MKK400.06

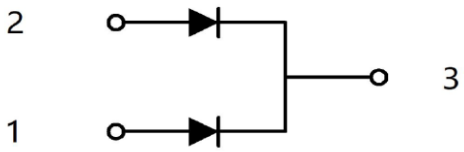
FRED module

Features:

- Ultrafast reverse recovery time
- Soft reverse recovery characteristics
- Low reverse recovery loss
- Low forward voltage
- High surge current capability
- Low inductance package

Typical applications:

- Inversion welder
- Uninterruptible power supply (UPS)
- Plating power supply
- Ultrasonic cleaner and welder
- Converter & chopper
- Power factor correction (PFC) circuit



Symbol	Characteristcs	Test Conditions	Value			Unit
			Min	Typ	Max	
V_R	Maximum DC reverse voltage				600	V
V_{RRM}	Maximum repetitive reverse voltage				600	V
$I_{F(AV)}$	Forward average current	Rectangular, d = 0,5, T_c = 96°C, per leg			200	A
		Rectangular, d = 0,5, T_c = 96°C, per leg			400	A
$I_{F(RMS)}$	RMS forward current	T_c = 96 °C, per leg			280	A
I_{FSM}	Non-repetitive forward surge current	Tj = 25°C, t =10ms, 50Hz, V_R = 0V, per leg			3000	A
I^2t	I^2t for fusing coordination	Tj = 25°C, t=10ms, 50Hz			45000	A^2s
P_{TOT}	Total power dissipation	Tj = 25°C			833	W
T_j	Operating Temperature		-40		+150	°C
T_{stg}	Storage Temperature		-40		+125	°C
F_M	Mounting torque - module to sink (M6)		4		6	N·m
	Mounting torque - module electrodes (M6)		4		6	N·m
$R_{th(j-c)}$	Thermal resistance junction to case	per leg			0.15	°C/W
I_{RM}	Reverse leakage current	V_R=400V			0.5	mA
		V_R=400V, Tj=125°C			10	mA
V_{F0}	Threshold voltage, for power loss calculation	Tj = 125°C		0.7		V
V_F	Forward voltage	I_F = 200A, Tj= 25°C, per leg			1.4	V
r_T	Slope resistance, for power loss calculation	Tj = 125°C		2.75		mΩ
t_{rr}	Typical reverse recovery time	I_F = 0.5A, I_R = -1A, I_{RR} =-0.25A, per leg		115		ns
t_{rr}	Reverse recovery time	I_F = 200A, V_R = 300V, di_F/dt = -200Aμs, Tj = 25°C		110		ns
I_{RM}	Max reverse recovery current			12		A
t_{rr}	Reverse recovery time	I_F = 200A, V_R = 300V, di_F/dt = -200Aμs, Tj = 125°C		210		ns
I_{RM}	Max reverse recovery current			20		A
W_t	Weight			85		g
Outline	M45					

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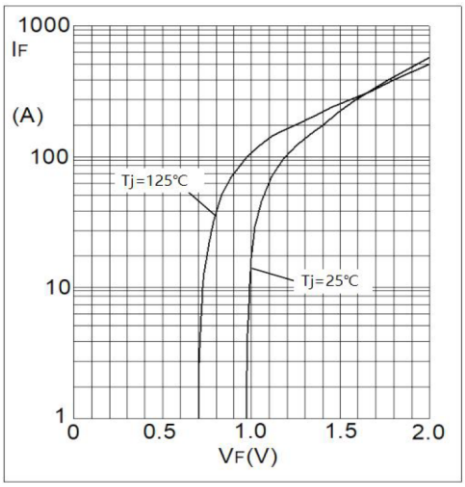

