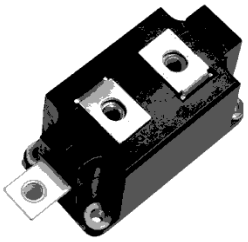
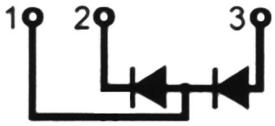
SDD253

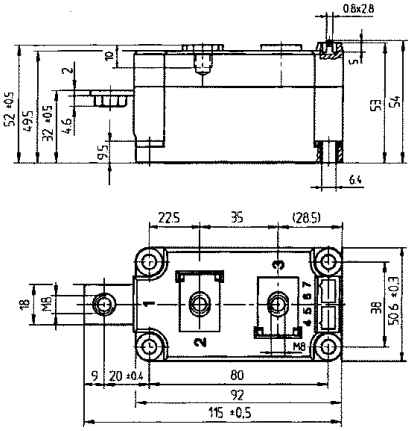
Diode-Diode Modules





Type	V_{RSM} V	V_{RRM} V
SDD253N08	900	800
SDD253N12	1300	1200
SDD253N14	1500	1400
SDD253N16	1700	1600
SDD253N18	1900	1800

Dimensions in mm (1mm=0.0394")



Symbol	Test Conditions		Maximum Ratings	Unit
I_{FRMS} I_{FAVM}	$T_{VJ}=T_{VJM}$ $T_C=100^oC$; 180° sine		400 253	A
I_{FSM}	$T_{VJ}=45^oC$ $V_R=0$	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	11000 12150	A
	$T_{VJ}=T_{VJM}$ $V_R=0$	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	10000 11071	
$\int i^2dt$	$T_{VJ}=45^oC$ $V_R=0$	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	596787 605000	A^2s
	$T_{VJ}=T_{VJM}$ $V_R=0$	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	490625 500000	
T_{VJ} T_{VJM} T_{stg}			-40...+130 130 -40...+130	^oC
V_{ISOL}	50/60Hz, RMS $I_{ISOL}\leq 1mA$	t=1min t=1s	3000 3600	V~
M_d	Mounting torque (M6) Terminal connection torque (M6)		5±15%/44±15% 9±15%/80±15%	Nm/lb.in.
Weight	Typical including screws		940	g

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Diode-Diode Modules

Symbol	Test Conditions	Characteristic Values	Unit
I_R	$T_{VJ}=T_{VJM}$; $V_R=V_{RRM}$	15	mA
V_F	I_F=750A; T_{VJ}=25°C	1.25	V
V_{TO}	For power-loss calculations only	0.90	V
r_T	$T_{VJ}=T_{VJM}$	0.37	mΩ
Q_S		-	uC
I_{RM}		-	A
R_{thJC}	per diode; DC current per module	0.14 0.07	°C/W
R_{thCH}	per diode; DC current per module	0.04 0.02	°C/W
d_S	Creepage distance on surface	12.7	mm
d_A	Strike distance through air	9.6	mm
a	Maximum allowable acceleration	50	m/s^2

FEATURES

* International standard package
* Copper base plate with inter-DCB
* Planar passivated chips
* Isolation voltage 3600 V~

APPLICATIONS

* Supplies for DC power equipment
* DC supply for PWM inverter
* Field supply for DC motors
* Battery DC power supplies

ADVANTAGES

* Space and weight savings
* Simple mounting
* Improved temperature and power cycling
* Reduced protection circuits

