

M2DF-125-06

POWER SFRD MODULE

- ◆ Half bridge
- ◆ Fast free-wheeling diodes
- ◆ Package with insulated metal base plate

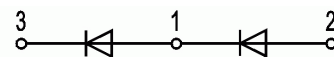


APPLICATION

- ◆ Inverters
- ◆ UPS
- ◆ Electronic welders

PARAMETERS

- ◆ $V_{RRM} = \underline{600\text{ V}}$
- ◆ $I_F = \underline{225\text{ A}}$ ($T_C = 80\text{ °C}$)
- ◆ $V_F = \underline{1.25\text{ V}}$ (typ.)
- ◆ $I_{FAV} = \underline{125\text{ A}}$ ($T_C = 80\text{ °C}$)



MAXIMUM RATED VALUES

Parameter	Symbol	Values	Units
Repetitive peak reverse voltage	V_{RRM}	600	V
DC forward current ($T_C = 80\text{ °C}$)	I_F	225	A
i^2t -value ($t_p = 10\text{ ms}$, $T_j = 150\text{ °C}$)	i^2t	5.8	kA^2s
Maximum junction temperature	T_j	+ 150	°C
Storage temperature	T_{stg}	- 50...+ 125	
Insulation test voltage (RMS, $f = 50\text{ Hz}$, $t = 1\text{ min}$)	V_{isol}	2500	V

**M2DF-125-06****THERMAL PROPERTIES**

Parameter	Symbol	Values	Units
Thermal resistance, junction to case (per 1 diode)	R_{thjc}	≤ 0.22	°C/W
Thermal resistance, case to heatsink (per module, $\lambda_{grease} = 1W/m^*K$)	R_{thck}	0.03	

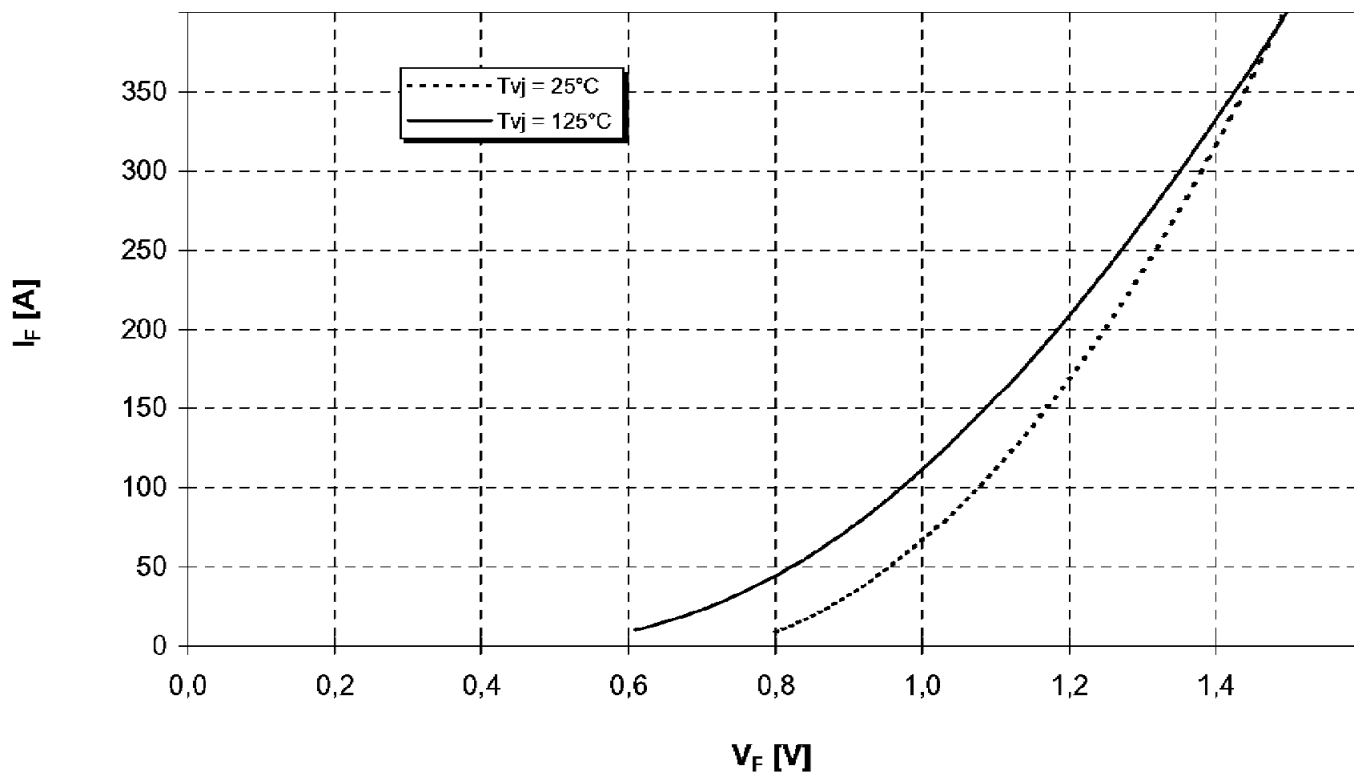
ELECTRICAL CHARACTERISTICS (25 °C)

