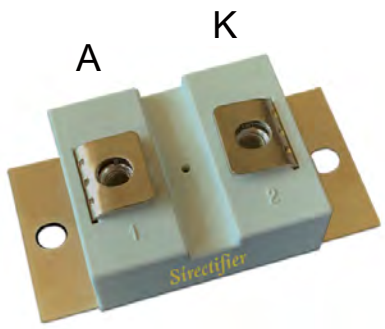
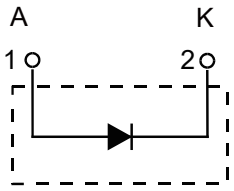
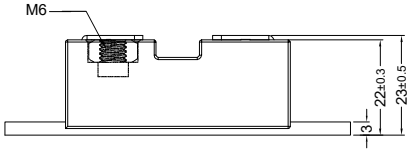
SDF300-05D4

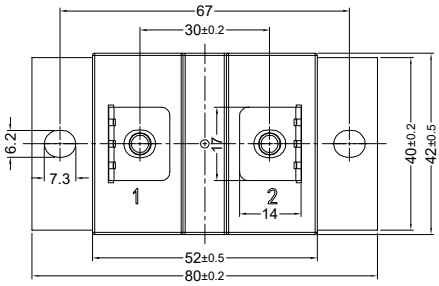
Soft Recovery Behaviour Ultra Fast Recovery Epitaxial Diode Modules





Dimensions in mm





	V_{RSM} V	V_{RRM} V
SDF300-05D4	500	500
SDF300-06D4	600	600
SDF300-07D4	700	700

Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS} I_{FAVM} I_{FRM}	T_C=115°C T_C=115°C; rectangular,d=0.5 tp<10us rep. rating,pulse width limited by T_{VJM}	424 300 1560	A
I_{FSM}	T_{VJ}=45°C t=10ms(50HZ),sine t=8.3ms(60HZ),sine	4100 4470	A
	T_{VJ}=150°C t=10ms(50HZ),sine t=8.3ms(60HZ),sine	3690 4020	
I^2t	T_{VJ}=45°C t=10ms(50HZ),sine t=8.3ms(60HZ),sine	81700 82100	A^2s
	T_{VJ}=150°C t=10ms(50HZ),sine t=8.3ms(60HZ),sine	66400 73800	
T_{VJ} T_{stg}		-40...+150 -40...+125	°C
V_{ISOL}	50/60Hz,RMS t=1min I_{ISOL}≤1mA t=1s	2500 3000	V~
M_d	Mounting torque(M6) Terminal connection torque(M6)	2.25-2.75/20-25 4.50-5.50/40-48	Nm/lb.in.
d_S d_A a	Creeping distance on surface Strike distance through air Maximum allowable acceleration	12.7 9.6 50	mm mm m/s^2
Weight		165	g

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SDF300-06D4

Soft Recovery Behaviour Ultra Fast Recovery Epitaxial Diode Modules

Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
I_R	T_{VJ}=25°C; V_R=V_{RRM} T_{VJ}=25°C; V_R=0.8·V_{RRM} T_{VJ}=125°C; V_R=0.8·V_{RRM}		0.5 0.5 30	mA
V_F	I_F=300A; T_{VJ}=125°C T_{VJ}=125°C	1.10 1.20	1.25 1.30	V
V_{FO}	For power-loss calculations only		0.85	V
r_F			1.09	mΩ
R_{thJH} R_{thJC}	DC current DC current		0.195 0.162	K/W
t_{rr}	I_F=1A;V_R=250V;-di/dt=200A/us;T_{VJ}=25°C	75		ns
t_{rr} I_{RM}	I_F=300A;V_R=250V;-di/dt=200A/us;T_{VJ}=125°C	430 35		ns A

FEATURES

* International standard package
* Copper base plate
* Planar passivated chips
* Soft recovery behaviour
* Isolation voltage 3000V~
* ROHS compliant

APPLICATIONS

* Antiparallel diode for high frequency switching devices
* Free wheeling diode in converters and motor control circuits
* Inductive heating and melting
* Uninterruptible power supplies(UPS)
* Ultrasonic cleaners and welders
* Inverter Welding Application

