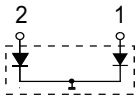
SRUD30040CTD3

Soft Recovery Behaviour Ultra Fast Recovery Epitaxial Diode Modules

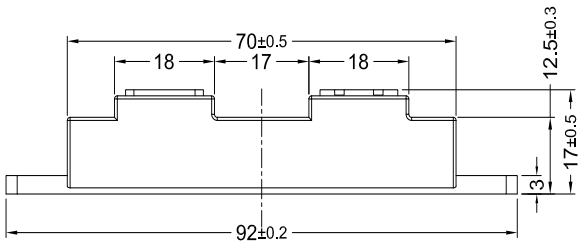




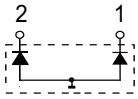
Common Cathode

SRUD30040CTD3

Dimensions in mm (1mm=0.0394")

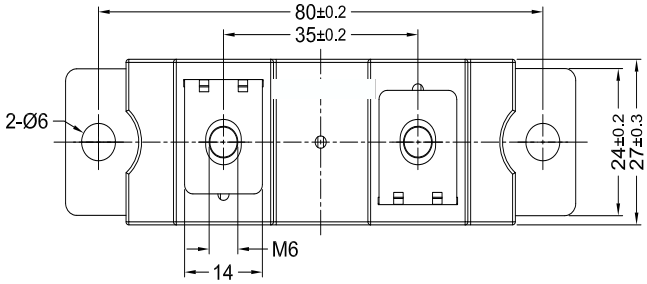


	V_{RSM} V	V_{RRM} V
SRUD30040CTD3	400	400
SRUD30040ATD3	400	400



Common Anode

SRUD30040ATD3



Symbol	Test Conditions		Maximum Ratings	Unit
I_{FRMS} I_{FAVM} I_{FRM}	T_C=125°C T_C=125°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}=25°C	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	2750 3100	A
	T_{VJ}=150°C	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	2470 2790	
I^2t	T_{VJ}=45°C	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	36500 37000	A^2s
	T_{VJ}=150°C	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	29500 29970	
T_{VJ} T_{stg} T_{Hmax}			-40...+150 -40...+125 110	°C
P_{tot}			1300	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.
ds 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

Sirectifier®

© 2019 SIRECTIFIER All rights reserved

www.sirectifier.com Tel: +86-519-86800000 Fax: +86-519-88019019 E-mail: sales@sirectifier.com

SRUD30040CTD3

Soft Recovery Behaviour Ultra Fast Recovery Epitaxial Diode Modules

Symbol	Test Conditions	Characteristic Values typ.	max.	Unit
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 0.5 2	mA
V_F	I_F=150A; T_{VJ}=125°C T_{VJ}=25°C I_F=300A; T_{VJ}=125°C T_{VJ}=25°C	1.10 1.20 1.55 1.65	1.55 1.45 1.95 2.09	V
V_{TO}	For power-loss calculations only		1.01	V
r_T	T_{VJ}=125°C		2.85	mΩ
R_{thJH} R_{thJC}	DC current DC current		0.150 0.100	K/W
t_{rr}	I_F=1A; T_{VJ}= 25°C	35	40	ns
	I_F=150A; T_{VJ}= 25°C	85	110	ns
I_{RM}	V_R=200V; -di/dt=200A/us; T_{VJ}=125°C	18		A

FEATURES

* International standard package
* Copperbase plate
* Planar 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

© 2019 SIRECTIFIER All rights reserved
www.sirectifier.com Tel: +86-519-86800000 Fax: +86-519-88019919 E-mail: sales@sirectifier.com

