

产品规格书

Specification of products

产品名称:快恢复二极管

产品型号:MFK200U4-K1

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

地址:浙江省 丽水市 莲都区

电话:(0578) 3012571 3615078

传真:(0578) 3611180

邮编: 323000

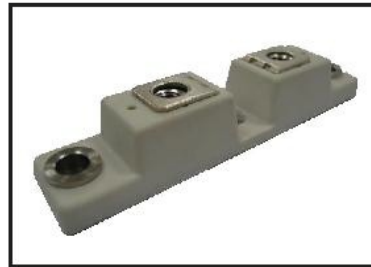
E-mail:smrshiling01@163.com

Http://www.smrshiling.com

拟制	审核	核准
林益龙	曹剑龙	宗瑞

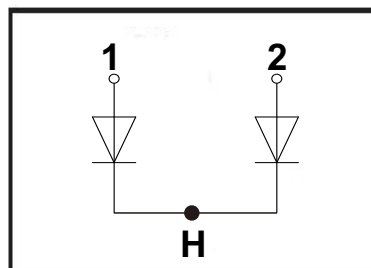
PRODUCT FEATURES

- Ultrafast Recovery Time
- Low Recovery Loss
- Low Forward Voltage
- Low Leakage Current
- Low Inductance Package



APPLICATIONS

- Inversion Welder
- Uninterruptible Power Supply
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- PFC



ABSOLUTE MAXIMUM RATINGS

$T_C=25^{\circ}\text{C}$ unless otherwise specified

Symbol	Parameter/Test Conditions		Values	Unit
V_R	Maximum D.C. Reverse Voltage		400	V
V_{RRM}	Maximum Repetitive Reverse Voltage			
$I_{F(AV)}$	Average Forward Current	$T_C=90^{\circ}\text{C}$, Per Diode	100	A
		$T_C=90^{\circ}\text{C}$, Per Moudle	200	
$I_{F(RMS)}$	RMS Forward Current	$T_C=90^{\circ}\text{C}$, Per Diode	140	
I_{FSM}	Non Repetitive Surge Forward Current	$T_J=45^{\circ}\text{C}$, $t=10\text{ms}$,Sine,peak value	700	
		$T_J=45^{\circ}\text{C}$, $t=8.3\text{ms}$,Sine,peak value	760	
I^2t	For Fusing	$T_J=45^{\circ}\text{C}$, $t=10\text{ms}$,Sine,peak value	2450	A ² S
		$T_J=45^{\circ}\text{C}$, $t=8.3\text{ms}$,Sine,peak value	2400	
P_D	Power Dissipation		338	W
T_J	Junction Temperature		-40 to +150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature Range		-40 to +125	$^{\circ}\text{C}$
Torque	Module to Sink	Recommended (M6)	3~4.7	Nm
Torque	Module Electrodes	Recommended (M6)	3~4.7	Nm
R_{thJC}	Junction to Case Thermal Resistance(Per Diode)		0.37	$^{\circ}\text{C}/\text{W}$
Weight			70	g

ELECTRICAL CHARACTERISTICS

$T_C=25^\circ\text{C}$ unless otherwise specified

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{RM}	Reverse Leakage Current	$V_R=400\text{V}$	--	--	0.5	mA
		$V_R=400\text{V}, T_J=125^\circ\text{C}$	--	--	10	mA
V_F	Forward Voltage	$I_F=100\text{A}$	--	1.25	1.5	V
		$I_F=100\text{A}, T_J=125^\circ\text{C}$	--	1.15	--	V
t_{rr}	Reverse Recovery Time	$I_F=1\text{A}, V_R=30\text{V}, di_F/dt=-200\text{A}/\mu\text{s}$	--	28	--	ns
t_{rr}	Reverse Recovery Time	$V_R=200\text{V}, I_F=100\text{A}$	--	49	--	ns
I_{RRM}	Max. Reverse Recovery Current	$di_F/dt=-200\text{A}/\mu\text{s}, T_J=25^\circ\text{C}$	--	7	--	A
t_{rr}	Reverse Recovery Time	$V_R=200\text{V}, I_F=100\text{A}$	--	90	--	ns
I_{RRM}	Max. Reverse Recovery Current	$di_F/dt=-200\text{A}/\mu\text{s}, T_J=125^\circ\text{C}$	--	11	--	A