Fig1. Forward Characteristics

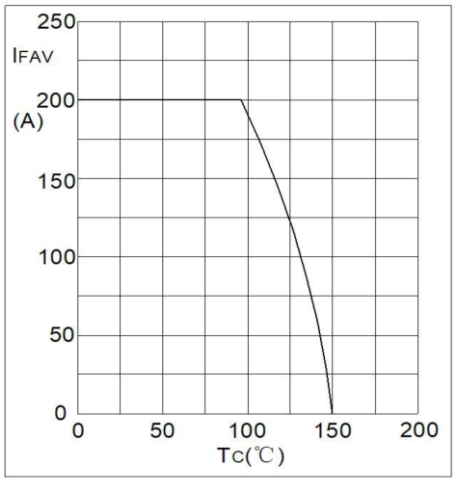

Fig2. Forward Current Derating Curve

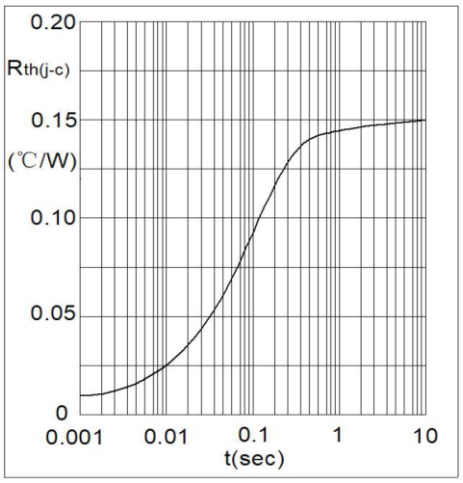

Fig3. Transient Thermal Impedance

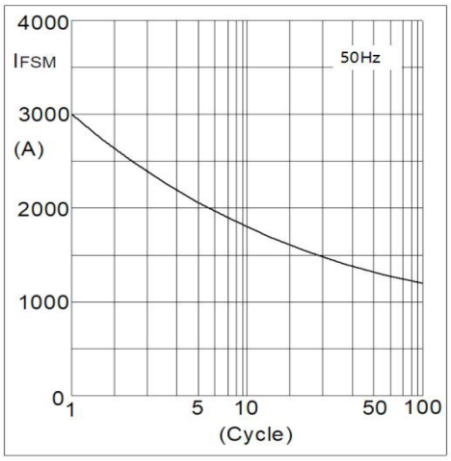

Fig4. Max Non-Repetitive Forward Surge Current

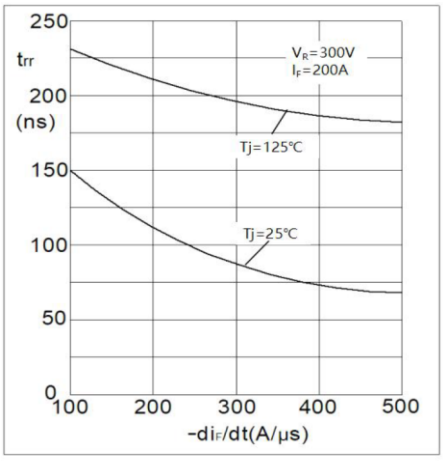

Fig5. Reverse Recovery Time VS di_F/dt

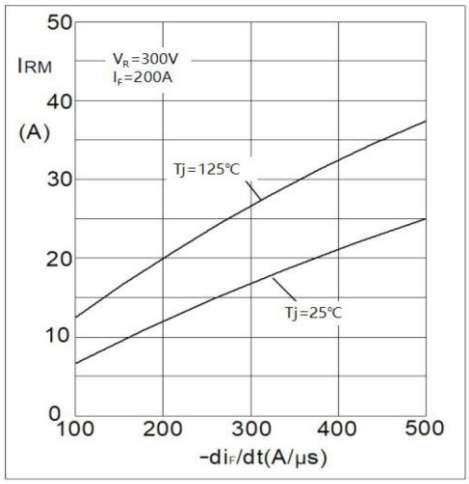

Fig6. Reverse Recovery Current VS di_F/dt

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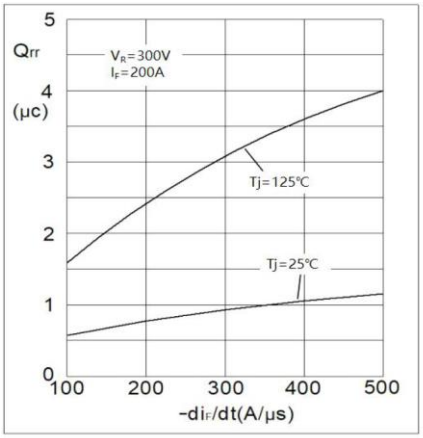
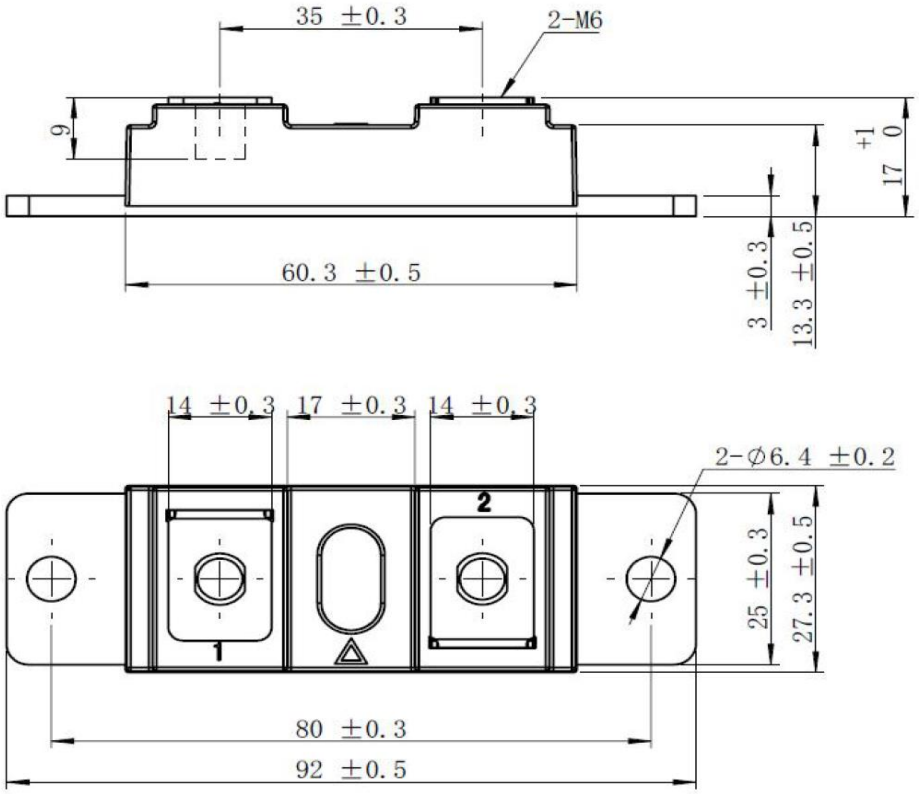


Fig7. Reverse Recovery Charge VS di$_F$/dt



(dimensions in mm)

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