

产品规格书

Specifcation of products

产品名称:肖特基二极管模块

产品型号: MBDK600U45NK8

浙江世菱半导体有限公司
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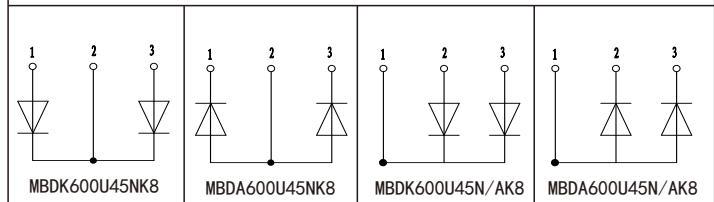
PRODUCT FEATURES

- ☑ 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

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

Symbol	Parameter	Test Conditions	Values	Unit
V_R	Maximum D.C. Reverse Voltage		45	V
V_{RRM}	Maximum Repetitive Reverse Voltage		45	V
$I_{F(AV)}$	Average Forward Current	$T_C=100^\circ\text{C}$, Per Diode	300	A
		$T_C=100^\circ\text{C}$, Per Module	600	A
$I_{F(RMS)}$	RMS Forward Current	$T_C=100^\circ\text{C}$, Per Diode	420	A
I_{FSM}	Non-Repetitive Surge Forward Current	1/2 Cycle, 60Hz, Sine	6600	A
I^2t	I^2t (For Fusing)	$T_J=45^\circ\text{C}$, $t=8.3\text{ms}$, 60Hz, Sine	130050	A^2s
P_D	Power Dissipation		225	W
T_J	Junction Temperature		-40 to +150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range		-40 to +125	$^\circ\text{C}$
V_{iso}	Insulation Test Voltage	AC, $t=1\text{min}$	3000	V
Torque	Module-to-Sink	Recommended (M6)	3~5	N.m
Torque	Module Electrodes	Recommended (M6)	3~5	N.m
$R_{\theta JC}$	Thermal Resistance	Junction-to-Case	0.12	$^\circ\text{C}/\text{W}$
Weight			155	g

ELECTRICAL CHARACTERISTICS

T_C=25°C unless otherwise specified

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{RM}	Reverse Leakage Current	V _R =45V	--	--	0.3	mA
		V _R =45V, T _J =125°C	--	--	2	mA
V _F	Forward Voltage	I _F =300A	--	0.50	--	V
		I _F =300A, T _J =125°C	--	0.45	--	V

