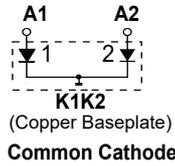
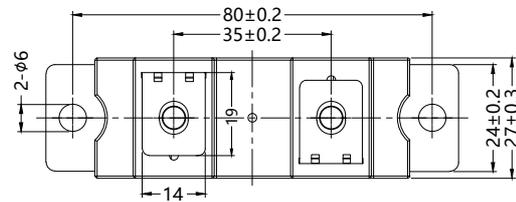
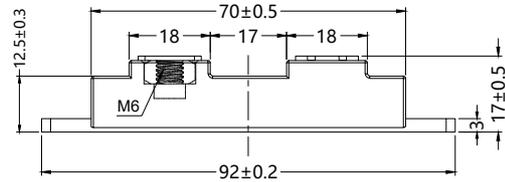


SRUD40040CTD3

Soft Recovery Behaviour Ultra Fast Recovery Epitaxial Diode Modules



Dimensions in mm (1mm=0.0394")



	V_{RSM} V	V_{RRM} V
SRUD40040CTD3	600	600



Symbol	Test Conditions	Maximum Ratings	Unit
I_{FAVM} I_{FRMS}	TC=115°C; rectangular,d=0.5,per module TC=115°C; rectangular,d=0.5,per chip $t_p < 10\mu s$;rep.rating,pulse width limited by T_{VJM}	400 200 313	A
I_{FSM}	$T_{VJ}=45^\circ C$ per chip $t=10ms(50HZ)$,sine $t=8.3ms(60HZ)$,sine	2833 3133	A
	$T_{VJ}=150^\circ C$ per chip $t=10ms(50HZ)$,sine $t=8.3ms(60HZ)$,sine	2403 2663	
I^2t	$T_{VJ}=45^\circ C$ per chip $t=10ms(50HZ)$,sine $t=8.3ms(60HZ)$,sine	35033 38100	A ² S
	$T_{VJ}=150^\circ C$ per chip $t=10ms(50HZ)$,sine $t=8.3ms(60HZ)$,sine	28733 31600	
T_{VJ} T_{stg} T_{Hmax}		-40...+150 -40...+125 110	°C
P_{tot}		1520	W
M_d	Mounting torque(M6) Terminal connection torque(M6)	3.0-4.7/26-41 3.0-4.7/26-41	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		93	g

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Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
I_R	$T_{VJ}=25^{\circ}\text{C}; V_R=V_{RRM}$ $T_{VJ}=25^{\circ}\text{C}; V_R=0.8 \cdot V_{RRM}$ (per chip) $T_{VJ}=25^{\circ}\text{C}; V_R=0.8 \cdot V_{RRM}$		0.5 0.5 5	mA
V_F	$I_F=200\text{A}; T_{VJ}=125^{\circ}\text{C}$ $T_{VJ}=25^{\circ}\text{C}$ (per chip) $I_F=400\text{A}; T_{VJ}=125^{\circ}\text{C}$ $T_{VJ}=25^{\circ}\text{C}$	1.02 1.15 1.50 1.55	1.25 1.45 1.75 1.85	V
V_{FO}	For power-loss calculations only (per chip)		1.08	V
r_F	$T_{VJ}=125^{\circ}\text{C}$ (per chip)		2.76	m Ω
R_{thJC} R_{thJC}	Per Diode Per Module		0.062 0.131	K/W
t_{rr}	$I_F=1.0\text{A}; V_R=30\text{V}; -di/dt=200\text{A}/\mu\text{s}; T_{VJ}=25^{\circ}\text{C}$ $I_F=200\text{A}; V_R=300\text{V}; -di/dt=200\text{A}/\mu\text{s}; T_{VJ}=25^{\circ}\text{C}$ (per chip)	35 80	80 130	ns
I_{RM}	$I_F=200\text{A}; V_R=300\text{V}; -di/dt=200\text{A}/\mu\text{s}; T_{VJ}=25^{\circ}\text{C}$ $T_{VJ}=125^{\circ}\text{C}$ (per chip)	10 18		A A

FEATURES

- * International standard package
- * Copper base plate
- * Planar 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
- * Inverter Welding machine