SDD253

Diode-Diode Modules

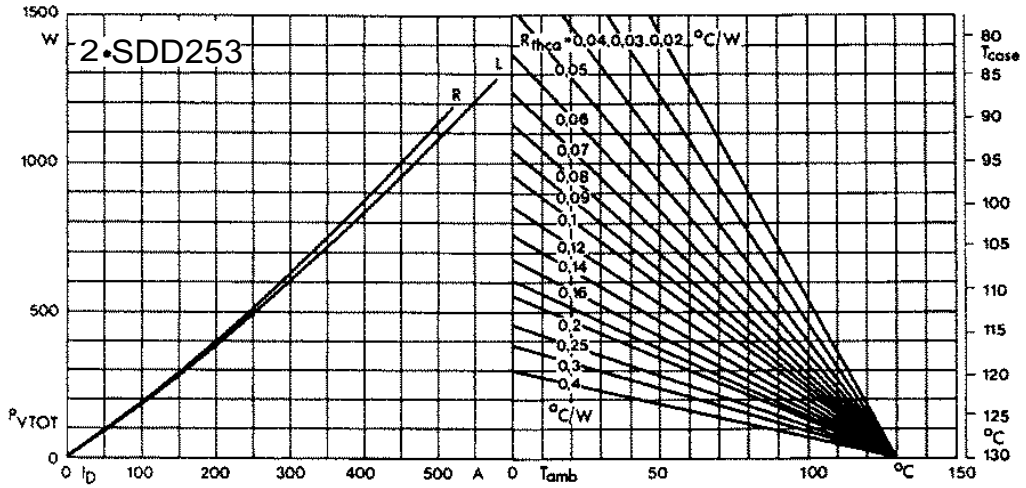

Fig. 1 Power dissipation of two modules vs. direct current and case temperature

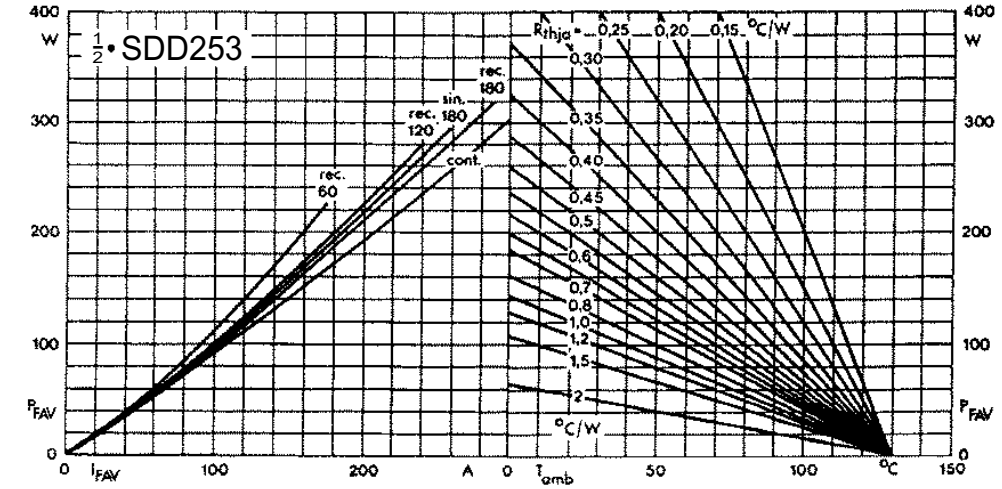

Fig. 2 Power dissipation per diode vs. forward current and ambient temperature

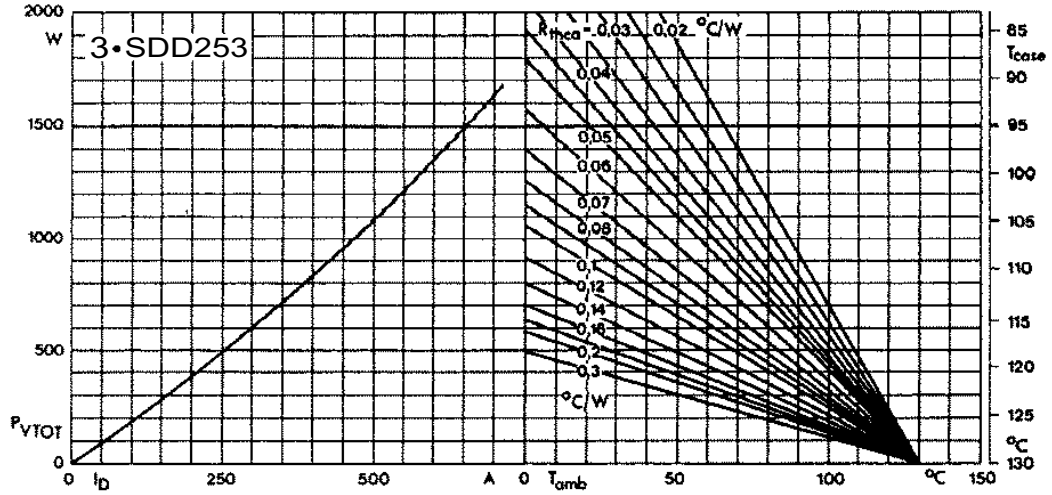