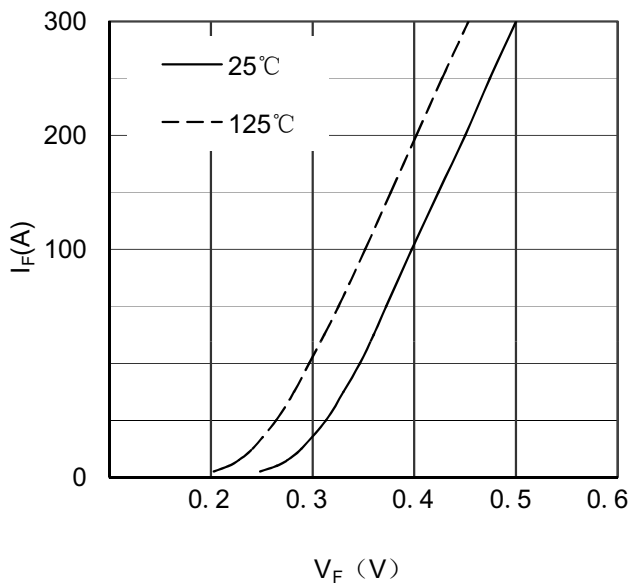


Figure 1. Forward Voltage Drop vs Forward Current

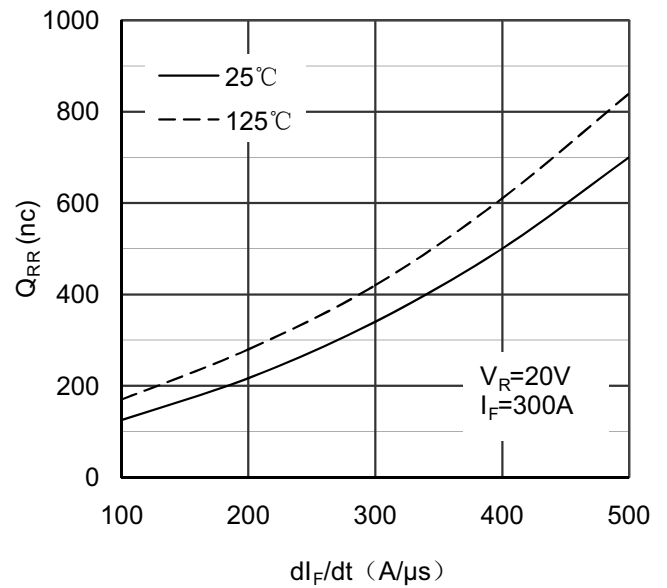


Figure 2. Reverse Recovery Charge vs di_F/dt

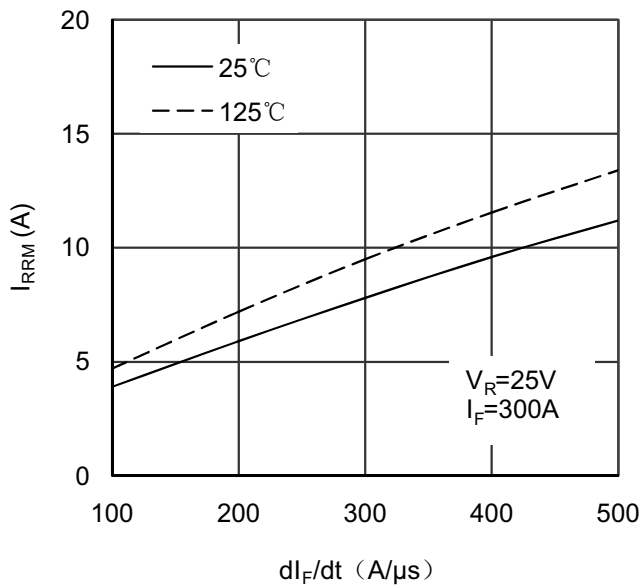


Figure 3. Reverse Recovery Current vs di_F/dt

