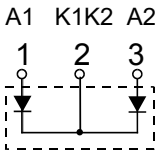
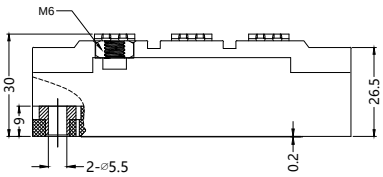
SDKF2X600-06DA

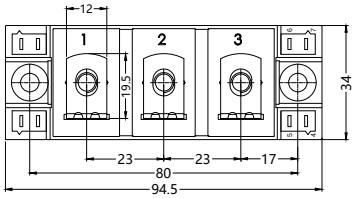
Soft Recovery Behaviour Ultra Fast Recovery Epitaxial Diode Modules



SDKF2X600-06DA
Center Common

Dimensions in mm





	V_{RSM} V	V_{RRM} V
SDKF2X600-06DA	600	600

Symbol	Test Conditions		Maximum Ratings	Unit
I_{FRMS} I_{FAVM} I_{FRM}	T_C=75°C T_C=75°C; rectangular, d=0.5 per chip t_p<10us; rep. rating, pulse width limited by T_{VJM}		860 600 3500	A
I_{FSM}	T_{VJ}=45°C	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	3800 4100	A
	T_{VJ}=150°C	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	3420 3900	
I^2t	T_{VJ}=45°C	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	47000 47300	A^2s
	T_{VJ}=150°C	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	38100 39000	
T_{VJ} T_{stg} T_{Smax}			-40...+150 -40...+125 110	°C
P_{tot}	T_C=25°C		1050	W
V_{ISOL}	50/60Hz, RMS I_{ISOL}≤1mA	t=1min t=1s	3000 3600	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			150	g

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Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
I_R	T_{VJ}=25°C; V_R=V_{RRM}		10	mA
	T_{VJ}=25°C; V_R=0.8·V_{RRM}		5	
	T_{VJ}=125°C; V_R=0.8·V_{RRM}		80	
V_F	I_F=300A; T_{VJ}=25°C	1.20	1.30	V
	I_F=450A; T_{VJ}=25°C	1.27	1.37	
	I_F=500A; T_{VJ}=25°C	1.29	1.39	
	I_F=600A; T_{VJ}=25°C	1.38	1.48	
	I_F=1200A; T_{VJ}=25°C	1.70	1.80	
V_{TO}	For power-loss calculations only		0.88	V
r_T			1.47	mΩ
R_{thJH}	DC current		0.102	K/W
R_{thJC}	DC current		0.067	
t_{rr}	I_F=600A; T_{VJ}=100°C	320	450	ns
I_{RM}	V_R=300V; T_{VJ}=25°C		80	A
	-di/dt=400A/us; T_{VJ}=100°C		90	A

FEATURES

* International standard package
* Planar passivated chips
* Short recovery time
* Low switching losses
* Soft recovery behaviour
* Isolation voltage 3600 V~
* DCB baseplate
* 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

ADVANTAGES

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

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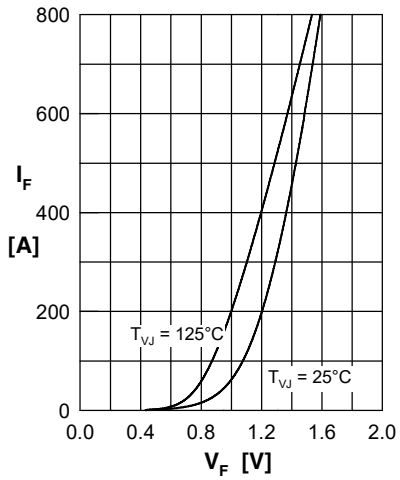

