

产品规格书

Specifcation of products

产品名称: 快恢复二极管

产品型号: MURP200600CT

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

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蓝少波	陈一凡	曹剑龙

UltraFast Soft RecoveryDiode Module

MURP20060CT

Description

Ultra-FRD module devices are optimized to reduce losses and EMI/RFI in high frequency powerconditioning electrical systems. Thesediode modulesare ideally suited for powerconverters motorsdrivesand otherapplications wherewitching losses are significant portion of the total losses.

Features

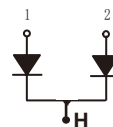
- ☞ Repetitive Reverse Voltage : $V_{RRM} = 600V$
- ☞ Low Forward Voltage Drop : V_F (typ.) = 1.0V
- ☞ Average Forward Current : I_F (AV.) = 200A @ $T_c = 100^\circ C$
- ☞ Ultra-Fast Reverse Recovery Time : t_{rr} (typ.) = 100 ns
- ☞ Extensive Characterization of RecoveryParameters
- ☞ Reduced EMI and RFI
- ☞ Non Isolation Type Package

Applications

MotorDrives Free wheel use, High PowerConverters, Welders, VariousSwitchingand Telecommunication PowerSupply.

Equivalent Circuitand Package

Equivalent Circuit



Package



Please see the package Out line information

AbsoluteMaximum Ratings @ $T_j = 25^\circ C$ (Per Leg)

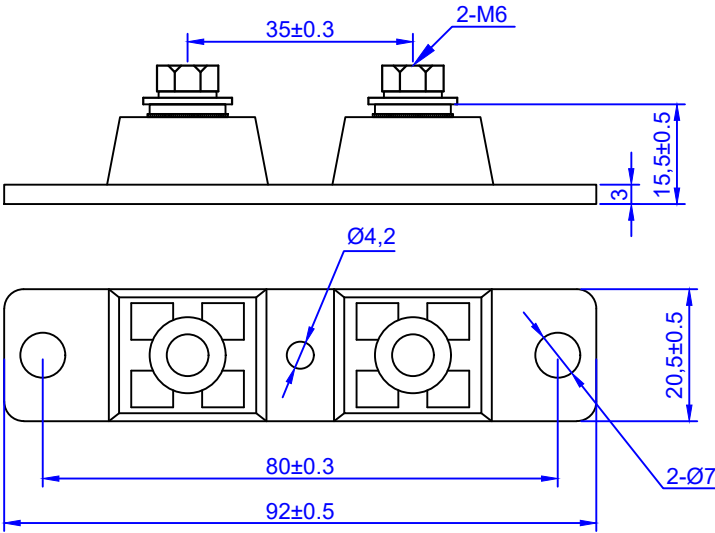
Symbol	Parameter	Conditions	Ratings	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		600	V
$V_{R(DC)}$	Reverse DC Voltage		160	V
$I_{F(AV)}$	Average Forward Current @ $T_c = 25^\circ C$ @ $T_c = 100^\circ C$	Resistive Load	400 200	A A
I_{FSM}	Surge (non-repetitive) Forward Current	One Half Cycle at 60Hz, Peak Value	8000	A
I^2_t	$I^2 t$ for Fusing	Value for One Cycle Current, $t_w = 8.3ms, T_j = 25^\circ C$ Start	119×10^3	$A^2 s$
T_j	Junction Temperature		$-40 \sim 125$	$^\circ C$
T_{stg}	Storage Temperature		$-40 \sim 125$	$^\circ C$
P_d	Maximum Power Dissipation		1160	W
—	Mounting Torque		4.0	N.m
—	Terminal Torque		3.0	N.m

Thermal Characteristics

Symbol	Parameter	Conditions	Values			Unit
			Min.	Typ.	Max.	
$R_{th(j-c)}$	Thermal Resistance	Junction to Case	-	-	0.10	°C/W

Electrical Characteristics @ $T_j=25^{\circ}\text{C}$ (unless otherwise specified)