SRUD30040CTD3

Soft Recovery Behaviour Ultra Fast Recovery Epitaxial Diode Modules

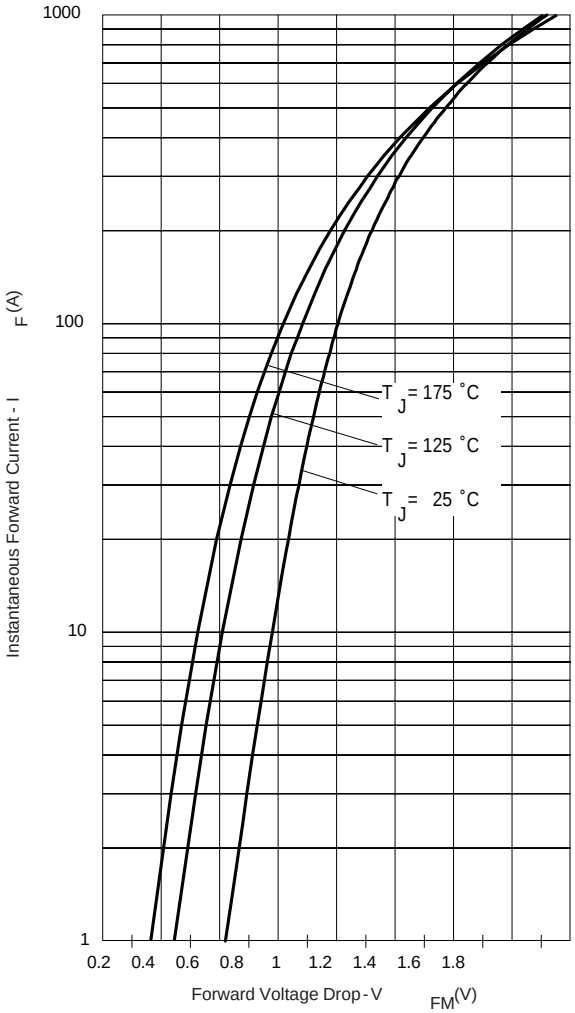


Fig. 1 - Typical Forward Voltage Drop Characteristics

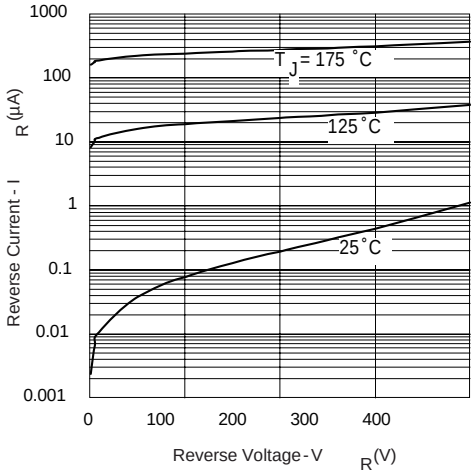


Fig. 2 - Typical Values Of Reverse Current Vs. Reverse Voltage

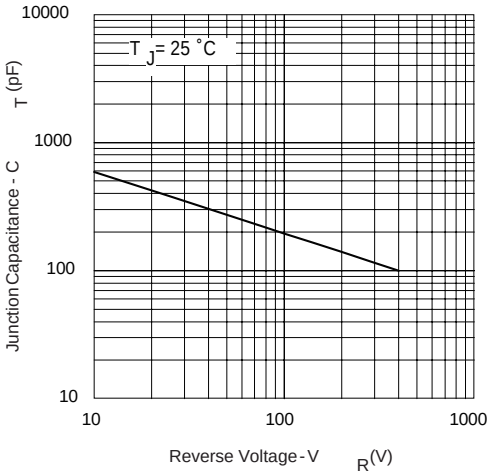


Fig. 3 - Typical Junction Capacitance Vs. Reverse Voltage

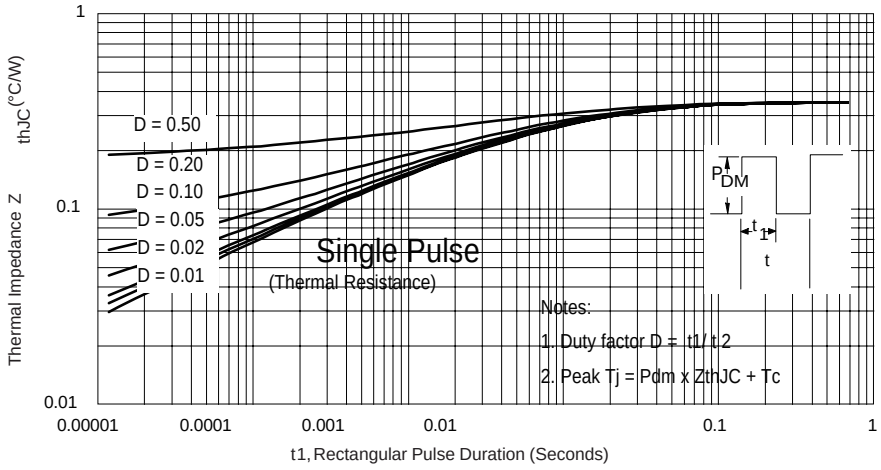


Fig. 4 - Max. Thermal Impedance Zthjc Characteristics

© 2019 SIRECTIFIER All rights reserved

www.sirectifier.com Tel: +86-519-86800000 Fax: +86-519-88019919 E-mail: sales@sirectifier.com