Fig. 1 Typ. forward current I_F vs voltage drop V_F per leg

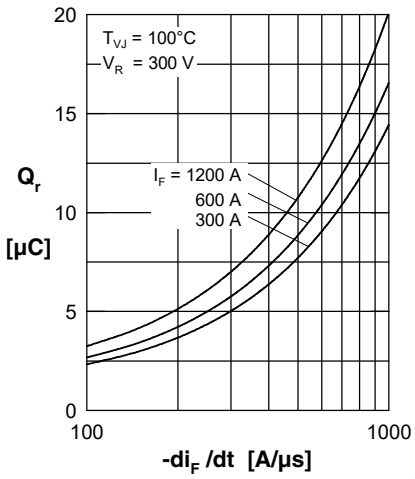

Fig. 2 Typ. reverse recovery charge Q_r versus -di_F/dt

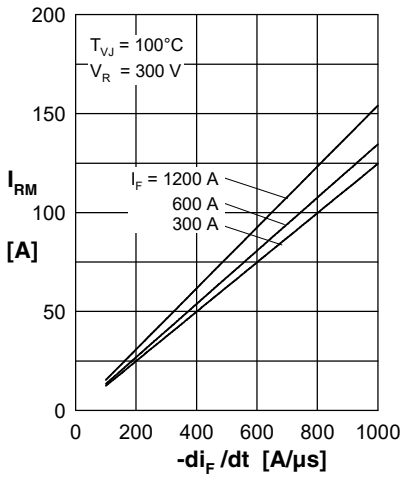

Fig. 3 Typ. peak reverse current I_{RM} versus -di_F/dt

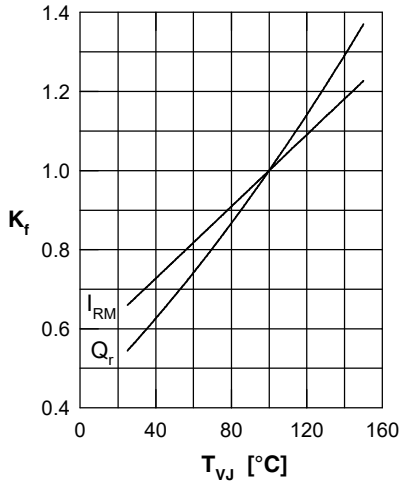

Fig. 4 Typ. dynamic parameters Q_r, I_{RM} vs. junction temperature T_{VJ}

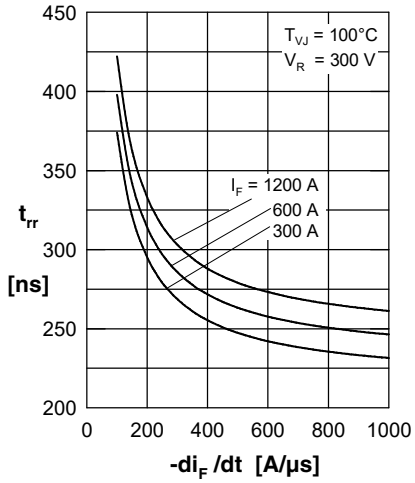

Fig. 5 Typ. recovery time t_{rr} versus -di_F/dt

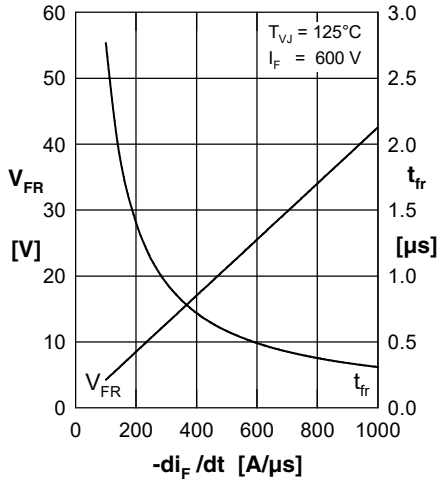

Fig. 6 Typ. peak forward voltage V_{FR} and t_{fr} versus -di_F/dt

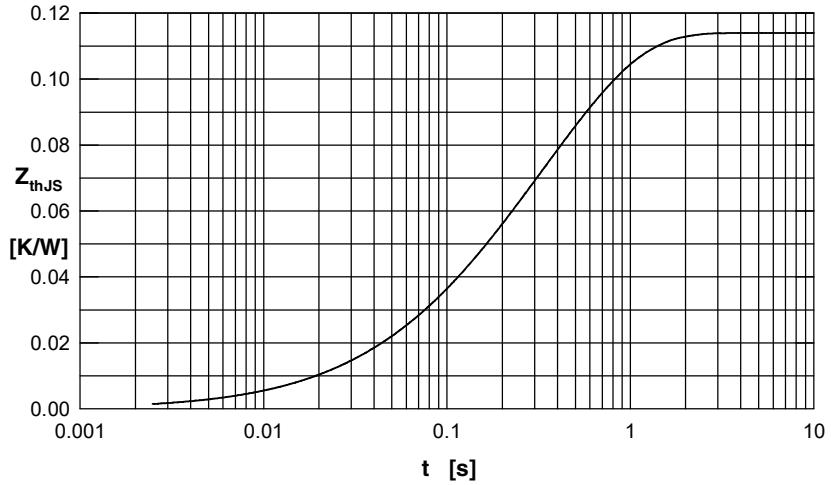

Fig. 7 Typ. transient thermal impedance junction to heatsink

i	R_{thi} (K/W)	t_i (s)
1	0.001	0.080
2	0.004	0.024
3	0.027	0.112
4	0.082	0.464

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