Fig. 3 Power dissipation of three modules vs. direct current and case temperature

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Diode-Diode Modules

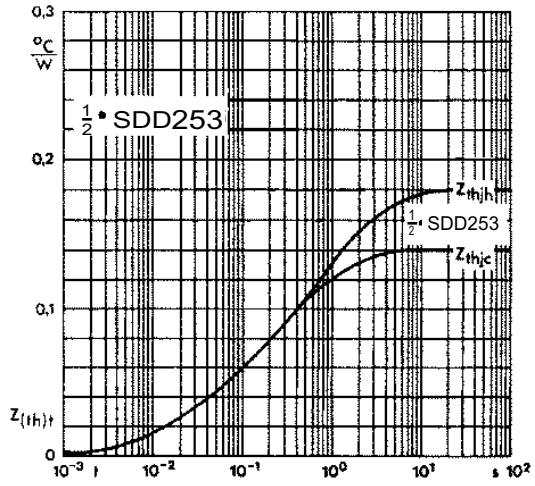

Fig. 4 Transient thermal impedance vs. time

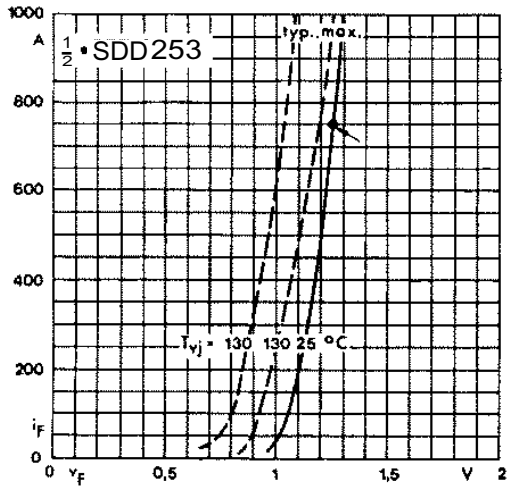

Fig. 5 Forward characteristics

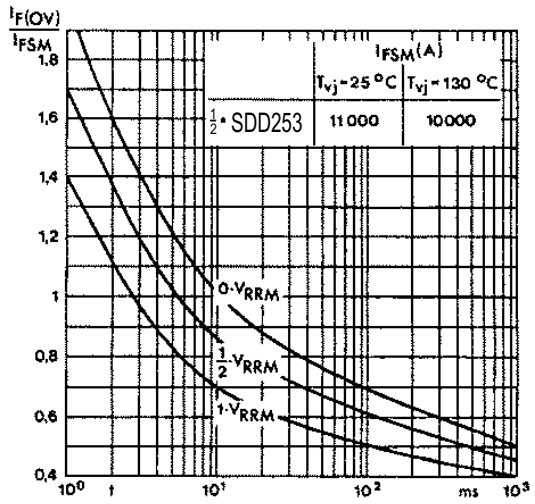

Fig. 6 Surge overload current vs. time