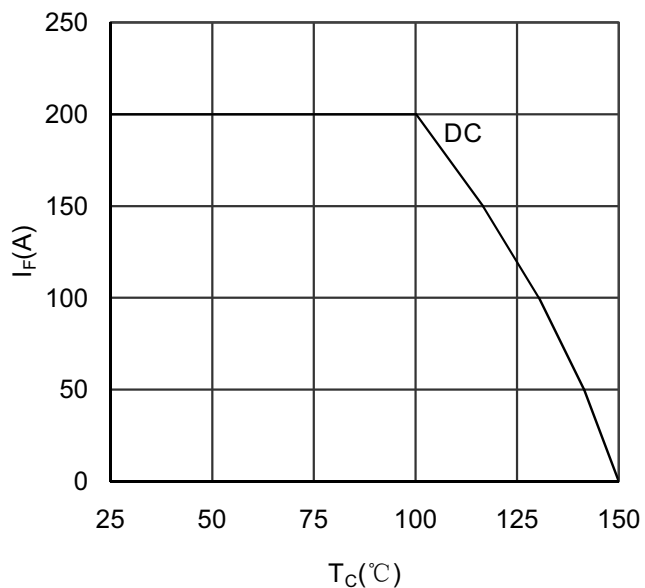


Figure 4. Forward current vs Case temperature

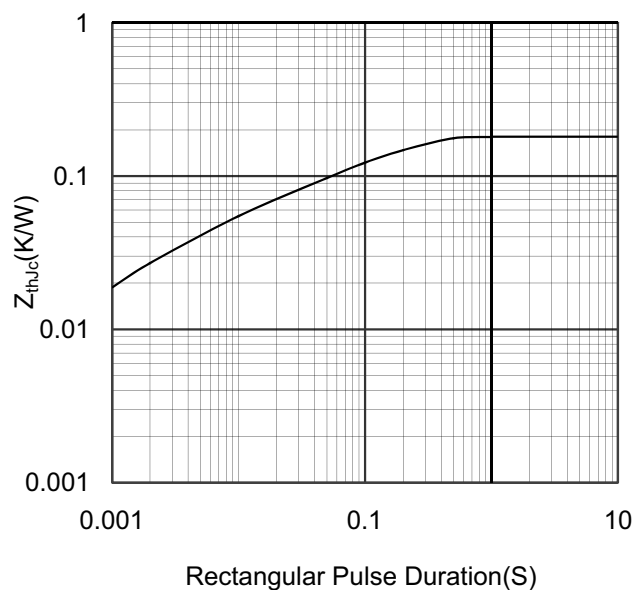
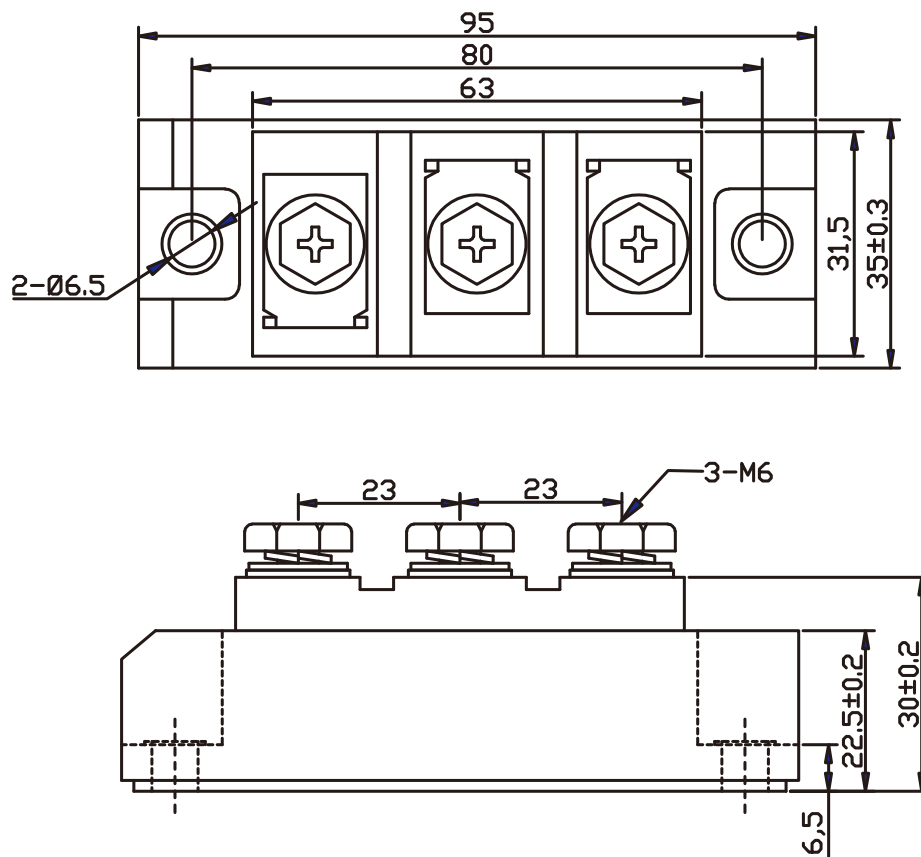


Figure 5. Transient Thermal Impedance

Package Outlines



Unit:mm