SHI LING® 浙江世菱半导体有限公司
ZHEJIANG SHILING SEMICONDUCTOR CO.,LTD.

产品规格书

Specifcation of products

产品名称:快恢复二极管

产品型号:MFK400U4K2

浙江世菱半导体有限公司
ZHEJIANG SHILING SEMICONDUCTOR CO.,LTD.

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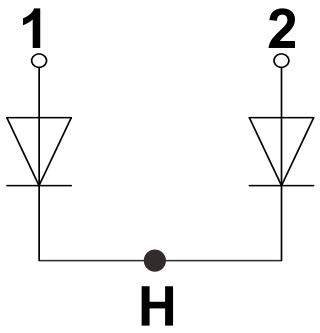
拟制	审核	核准
蓝少波	陈一凡	曹剑龙

版本号:02 更新日期:2026.5

PRODUCT FEATURES

- Ultrafast Reverse Recovery Time
- Soft Reverse Recovery Characteristics
- Low Reverse Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Inductance Package



APPLICATIONS

- Inversion Welder
- Uninterruptible Power Supply (UPS)
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- Power Factor Correction (PFC) Circuit

ABSOLUTE MAXIMUM RATINGS

T_C=25℃ unless otherwise specified

Symbol	Parameter	Test Conditions	Values	Unit
V_R	Maximum D.C. Reverse Voltage		400	V
V_{RRM}	Maximum Repetitive Reverse Voltage		400	V
$I_{F(AV)}$	Average Forward Current	T_C=110℃, Per Diode	200	A
		T_C=110℃, Per Moudle	400	A
$I_{F(RMS)}$	RMS Forward Current	T_C=110℃, Per Diode	280	A
I_{FSM}	Non-Repetitive Surge Forward Current	1/2 Cycle , 50Hz, Sine	2600	A
		1/2 Cycle , 60Hz, Sine	2860	A
I^2t	I^2t (For Fusing)	T_J=45℃, t=10ms, 50Hz, Sine	32800	A^2s
		T_J=45℃, t=8.3ms, 60Hz, Sine	32900	A^2s
P_D	Power Dissipation		1450	W
T_J	Junction Temperature		-40 to +150	℃
T_{STG}	Storage Temperature Range		-40 to +125	℃
Torque	Module-to-Sink	Recommended（M6）	3～6	N.m
Torque	Module Electrodes	Recommended（M6）	3～5	N.m
R_{thJC}	Thermal Resistance	Junction-to-Case, Per Diode	0.09	℃ /W
Weight				g

ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{RM}	Reverse Leakage Current	V_R=400V	--	--	0.2	mA
		V_R=400V, T_J=125℃	--	--	5	mA
V_F	Forward Voltage	I_F=200A	--	1.2	1.4	V
		I_F=200A, T_J=125℃	--	1.0	--	V
t_{rr}	Reverse Recovery Time	I_F=1A, V_R=30V, di_F/dt=-200A/μs	--	50	--	ns
t_{rr}	Reverse Recovery Time	V_R=200V, I_F=200A	--	80	--	ns
I_{RRM}	Max. Reverse Recovery Current	di_F/dt=-200A/μs, T_J=25℃	--	11	--	A
t_{rr}	Reverse Recovery Time	V_R=200V, I_F=200A	--	130	--	ns
I_{RRM}	Max. Reverse Recovery Current	di_F/dt=-200A/μs, T_J=125℃	--	18	--	A

