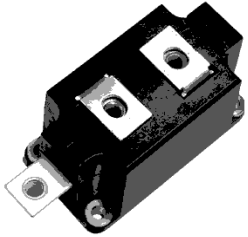


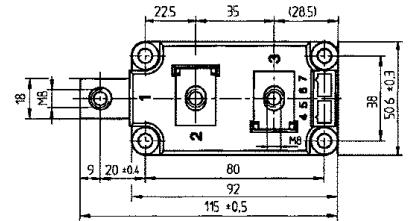
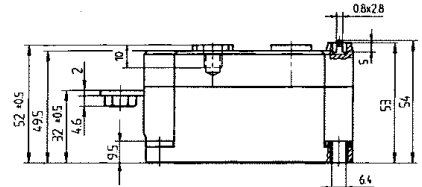
# SDD253

## 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 <sup>2</sup> s
	$T_{VJ}=T_{VJM}$ $V_R=0$ t=10ms(50Hz), sine t=8.3ms(60Hz), sine	490625 500000	
$T_{VJ}$ $T_{VJM}$ $T_{stg}$		-40...+130 130 -40...+130	°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
<b>I<sub>R</sub></b>	$T_{VJ}=T_{VJM}; V_R=V_{RRM}$	15	mA
<b>V<sub>F</sub></b>	$I_F=750A; T_{VJ}=25^{\circ}C$	1.25	V
<b>V<sub>TO</sub></b>	For power-loss calculations only	0.90	V
<b>r<sub>T</sub></b>	$T_{VJ}=T_{VJM}$	0.37	m $\Omega$
<b>Q<sub>S</sub></b>		-	$\mu$ C
<b>I<sub>RM</sub></b>		-	A
<b>R<sub>thJC</sub></b>	per diode; DC current per module	0.14 0.07	$^{\circ}C/W$
<b>R<sub>thCH</sub></b>	per diode; DC current per module	0.04 0.02	$^{\circ}C/W$
<b>ds</b>	Creepage distance on surface	12.7	mm
<b>dA</b>	Strike distance through air	9.6	mm
<b>a</b>	Maximum allowable acceleration	50	m/s <sup>2</sup>

