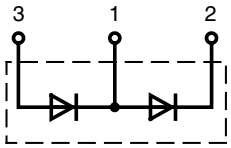
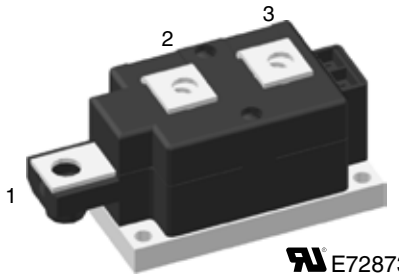
High Power Diode Modules

Preliminary data

I_{FRMS} = 2x 564 A
I_{FAVM} = 2x 177 A
V_{RRM} = 2800-3400 V

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





Symbol	Conditions			Maximum Ratings	
I_{FRMS}	$T_{VJ} = T_{VJM}$		T_C = 25°C	564	A
I_{FAVM}	180° sine		T_C = 100°C	177	A
I_{FSM}	T_{VJ} = 45°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°C;	t = 10 ms	(50 Hz)	101250	A^2s
	V_R = 0	t = 8.3 ms	(60 Hz)	97000	A^2s
	$T_{VJ} = T_{VJM}$;	t = 10 ms	(50 Hz)	76000	A^2s
	V_R = 0	t = 8.3 ms	(60 Hz)	74000	A^2s
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

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°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	other values	0.14	K/W
	per module	see MCC 255	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°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.

Features

- International standard package
- Direct Copper Bonded Al_2O_3 ceramic with copper base plate
- Planar passivated chips
- Isolation voltage 3600 V~
- UL registered

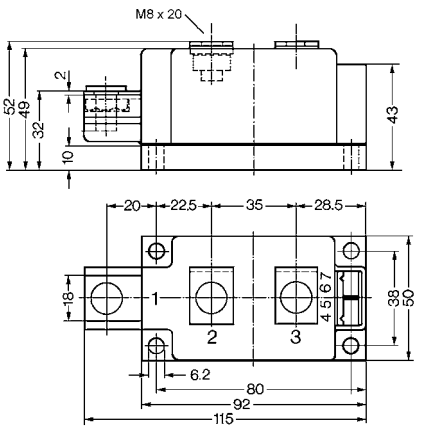
Applications

- 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

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.

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