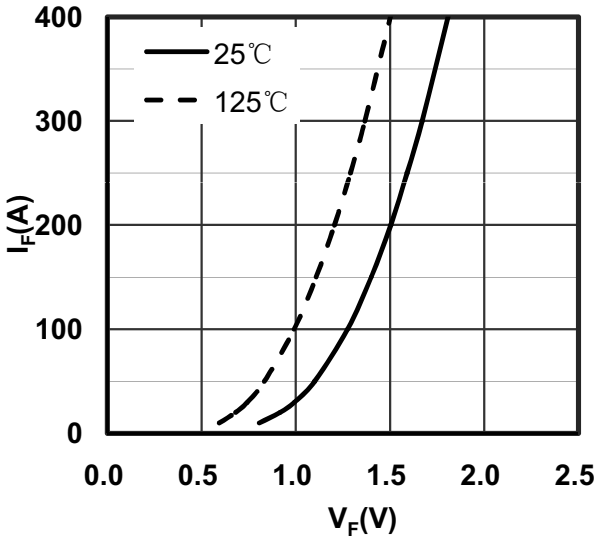


Figure 1. Forward Voltage Drop vs Forward Current

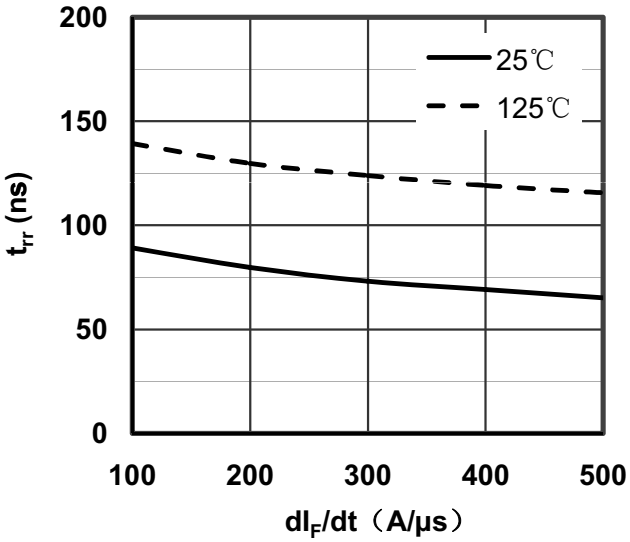


Figure 2. Reverse Recovery Time vs dI_F/dt

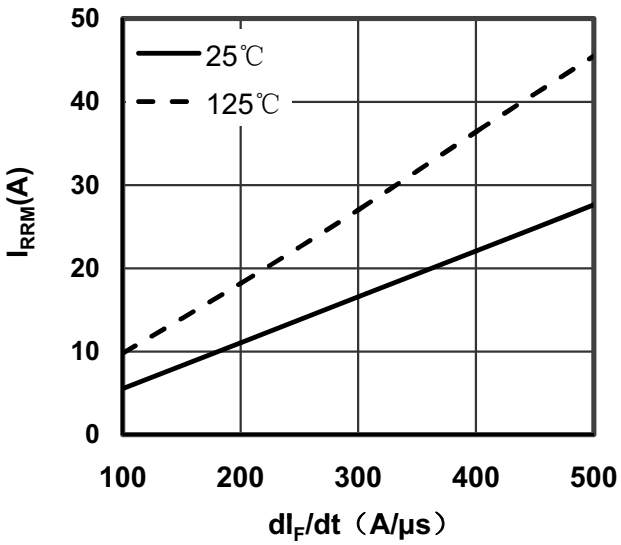


Figure 3. Reverse Recovery Current vs dI_F/dt

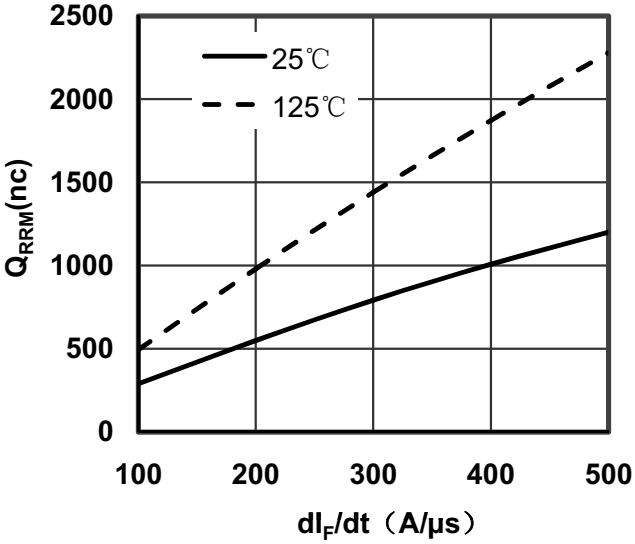