ADVANTAGES

* High reliability circuit operation
* Low voltage peaks for reduced protection circuits
* Low noise switching
* Low losses

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SDF300-06D4

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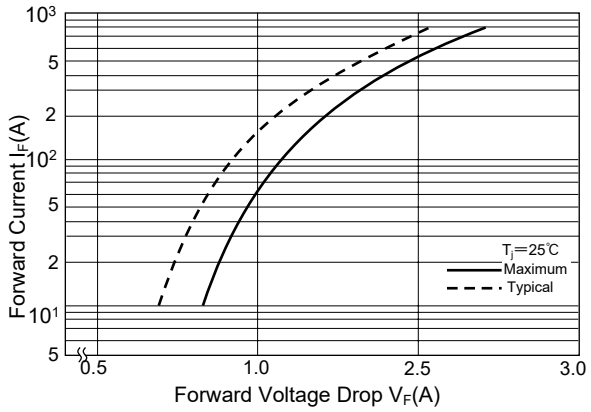

Fig.1 Forward Characteristics

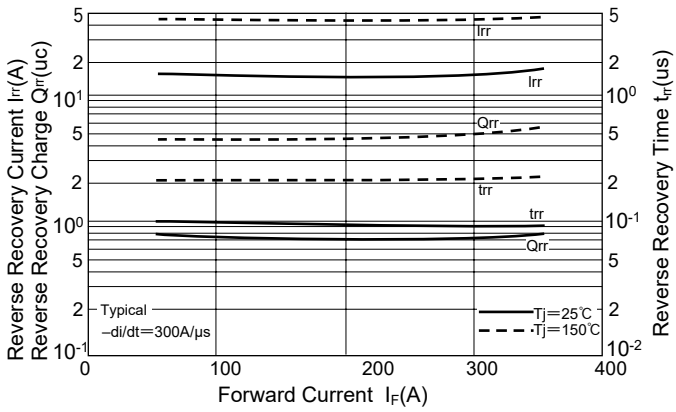

Fig.2 Reverse Recovery Characteristics

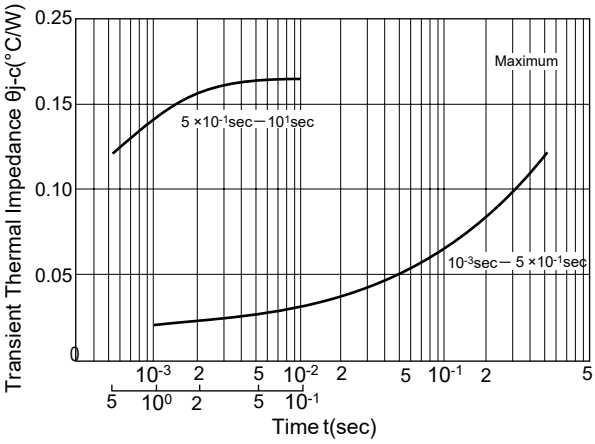

Fig.3 Transient Thermal Impedance

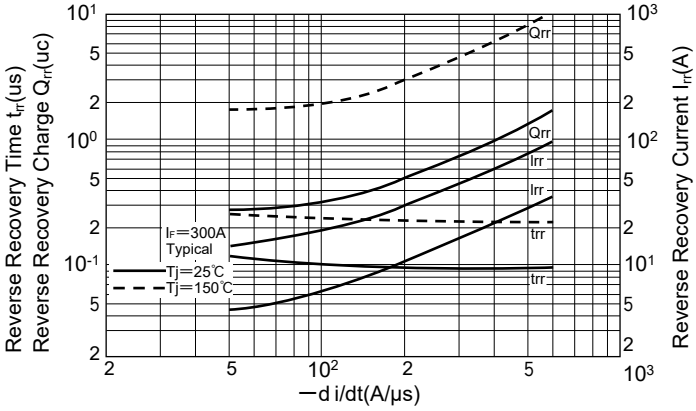

Fig.4 Reverse Recovery Characteristics

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