ADVANTAGES

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



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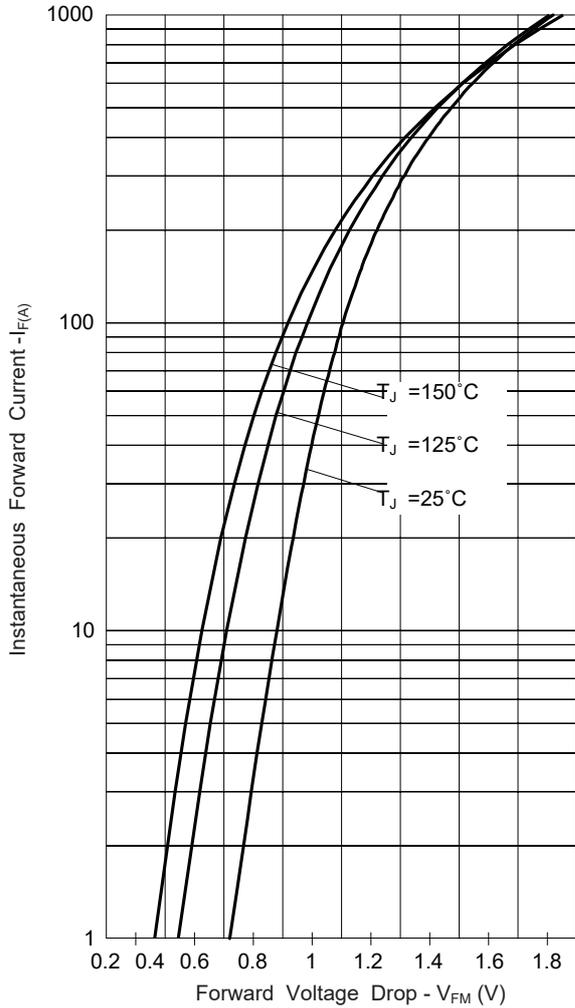