Forward voltage ($I_F = 225A$)	V_F	-	1.25	1.6	V
$T_j = 25\text{ °C}$		-	1.2	-	
$T_j = 125\text{ °C}$		-			
Peak reverse recovery current ($I_F = 200\text{ A}$, $V_R = 300\text{ V}$, $di_F/dt = -4000\text{ A}/\mu\text{s}$)	I_{RM}	-	154	-	A
$T_j = 25\text{ °C}$		-	188	-	
$T_j = 125\text{ °C}$		-			
Reverse recovery time ($I_F = 200\text{ A}$, $V_R = 300\text{ V}$, $di_F/dt = -4000\text{ A}/\mu\text{s}$, $T_j = 125\text{ °C}$)	t_{rr}	-	0.2	-	μs
Recovered charge ($I_F = 200\text{ A}$, $V_R = 300\text{ V}$, $di_F/dt = -4000\text{ A}/\mu\text{s}$)	Q_{rr}	-	12.1	-	μC
$T_j = 25\text{ °C}$		-	19.7	-	
$T_j = 125\text{ °C}$		-			

**M2DF-125-06**

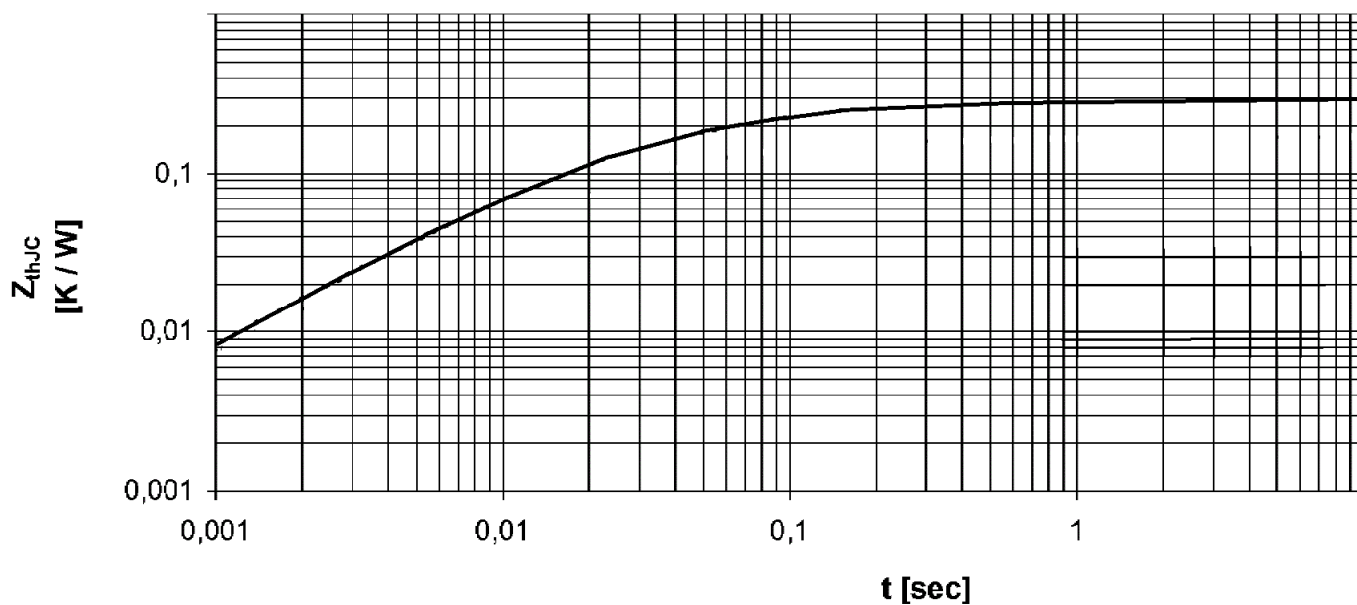
Forward characteristics

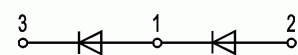
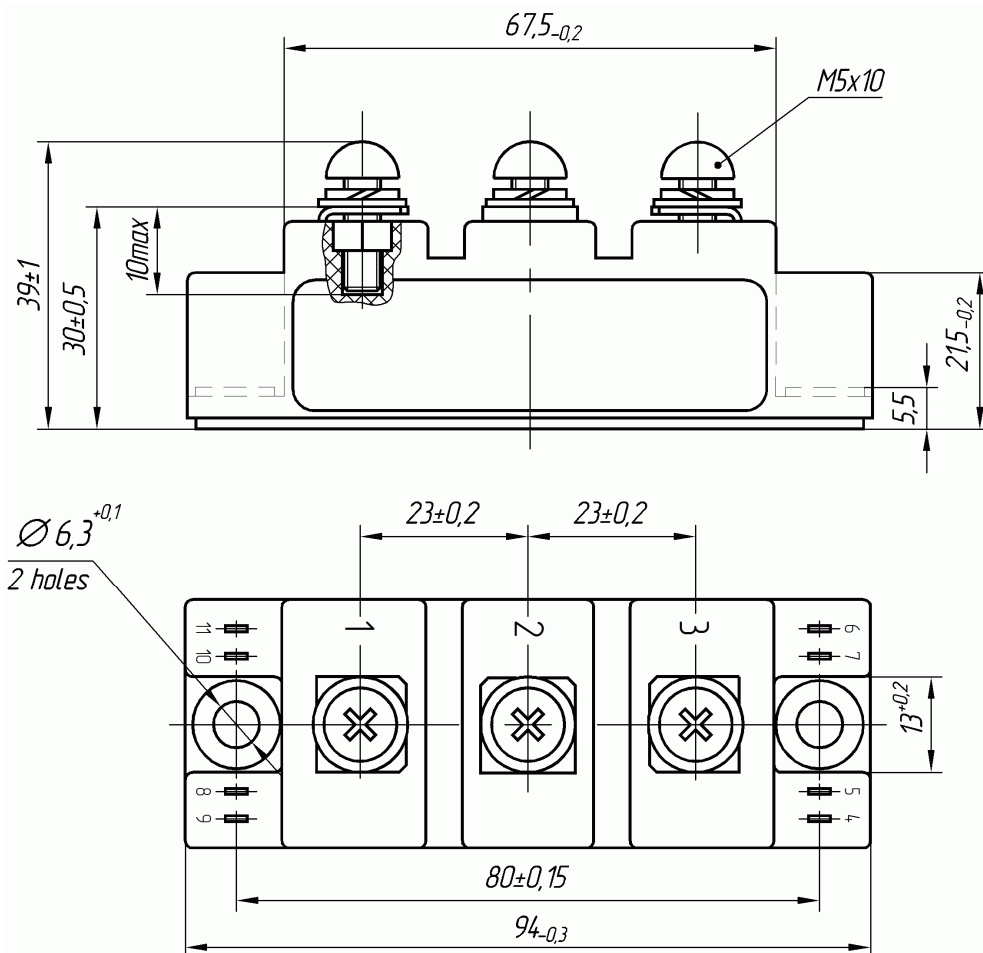
$$I_F = f(V_F)$$

Conditions of measuring: $T_j = 25, 125\text{ }^\circ\text{C}$ 

Transient thermal impedance

$$Z_{thjc} = f(t_p)$$



**M2DF-125-06****CIRCUIT DIAGRAM****PACKAGE OUTLINES****Weight 0.165 kg**

JSC «ELECTROVIPRYAMITEL» reserves the right to change specification without notice.

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