SRUD30040CTD3

Soft Recovery Behaviour Ultra Fast Recovery Epitaxial Diode Modules

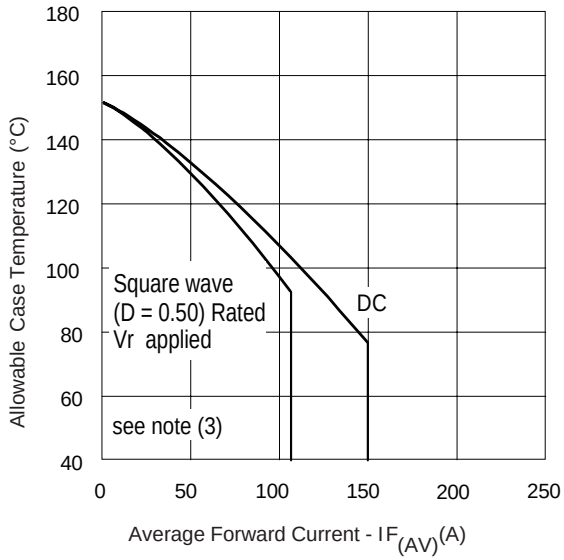


Fig. 5 - Max. Allowable Case Temperature
Vs. Average Forward Current

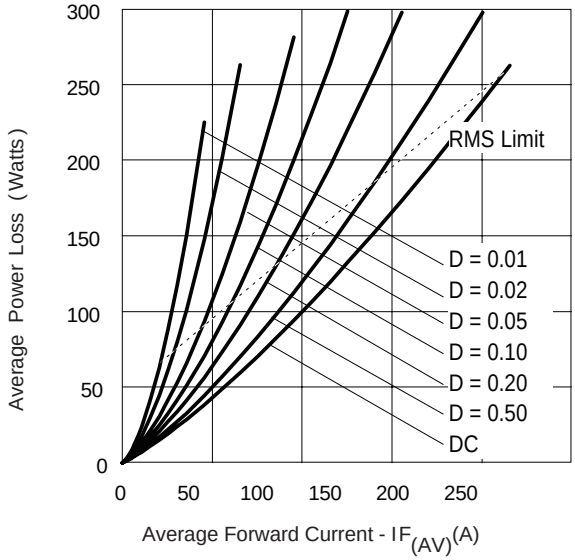


Fig. 6 - Forward Power Loss Characteristics

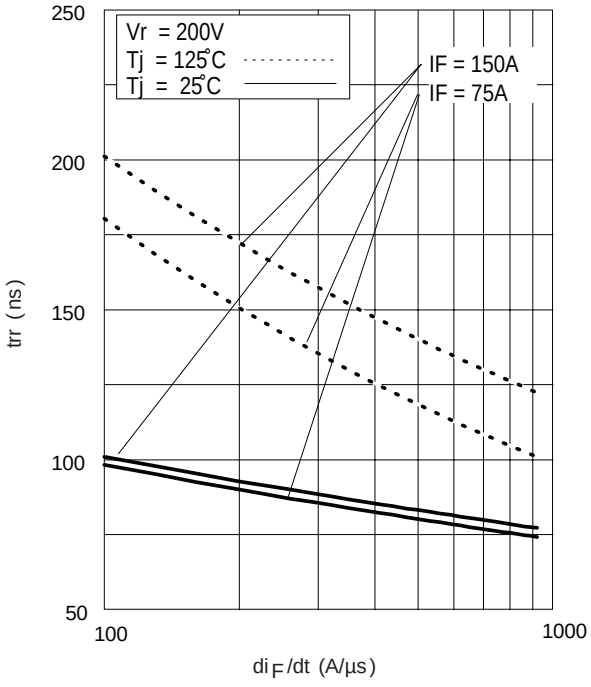


Fig. 7 - Typical Reverse Recovery time vs. di_F/dt

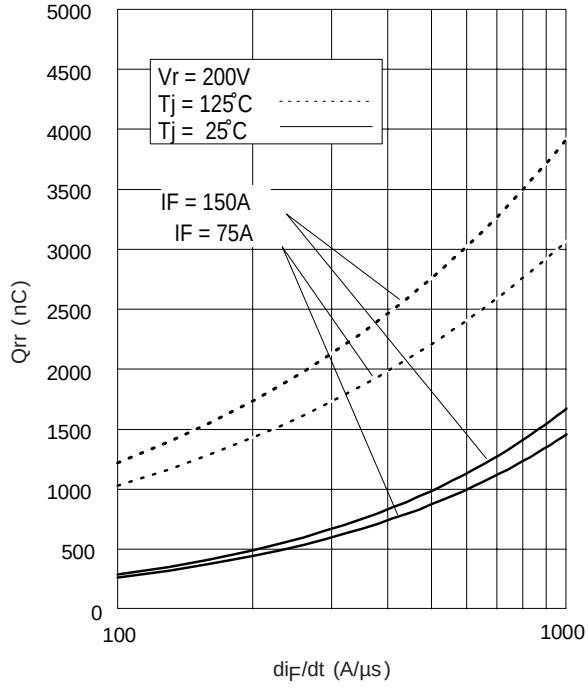


Fig. 8 - Typical Stored Charge vs. di_F/dt

© 2019 SIRECTIFIER All rights reserved

www.sirectifier.com Tel: +86-519-86800000 Fax: +86-519-88019019 E-mail: sales@sirectifier.com