### 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

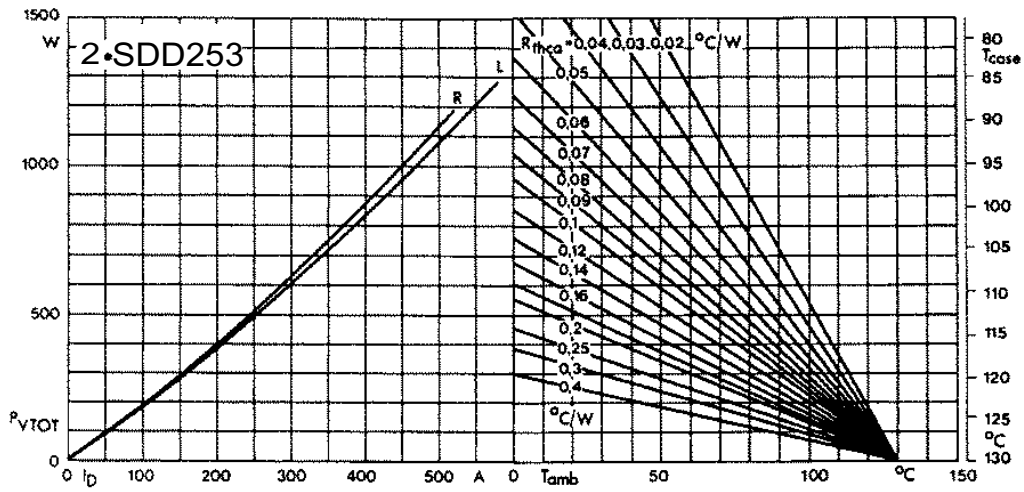


Fig. 1 Power dissipation of two modules vs. direct current and case temperature

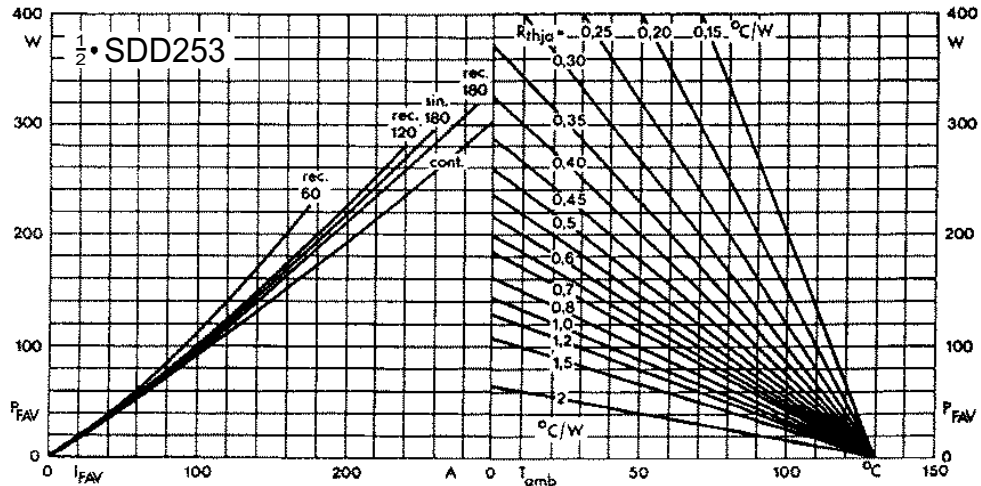


Fig. 2 Power dissipation per diode vs. forward current and ambient temperature

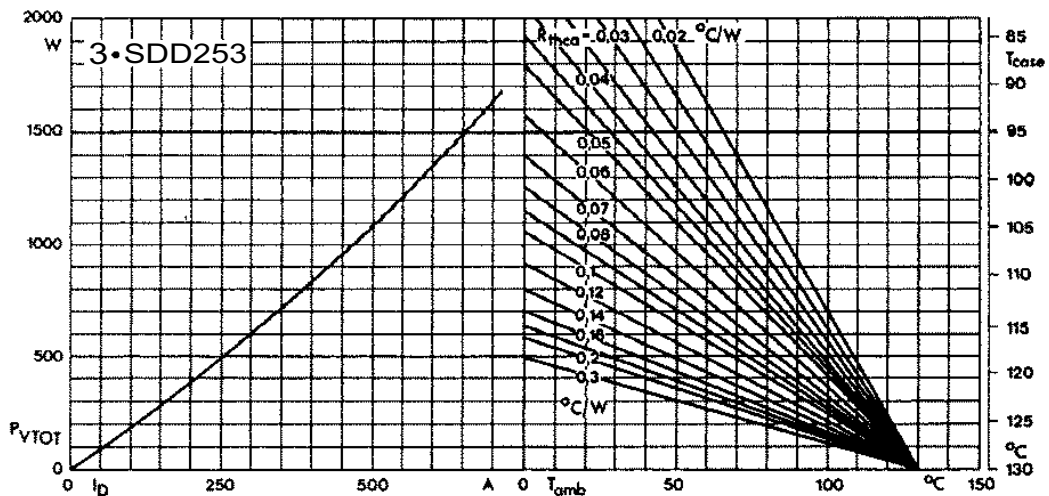


Fig. 3 Power dissipation of three modules vs. direct current and case temperature

# SDD253

## Diode-Diode Modules

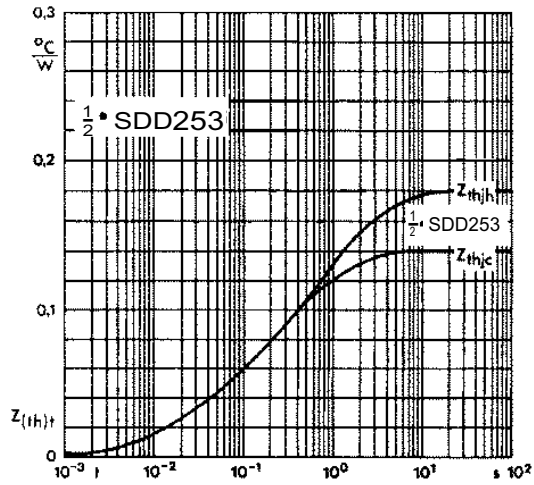


Fig. 4 Transient thermal impedance vs. time

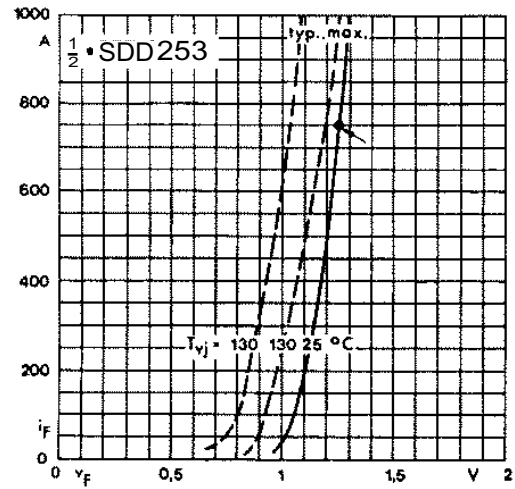


Fig. 5 Forward characteristics

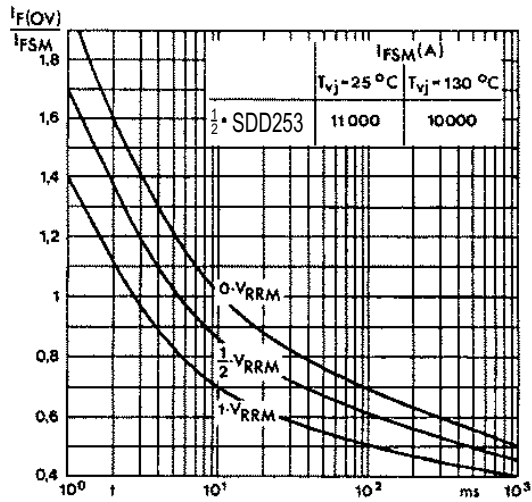


Fig. 6 Surge overload current vs. time