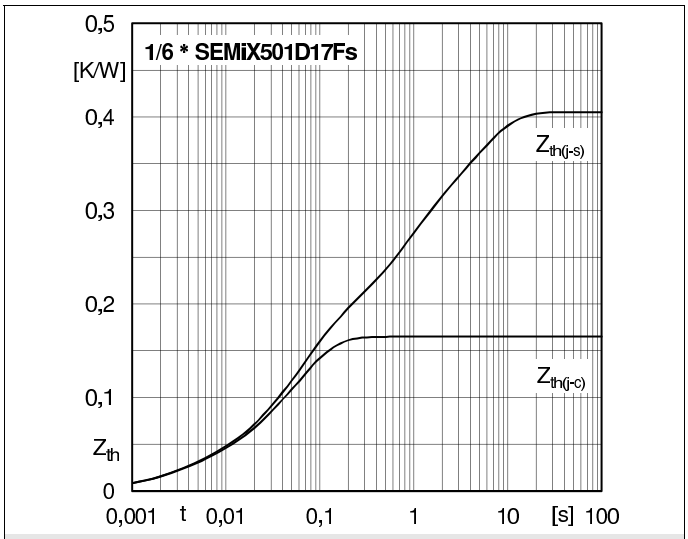

Fig. 6: Transient thermal impedance vs. time

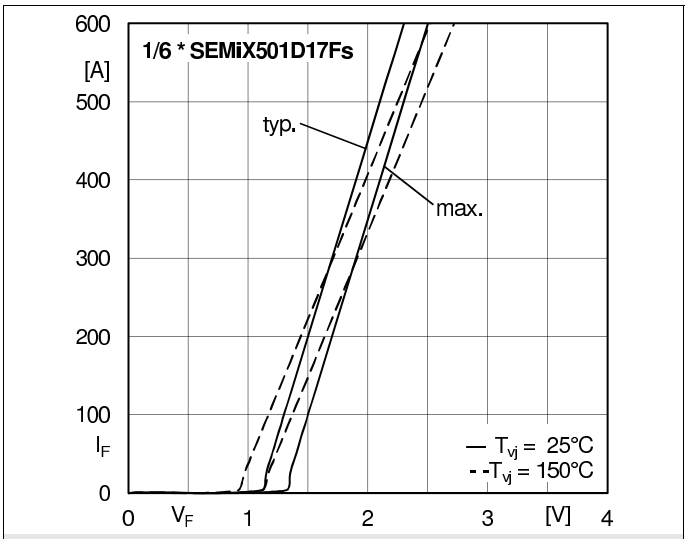

Fig. 7: On-state characteristics

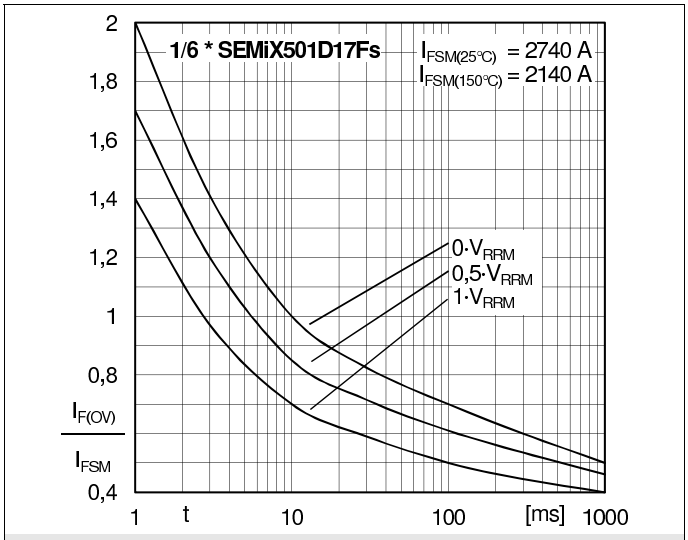

Fig. 8: Surge overload current vs. time

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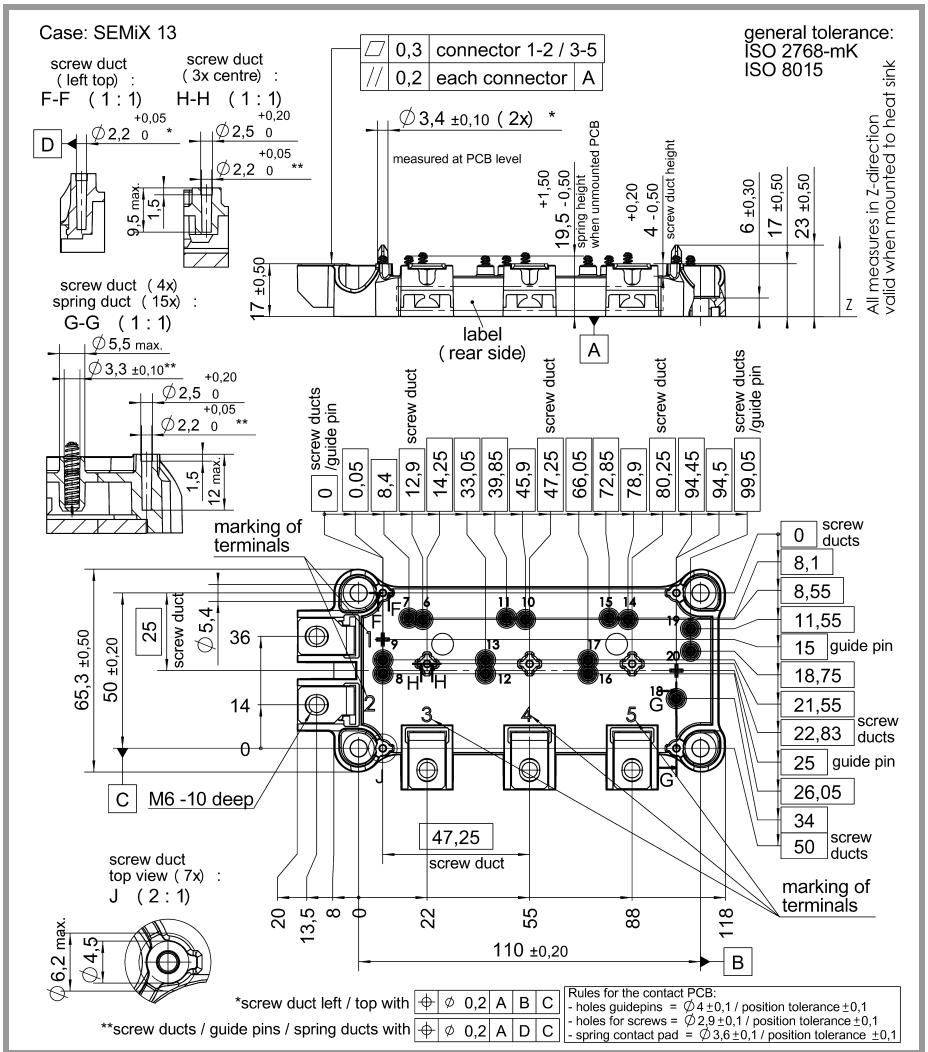

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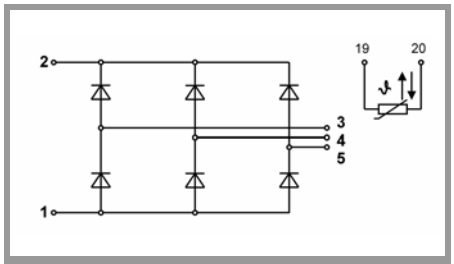

spring configuration

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

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