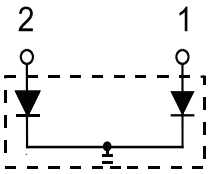
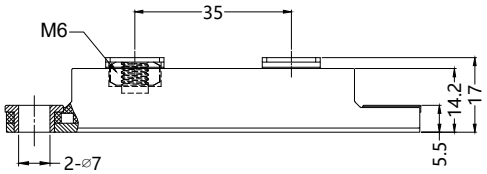
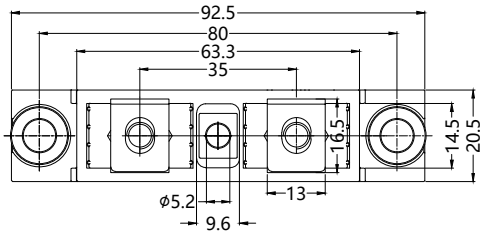
SRUD40020CT thru STRU40030CT

Soft Recovery Behaviour Ultra Fast Recovery Epitaxial Diode Modules



Dimensions in mm (1mm=0.0394")





Type	V_{RSM} V	V_{RRM} V
SRUD40020CT	200	200
SRUD40030CT	300	300

Symbol	Test Conditions	Maximum Ratings	Unit
I_{FRMS} I_{FAVM} I_{FRM}	T_C=85°C T_C=85°C;rectangular,d=0.5,per chip/permodle tp,10us;rep.rating,pulse width limited by T_{VJM}	314 200/400 TBD	A
I_{FSM}	T_{VJ}=45°C t=10ms(50Hz),sine t=8.3ms(60Hz),sine T_{VJ}=150°C t=10ms(50Hz),si t=8.3ms(60Hz),sine	1800 2000 1700 1850	A
I^2T	T_{VJ}=45°C t=10ms(50Hz),sine t=8.3ms(60Hz),sine T_{VJ}=150°C t=10ms(50Hz),si t=8.3ms(60Hz),sine	18200 18400 15500 15700	mJ
T_{VJ} T_{stg} T_{Hmax}		-40...+150 -40...+125 110	°C
P_{tot}	T_{case}=25°C	480	W
M_d	Mounting torque (M5) Terminal connection torque (M5)	2.50-4/22-35 3-5/30-42	Nm/lb.in.
d_s d_a	Creeping distance on surface Strike distance through air	12.7 9.6	Nm/lb.in Nm/lb.in.
a	Maximum allowable acceleration	50	m/s^2
Weight		68	g

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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 0.03 5	mA
V_F	I_F=200A; T_{VJ}=125°C T_{VJ}=25°C I_F=400A; T_{VJ}=125°C T_{VJ}=25°C		0.95 1.15 1.20 1.40	V
V_{TO}	For power-loss calculations only		0.95	V
r_T	T_{VJ}=125°C		2.8	mΩ
R_{thJH} R_{thJC}	DC current DC current		0.350 0.300	K/W
t_{rr}	I_F=1A; T_{VJ}=25°C	80	120	ns
I_{RM}	V_R=150V; T_{VJ}=25°C -di/dt=200A/us; T_{VJ}=100°C		25 18	A A

FEATURES

* International standard package
* Copper base plate
* Glass passivatd chips
* Short recovery time
* Low switching losses
* 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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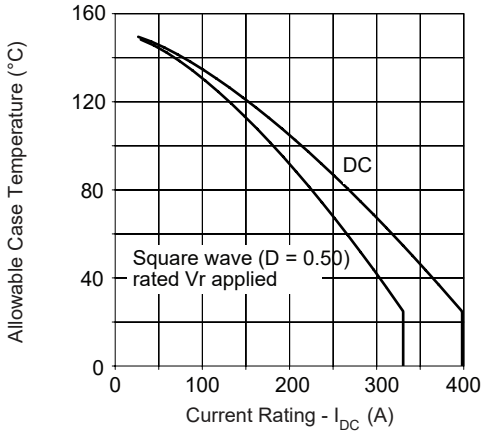

Fig. 1 - Maximum Current Rating Capability (Per Leg)

