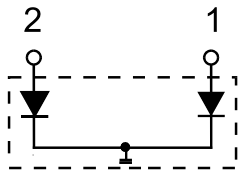
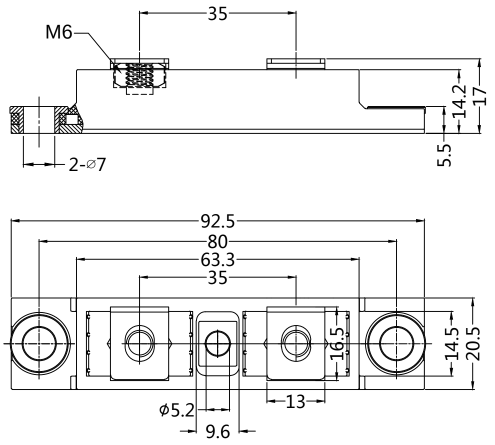
SRUD300CT

Soft Recovery Behaviour Ultra Fast Recovery Epitaxial Diode Modules



Dimensions in mm (1mm=0.0394")



	V_{RSM} V	V_{RRM} V
SRUD30040CT	400	400
SRUD30060CT	600	600

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 t_p<10us; rep. rating, pulse width limited by T_{VJM}		235 150 TBD	A
I_{FSM}	T_{VJ}=45°C	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	1600 1900	A
	T_{VJ}=150°C	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	1440 1710	
I^2t	T_{VJ}=45°C	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	14200 14400	A^2s
	T_{VJ}=150°C	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	11500 11700	
T_{VJ} T_{stg} T_{Hmax}			-40...+175 -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 2.50-4/22-35	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			160	g

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Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
I_R	$T_{VJ}=25^oC$; $V_R=V_{RRM}$ $T_{VJ}=25^oC$; $V_R=0.8 \cdot V_{RRM}$ $T_{VJ}=125^oC$; $V_R=0.8 \cdot V_{RRM}$		0.05 0.05 5	mA
V_F	$I_F=150A$; $T_{VJ}=125^oC$ $T_{VJ}=25^oC$ $I_F=300A$; $T_{VJ}=125^oC$ $T_{VJ}=25^oC$		1.25 1.55 1.95 2.09	V
V_{TO}	For power-loss calculations only		1.01	V
r_T	$T_{VJ}=125^oC$		2.85	mΩ
R_{thJH} R_{thJC}	DC current DC current		0.550 0.450	K/W
t_{rr} I_{RM}	$I_F=1.0A$; $T_{VJ}=100\ ^oC$ $V_R=300V$; $T_{VJ}=25\ ^oC$ $-di/dt=200A/us$; $T_{VJ}=100^oC$	50	60 14 21	ns A A

FEATURES

* International standard package
* Copper base plate
* Glass passivated 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