Fig. 1 - Typical Forward Voltage Drop Characteristics

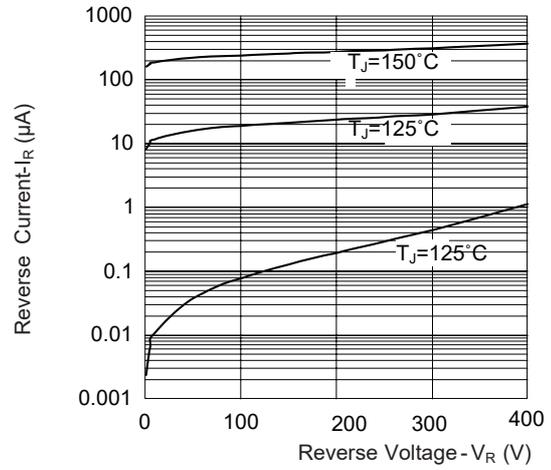


Fig. 2 - Typical Values Of Reverse Current Vs. Reverse Voltage

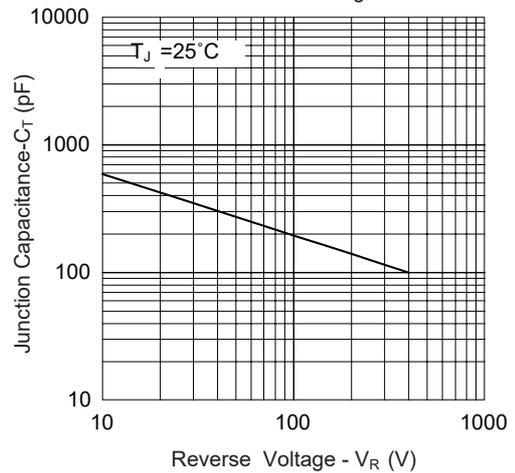


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

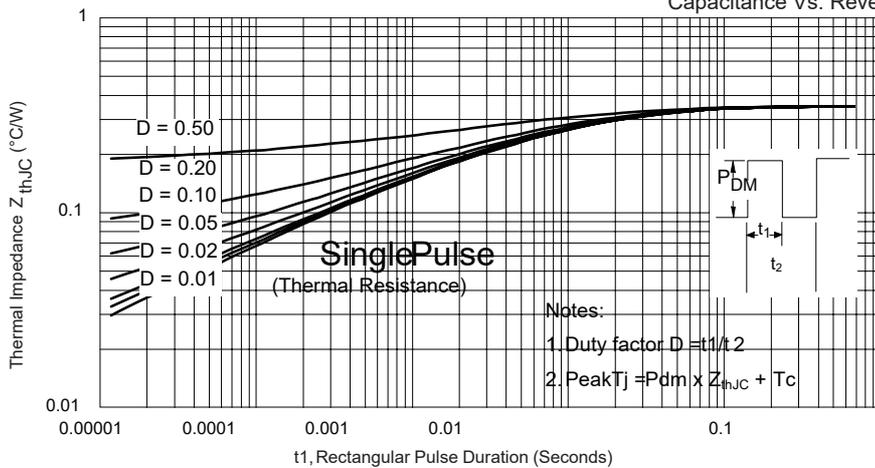


Fig. 4 - Max. Thermal Impedance Z_{thJC} Characteristics



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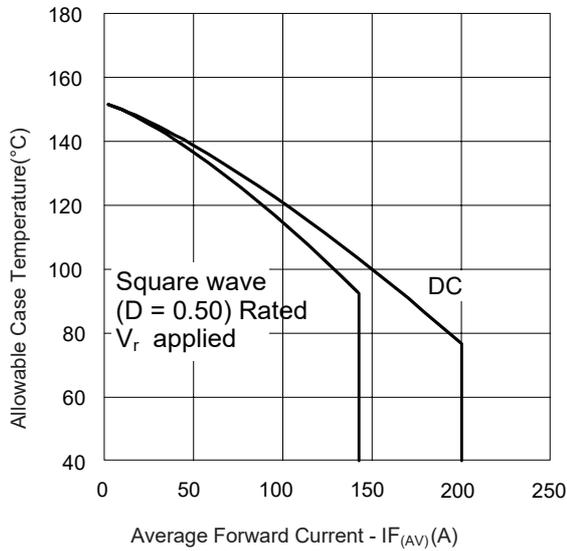


Fig. 5 - Max. Allowable Case Temperature Vs. Average Forward Current

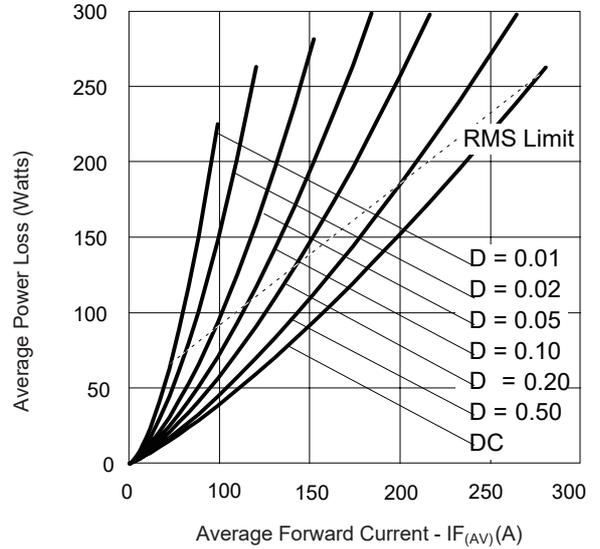


Fig. 6 - Forward Power Loss Characteristics

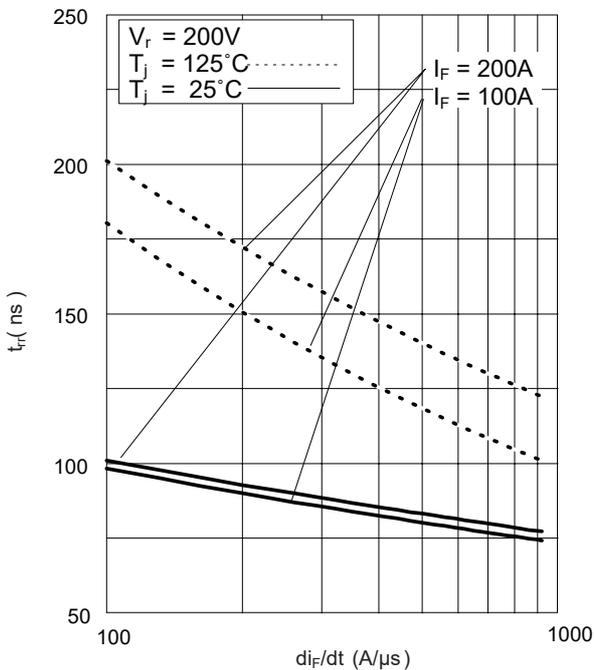


Fig. 7 - Typical Reverse Recovery time vs. di_F/dt

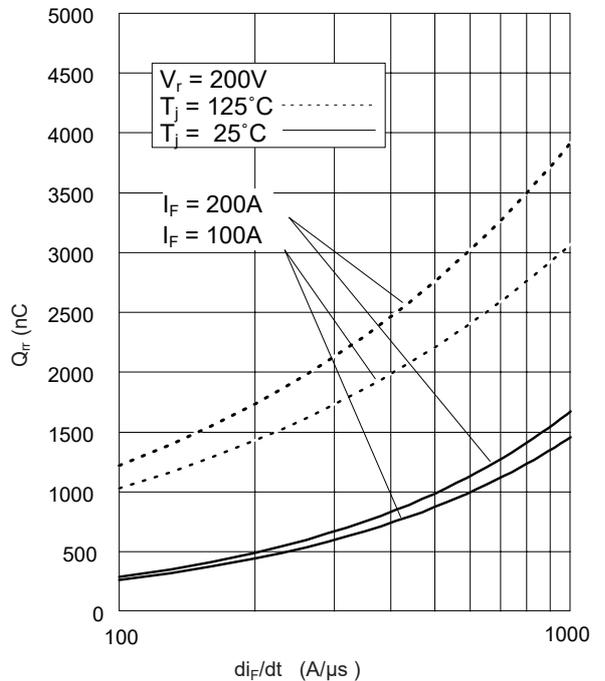


Fig. 8 - Typical Stored Charge vs. di_F/dt