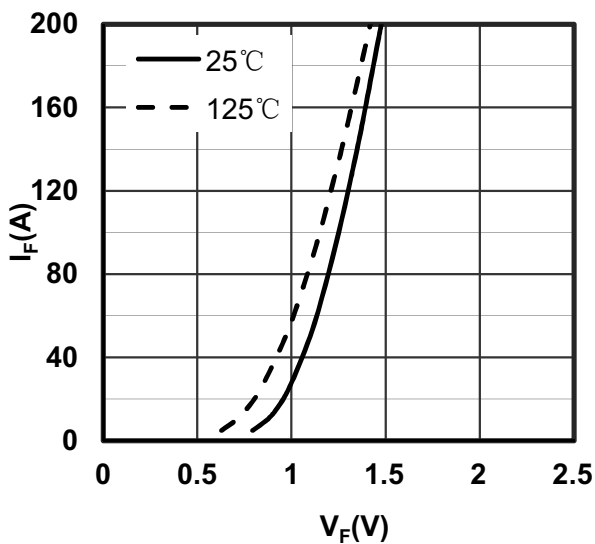


Figure 1. Forward Voltage Drop vs Forward Current

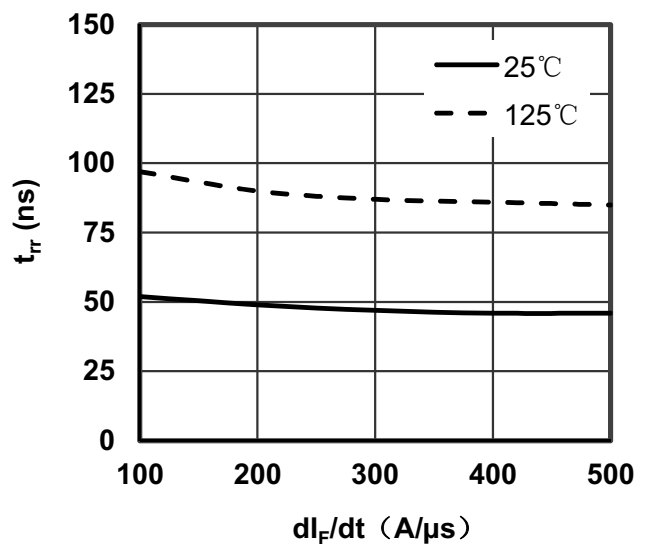


Figure 2. Reverse Recovery Time vs di_F/dt

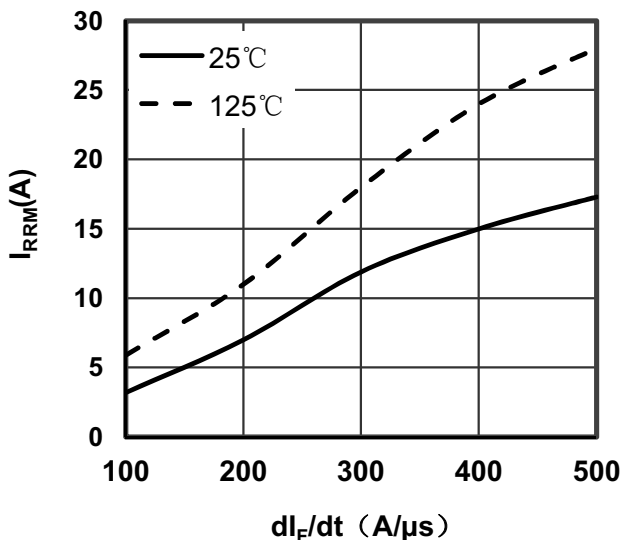


Figure3. Reverse Recovery Current vs di_F/dt

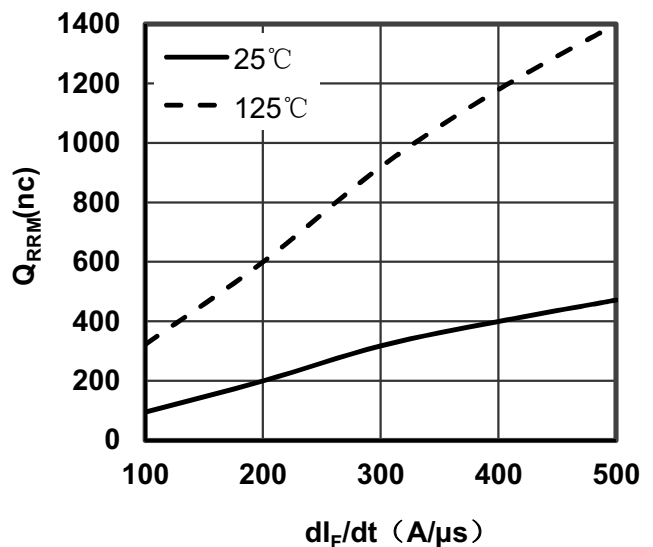


