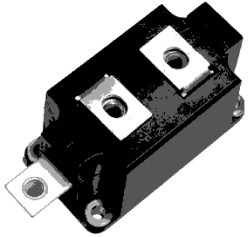


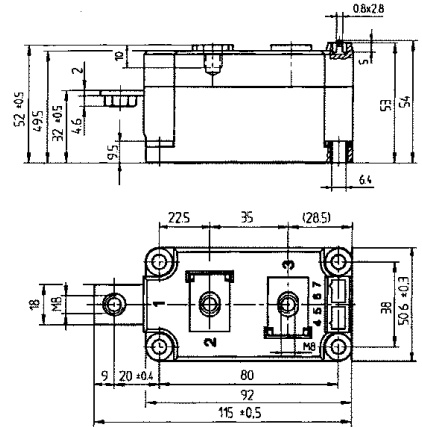
SDD253

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}	$T_{VJ}=T_{VJM}$ $T_C=100^{\circ}C$; 180° sine		400 253	A
I_{FSM}	$T_{VJ}=45^{\circ}C$ $V_R=0$	$t=10ms$ (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	
$\int i^2 dt$	$T_{VJ}=45^{\circ}C$ $V_R=0$	$t=10ms$ (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	$^{\circ}C$
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

SDD253

Diode-Diode Modules

Symbol	Test Conditions	Characteristic Values	Unit
I_R	$T_{VJ}=T_{VJM}; V_R=V_{RRM}$	15	mA
V_F	$I_F=750A; T_{VJ}=25^{\circ}C$	1.25	V
V_{TO}	For power-loss calculations only	0.90	V
r_T	$T_{VJ}=T_{VJM}$	0.37	m Ω
Q_s		-	μC
I_{RM}		-	A
R_{thJC}	per diode; DC current	0.14	$^{\circ}C/W$
	per module	0.07	
R_{thCH}	per diode; DC current	0.04	$^{\circ}C/W$
	per module	0.02	
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