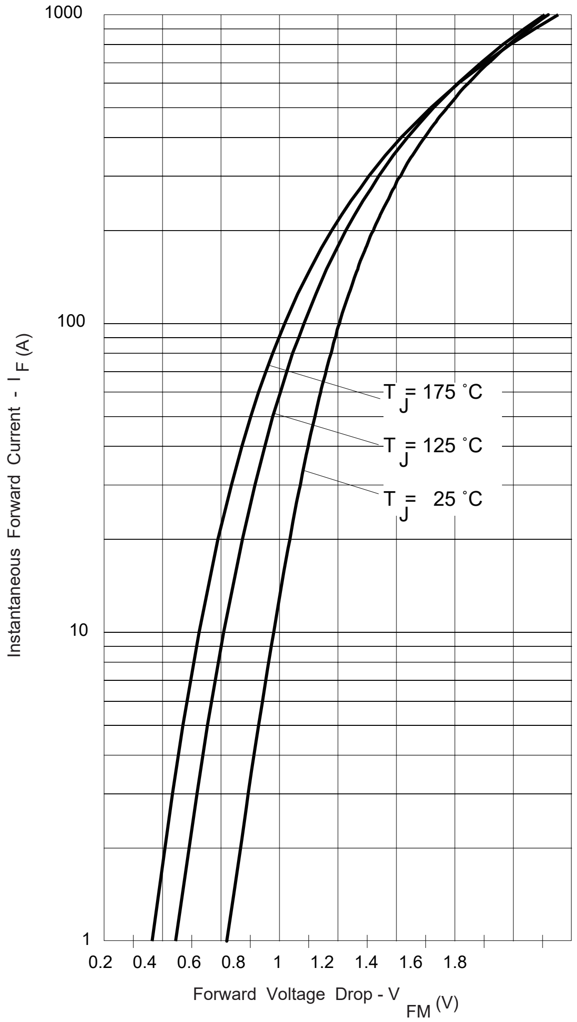

Fig. 1 - Typical Forward Voltage Drop Characteristics

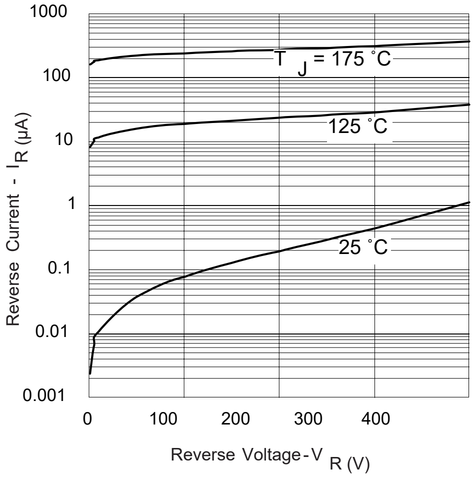

Fig. 2 - Typical Values Of Reverse Current Vs. Reverse Voltage

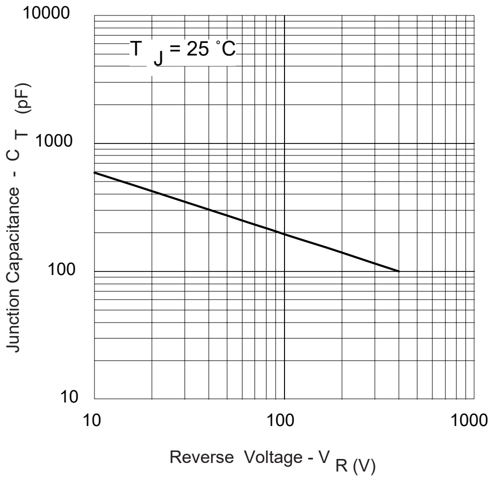

Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

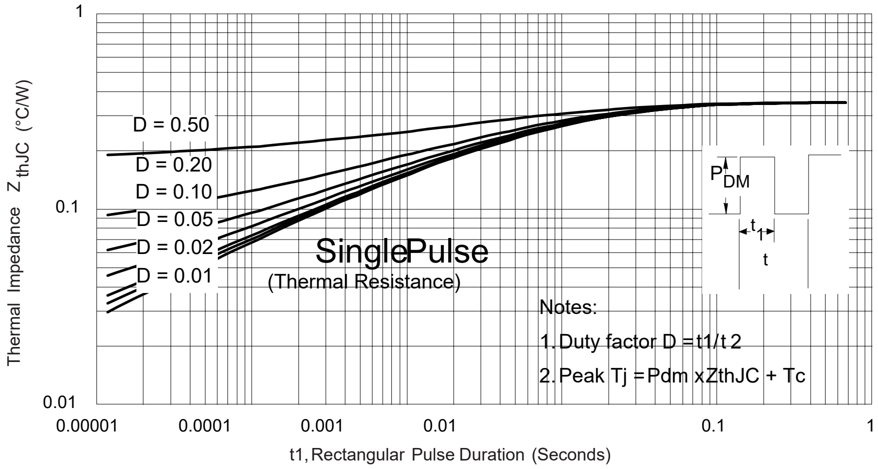

Fig. 4 - Max. Thermal Impedance Zthjc Characteristics

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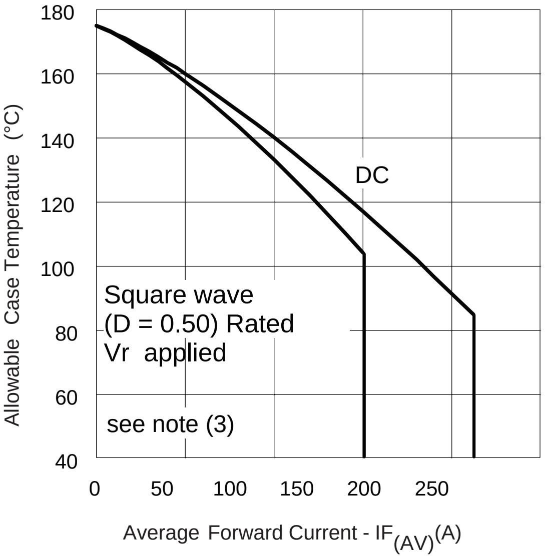

