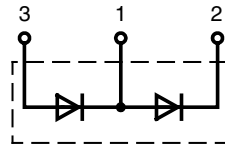


High Power Diode Modules

Preliminary data

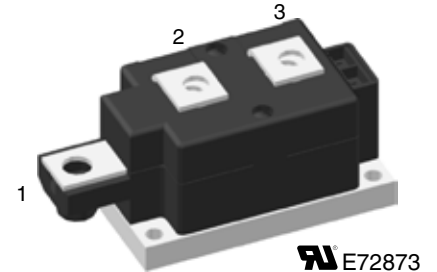
V_{RSM} V	V_{RRM} V	Type
2900	2800	MDD 175-28N1
3500	3400	MDD 175-34N1



$$I_{FRMS} = 2x 564 A$$

$$I_{FAVM} = 2x 177 A$$

$$V_{RRM} = 2800-3400 V$$



Symbol	Conditions	Maximum Ratings
I_{FRMS}	$T_{VJ} = T_{VJM}$	$T_C = 25^\circ C$ 564 A
I_{FAVM}	180° sine	$T_C = 100^\circ C$ 177 A
I_{FSM}	$T_{VJ} = 45^\circ C$; $t = 10$ ms (50 Hz)	4500 A
	$V_R = 0$; $t = 8.3$ ms (60 Hz)	4800 A
	$T_{VJ} = T_{VJM}$; $t = 10$ ms (50 Hz)	3900 A
	$V_R = 0$; $t = 8.3$ ms (60 Hz)	4200 A
I^2t	$T_{VJ} = 45^\circ C$; $t = 10$ ms (50 Hz)	101250 A ² s
	$V_R = 0$; $t = 8.3$ ms (60 Hz)	97000 A ² s
	$T_{VJ} = T_{VJM}$; $t = 10$ ms (50 Hz)	76000 A ² s
	$V_R = 0$; $t = 8.3$ ms (60 Hz)	74000 A ² s
T_{VJ}		-40...+140 °C
T_{VJM}		140 °C
T_{stg}		-40...+125 °C
V_{ISOL}	50/60 Hz, RMS $t = 1$ min	3000 V~
	$I_{ISOL} \leq 1$ mA $t = 1$ s	3600 V~
M_d	Mounting torque (M6)	4.5 - 7 Nm
	Terminal connection torque (M8)	11-13 Nm
Weight	Typical including screws	750 g

Features

- International standard package
- Direct Copper Bonded Al₂O₃ ceramic with copper base plate
- Planar passivated chips
- Isolation voltage 3600 V~
- UL registered

Applications

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

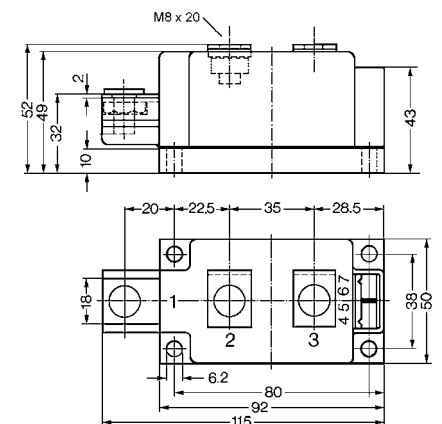
Advantages

- Simple mounting
- Improved temperature & power cycling
- Reduced protection circuits

Symbol	Conditions	Characteristics Values
I_{RRM}	$V_R = V_{RRM}$ $T_{VJ} = T_{VJM}$	5 mA
V_F	$I_F = 300$ A; $T_{VJ} = 25^\circ C$	1.25 V
V_{T0}	For power-loss calculations only	0.9 V
r_t	$T_{VJ} = T_{VJM}$	1.4 mΩ
R_{thJC}	per diode; DC current	0.14 K/W
	per module	0.07 K/W
R_{thJK}	per diode; DC current	0.18 K/W
	per module	0.09 K/W
Q_S	$I_F = 400$ A; $-di/dt = 50$ A/μs; $T_{VJ} = 125^\circ C$	tbd μC
I_{RM}		tbd A
d_s	Creeping distance on surface	12.7 mm
d_A	Creepage distance in air	9.6 mm
a	Maximum allowable acceleration	50 m/s ²

Data according to IEC 60747 and refer to a single diode unless otherwise stated.

Dimensions in mm (1 mm = 0.0394")



Optional accessories for modules
 Keyed Gate/Cathode twin plugs with wire length = 350 mm, gate = yellow, cathode = red
 Type ZY 180 L (L = Left for pin pair 4/5) } UL 758, style 1385.
 Type ZY 180 R (R = Right for pin pair 6/7) } CSA class 5851, guide 460-1-1

IXYS reserves the right to change limits, test conditions and dimensions.

20091110d

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