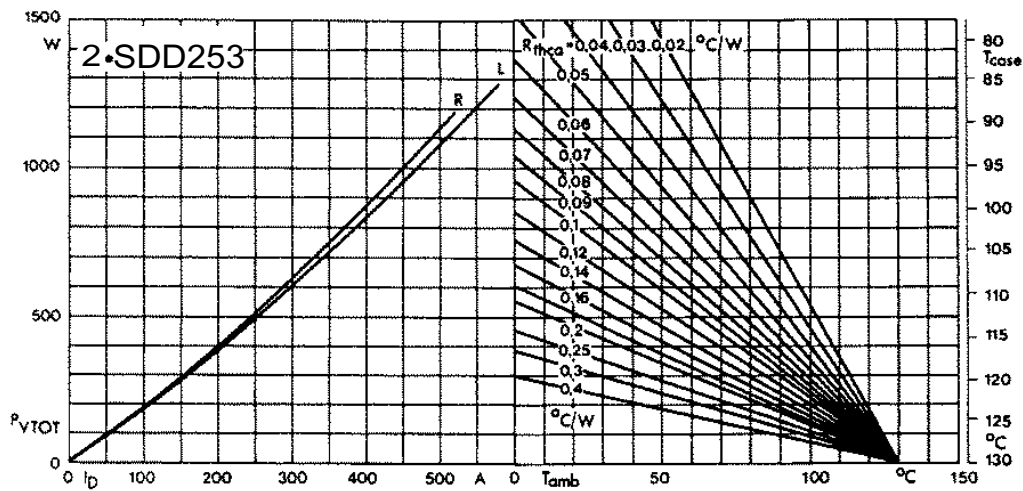


Fig. 1 Power dissipation of two modules vs. direct current and case temperature

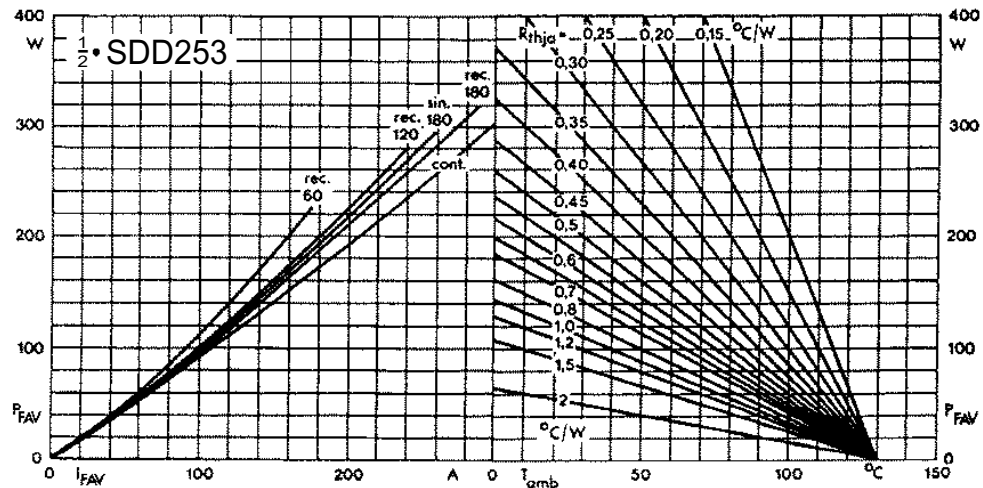


Fig. 2 Power dissipation per diode vs. forward current and ambient temperature

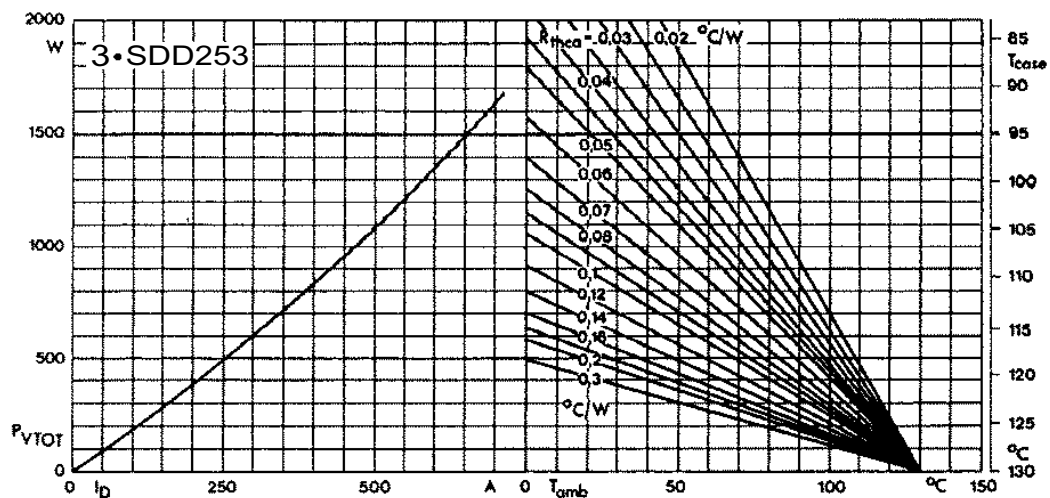


Fig. 3 Power dissipation of three modules vs. direct current and case temperature

SDD253

Diode-Diode Modules

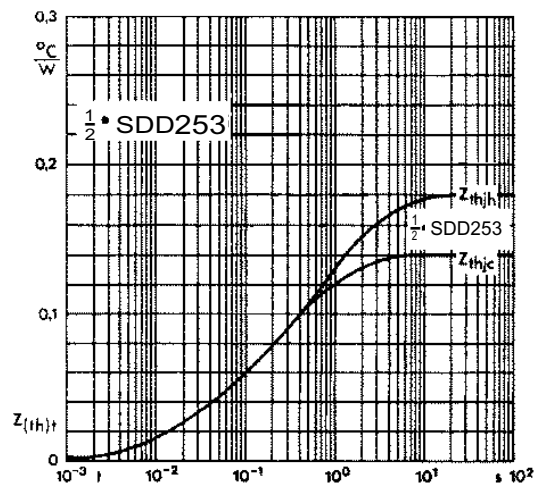


Fig. 4 Transient thermal impedance vs. time

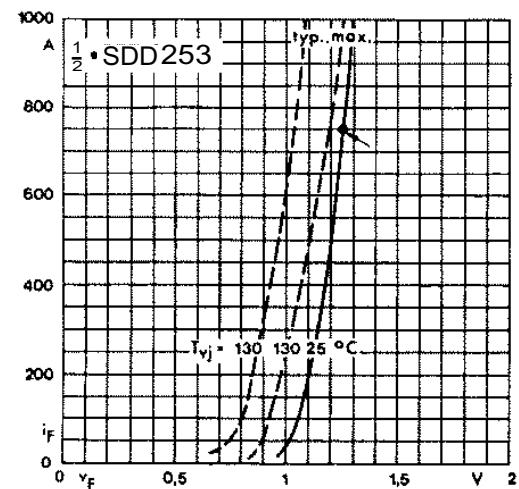


Fig. 5 Forward characteristics

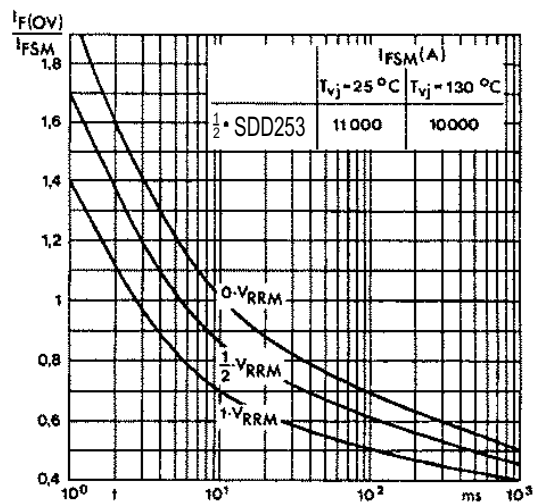


Fig. 6 Surge overload current vs. time