Fig. 5 - Max. Allowable Case Temperature Vs. Average Forward Current

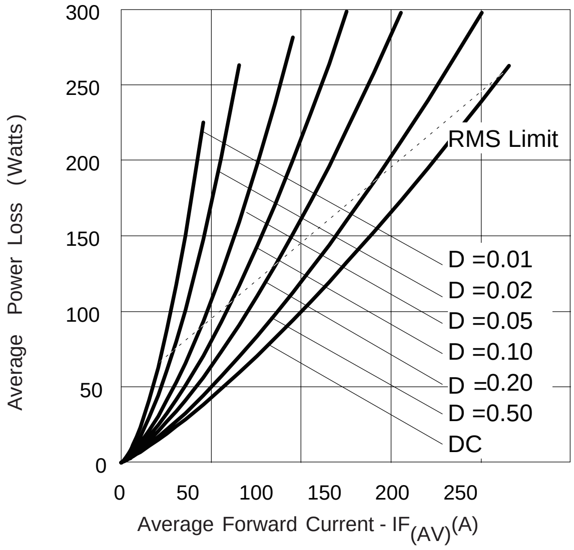

Fig. 6 - Forward Power Loss Characteristics

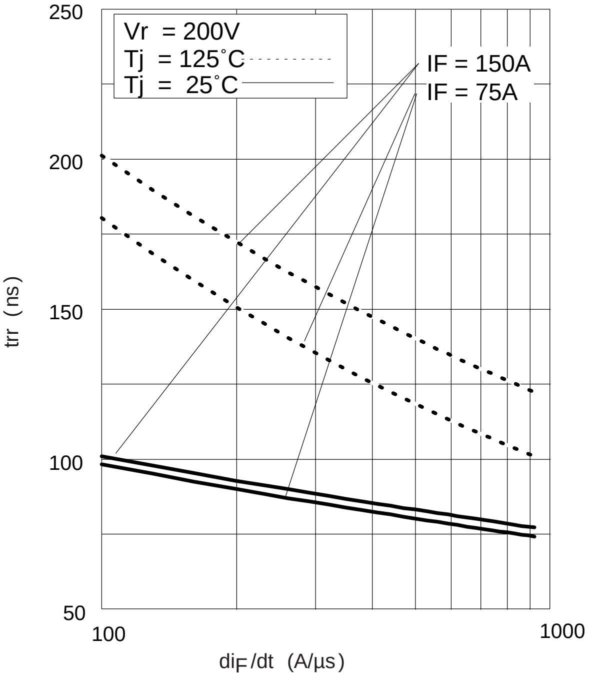

Fig. 7 - Typical Reverse Recovery time vs. diF/dt

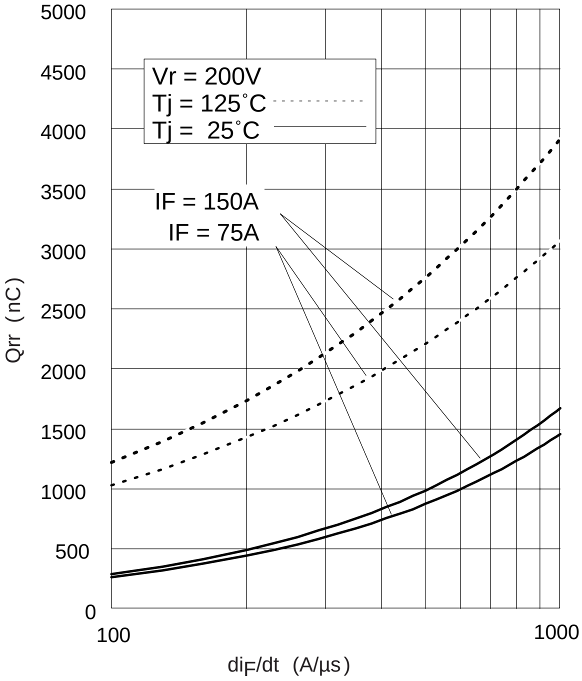

Fig. 8 - Typical Stored Charge vs. diF/dt