Symbol	Parameter	Conditions	Values			Unit
			Min.	Typ.	Max.	
V_R	Cathode Anode Breakdown Voltage	$I_R = 100\mu\text{A}$	400	-	-	V
V_{FM}	Maximum Forward Voltage	$I_{FM} = 300\text{A}, T_c = 25^{\circ}\text{C}$	-	1.0	1.1	V
		$I_{FM} = 300\text{A}, T_c = 100^{\circ}\text{C}$	-	0.7	0.8	V
I_{RRM}	Repetitive Peak Reverse Current	$T_c = 100^{\circ}\text{C}, V_{RRM}$ applied	-	-	10.0	mA
t_{rr}	Reverse Recovery Time	$I_{FM} = 300\text{A}, V_R = 150\text{V}, di/dt = -100\text{A}/\mu\text{s}$ $T_c = 25^{\circ}\text{C}$	-	100	120	ns
		$T_c = 100^{\circ}\text{C}$	-	180	-	ns



Performance Curves

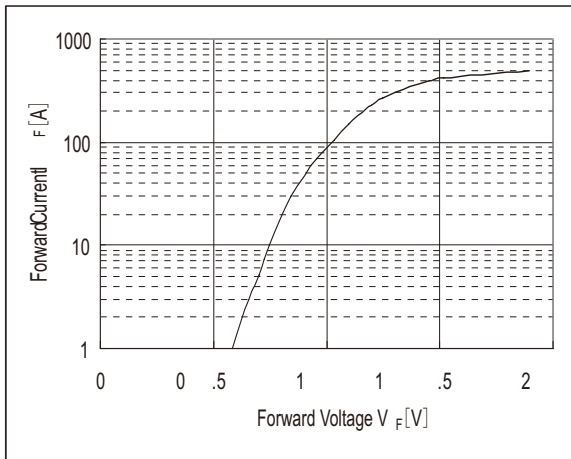


Fig. 1 : Typical Forward Voltage Drop vs. Instantaneous Forward Current

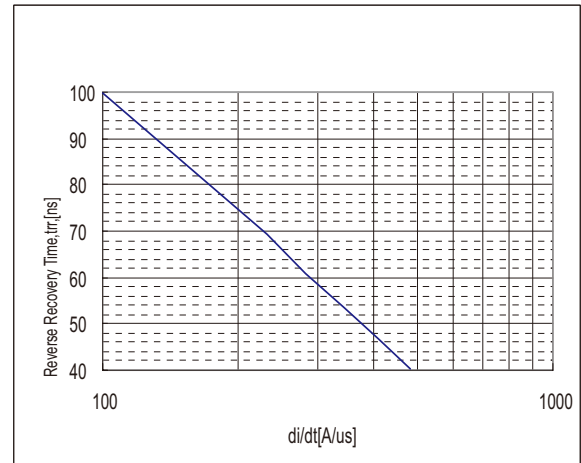


Fig. 2 : Typical Reverse Recovery Time vs. $-di/dt$

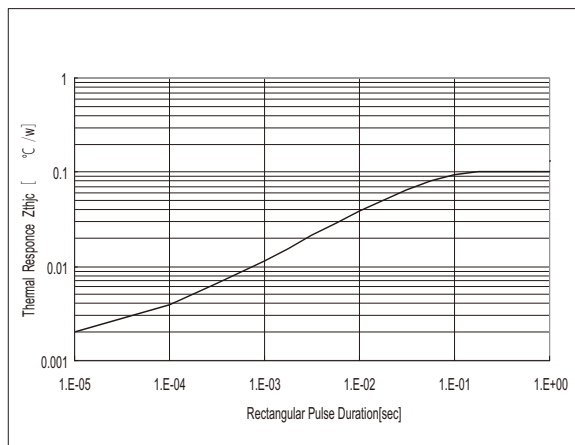


Fig. 3 : Transient Thermal Impedance (Z_{thjc}) Characteristics

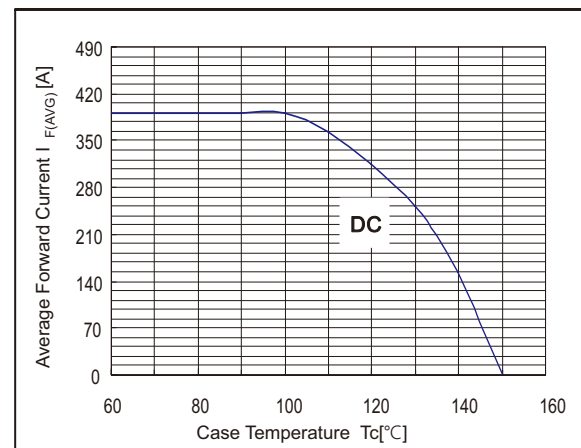


Fig. 4 : Forward Current Derating Curve