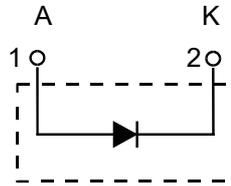
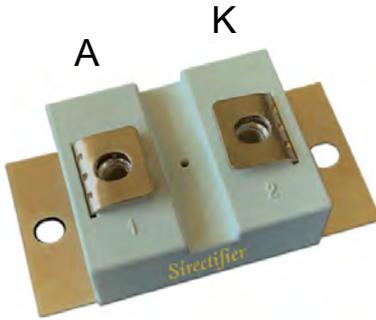
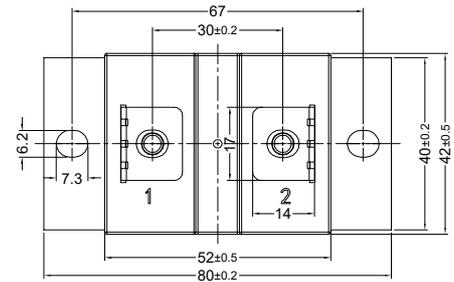
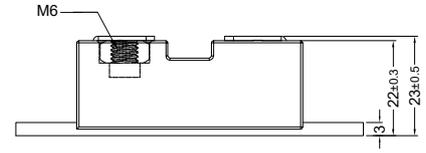


SDF300-06D4

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}	$T_C=115^\circ\text{C}$	424	A
I_{FAVM}	$T_C=115^\circ\text{C}$; rectangular, $d=0.5$ $t_p<10\mu\text{s}$;	300	
I_{FRM}	rep. rating, pulse width limited by T_{VJM}	1560	
I_{FSM}	$T_{VJ}=45^\circ\text{C}$	$t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	A
	$T_{VJ}=150^\circ\text{C}$	$t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	
I^2t	$T_{VJ}=45^\circ\text{C}$	$t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	A ² s
	$T_{VJ}=150^\circ\text{C}$	$t=10\text{ms}$ (50Hz), sine $t=8.3\text{ms}$ (60Hz), sine	
T_{VJ} T_{stg}		-40...+150 -40...+125	°C
V_{ISOL}	50/60Hz, RMS $t=1\text{min}$ $I_{ISOL}\leq 1\text{mA}$ $t=1\text{s}$	2500	V~
		3000	
M_d	Mounting torque (M6)	2.25-2.75/20-25	Nm/lb.in.
	Terminal connection torque (M6)	4.50-5.50/40-48	
d_s	Creeping distance on surface	12.7	mm
d_A	Strike distance through air	9.6	mm
a	Maximum allowable acceleration	50	m/s ²
Weight		165	g

Sirectifier[®]

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}		0.5	mA
	T _{VJ} =25°C; V _R =0.8·V _{RRM}		0.5	
	T _{VJ} =125°C; V _R =0.8·V _{RRM}		30	
V _F	I _F =300A; T _{VJ} =125°C	1.10	1.25	V
	T _{VJ} =25°C	1.20	1.30	
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
- * Low V_F losses
- * Soft recovery behaviour
- * Isolation voltage 3000 V~
- * 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

SDF300-06D4

Soft Recovery Behaviour Ultra Fast Recovery Epitaxial Diode Modules

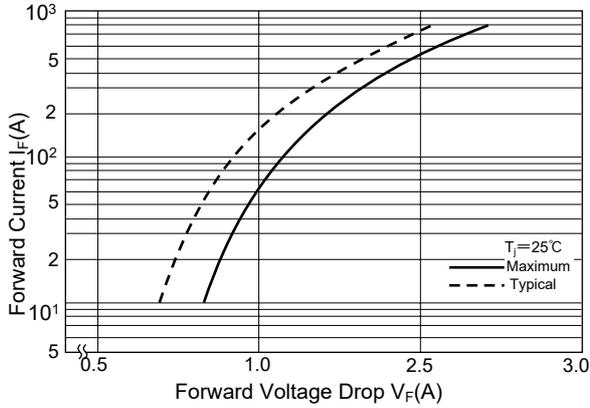


Fig.1 Forward Characteristics

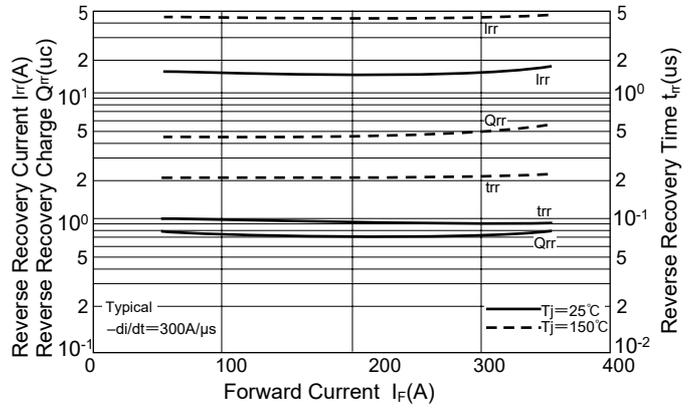


Fig.2 Reverse Recovery Characteristics

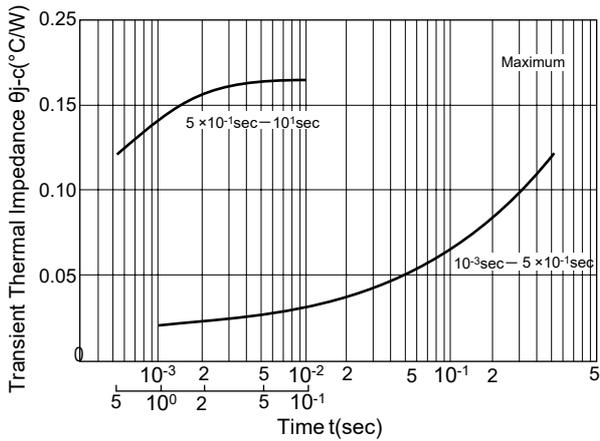


Fig.3 Transient Thermal Impedance

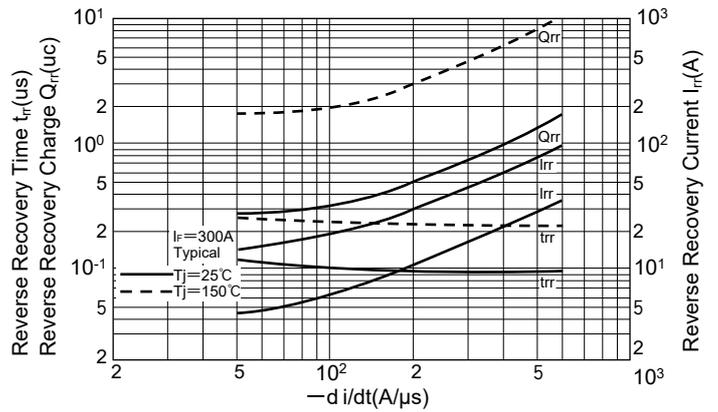


Fig.4 Reverse Recovery Characteristics