Figure 4. Reverse Recovery Charge vs dI_F/dt

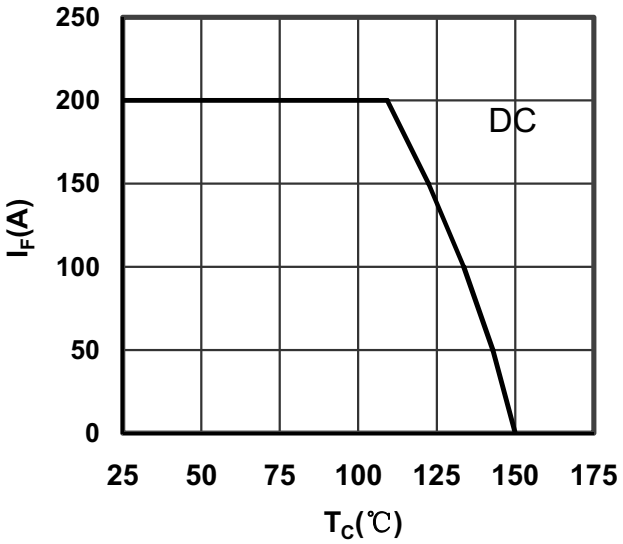


Figure5. Dynamic Parameters vs Junction Temperature

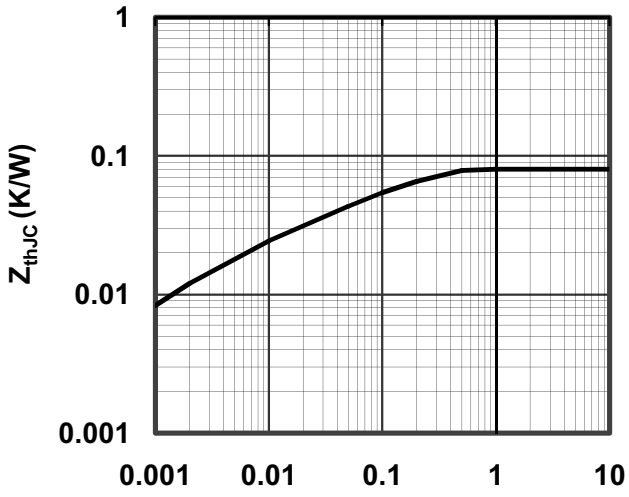
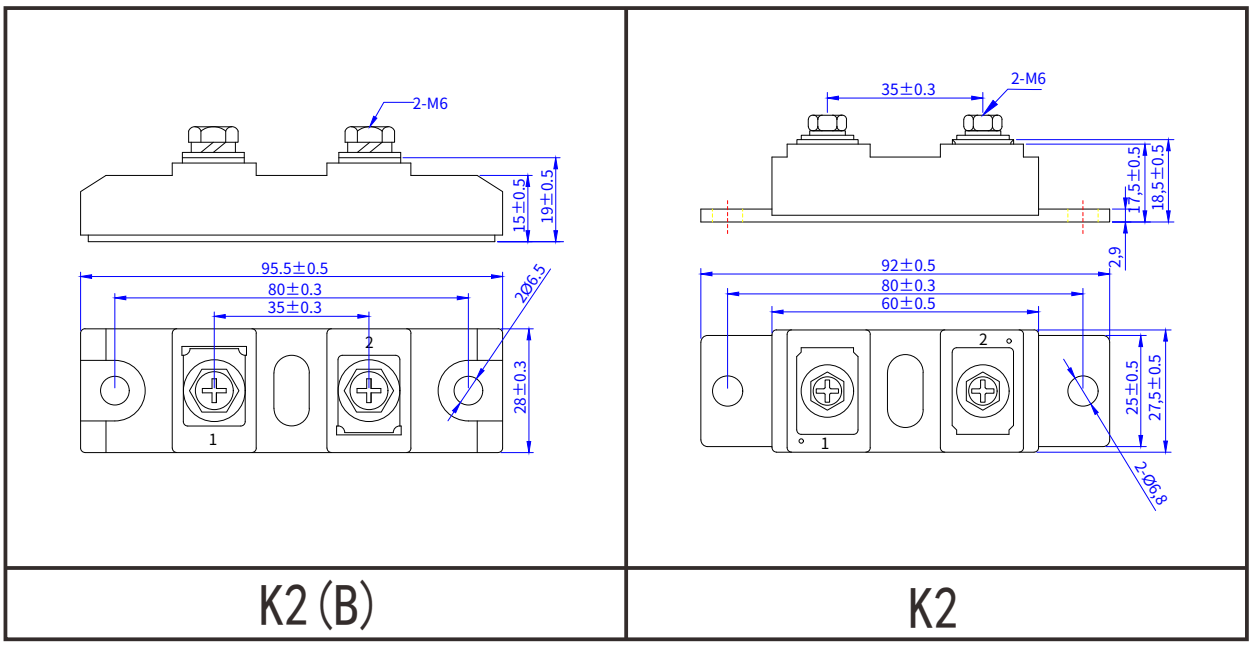


Figure6. Transient Thermal Impedance

Package Outlines



Dimensions (mm)