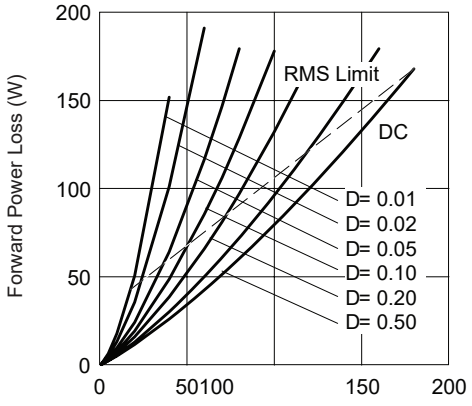

Fig. 2 - Forward Power Loss Characteristics

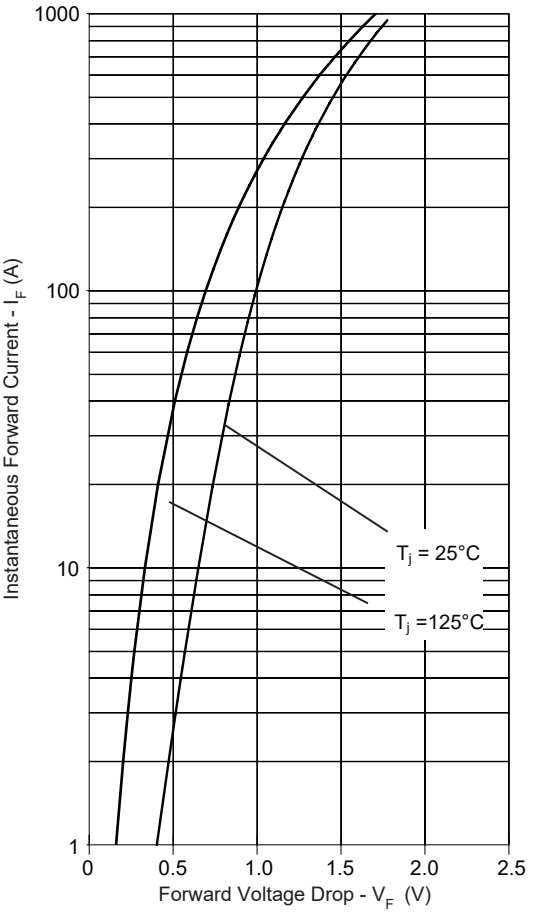

Fig. 3 - Typical Forward Voltage Drop vs. Instantaneous Forward Current (Per Leg)

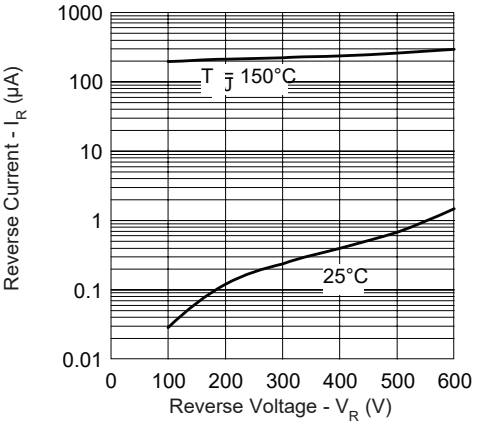

Fig. 4 - Typical Reverse Current vs. Reverse Voltage (Per Leg)

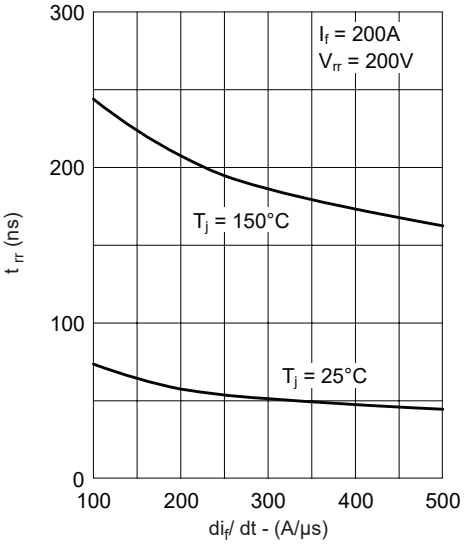

Fig. 5 - Typical Reverse Recovery Time vs. dI_F/dt (Per Leg)

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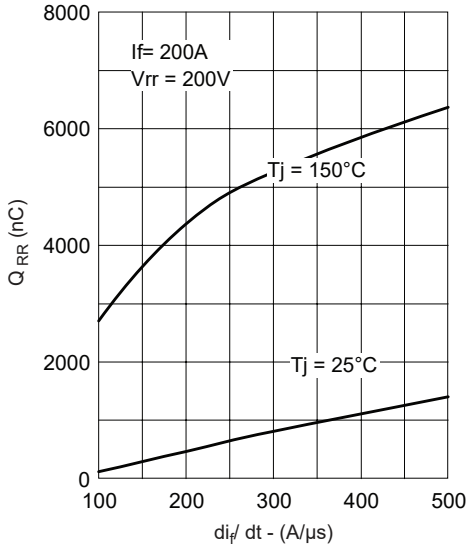

Fig. 6 - Typical Reverse Recovery Charge vs. dI_F/dt (Per Leg)

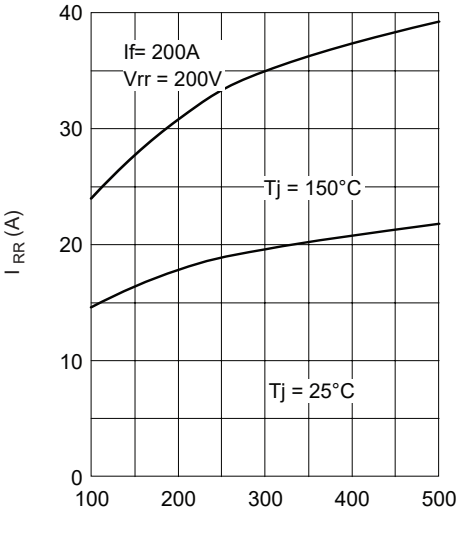

Fig. 7 - Typical Reverse Recovery Current vs. dI_F/dt (Per Leg)

PART NUMBER INFORMATION TABLE

Device P/N

SR	UD	400	20	CT
1	2	3	4	5

1 - **Si**R**R**ectifier

2 - UD = FRED

3 - Current rating (400 = 400 A)

4 - Voltage rating x10 (20=200V,30=300V, 40=400V, 60=600V)

5 - CT = Common cathode
AT = Common Anode
ET = Phase Leg

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