

SEMiX251D12Fs



SEMiX® 13

Bridge Rectifier Module (uncontrolled) SEMiX251D12Fs

Features

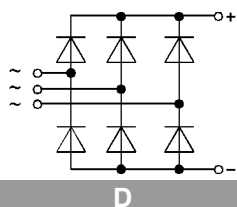
- Terminal height 17 mm
- Chips soldered directly to isolated substrate
- UL recognised file no. E63532

Typical Applications*

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

Absolute Maximum Ratings				
Symbol	Conditions		Values	Unit
Rect. Diode				
I_D	$T_j = 150\text{ °C}$ sinus 180°	$T_c = 85\text{ °C}$	256	A
		$T_c = 100\text{ °C}$	217	A
I_{FSM}	10 ms	$T_j = 25\text{ °C}$	1660	A
		$T_j = 150\text{ °C}$	1330	A
i^2t	10 ms	$T_j = 25\text{ °C}$	13700	A ² s
		$T_j = 150\text{ °C}$	8800	A ² s
V_{RSM}			1200	V
V_{RRM}			1200	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	$T_j = 25\text{ °C}$, $I_F = 155\text{ A}$, chiplevel				2.5	V
$V_{(TO)}$	$T_j = 125\text{ °C}$, chiplevel				1.2	V
r_T	$T_j = 125\text{ °C}$, chiplevel				7	mΩ
I_{RD}	$T_j = 125\text{ °C}$, $V_{RD} = V_{RRM}$				40	mA
$R_{th(j-c)}$	sin. 180	per diode			0.26	K/W
						K/W
Module						
$R_{th(c-s)}$	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



D

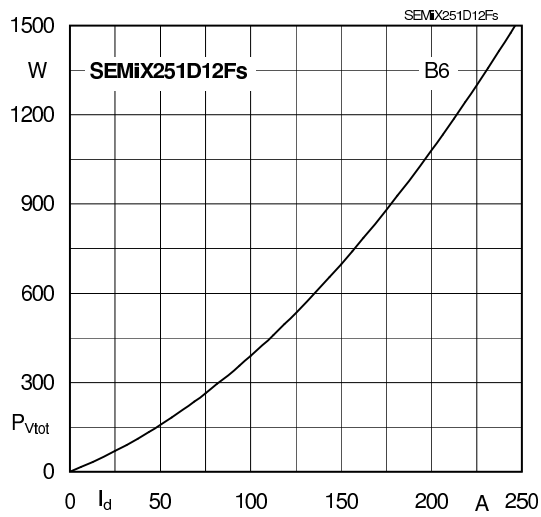


Fig. 4L: Power dissipation per module vs. direct current

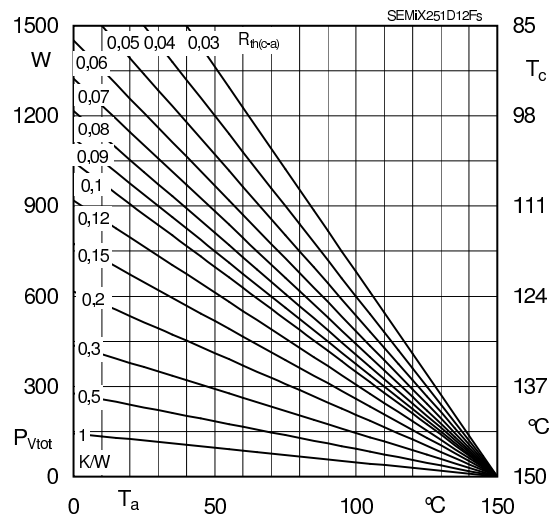


Fig. 4R: Power dissipation per module vs. case temperature

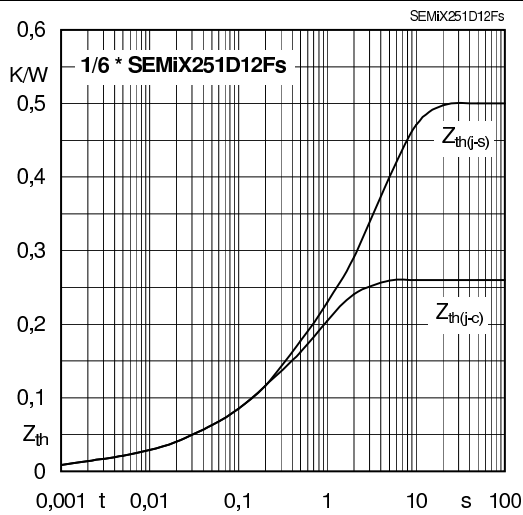


Fig. 6: Transient thermal impedance vs. time

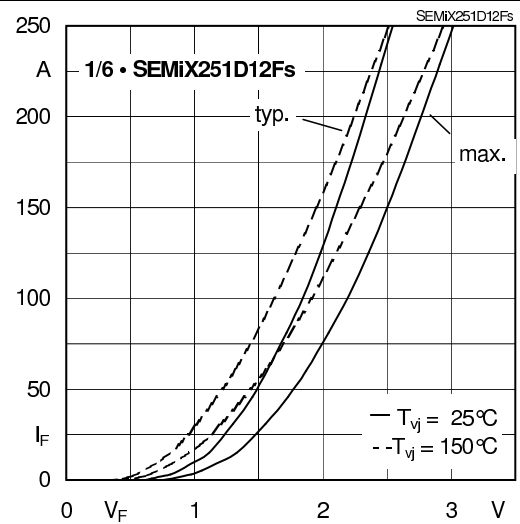


Fig. 7: On-state characteristics

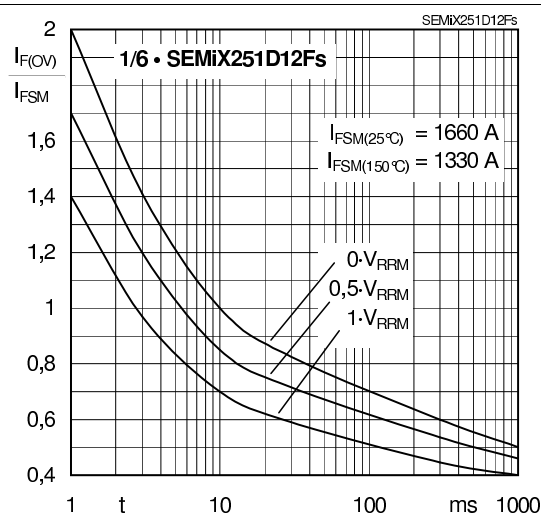


Fig. 8: Surge overload current vs. time