Figure4. Reverse Recovery Charge vs di_F/dt

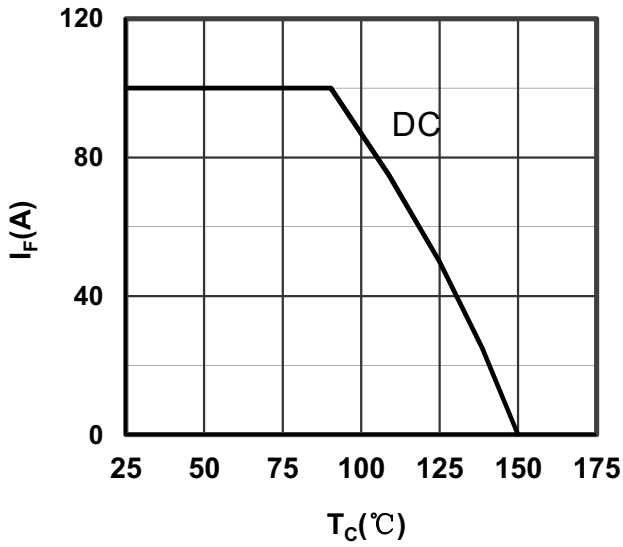


Figure 5. Forward current vs Case temperature

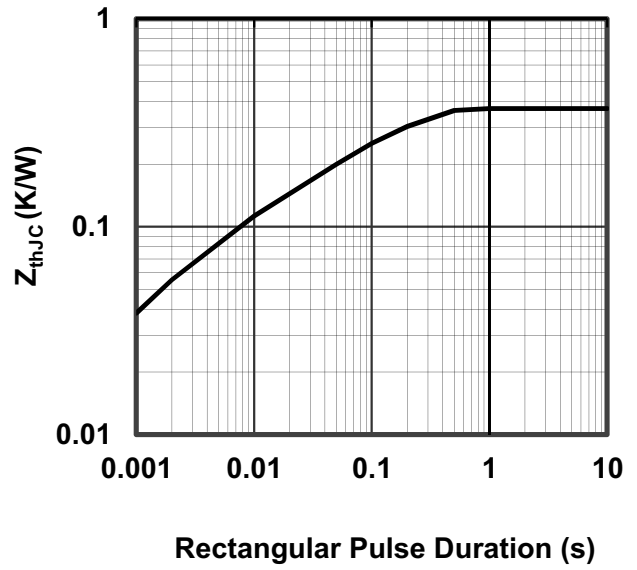
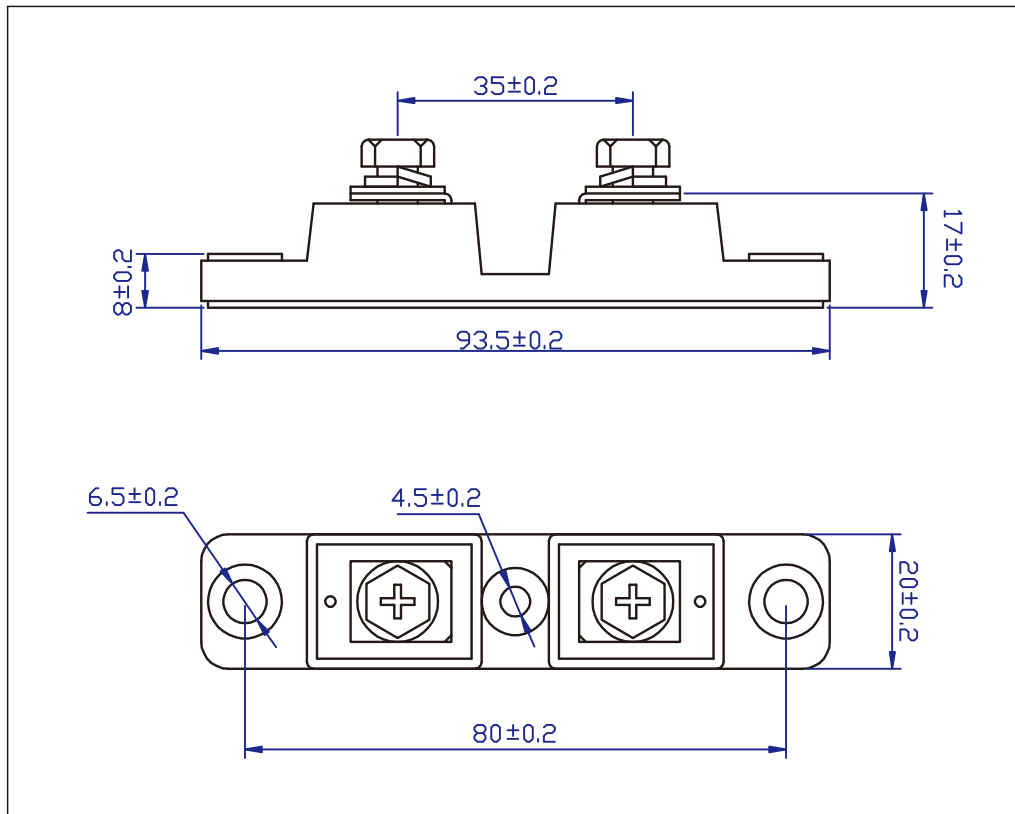


Figure 6. Transient Thermal Impedance

Package Outline



Dimensions (mm)