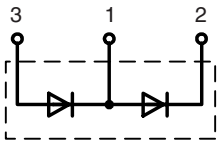
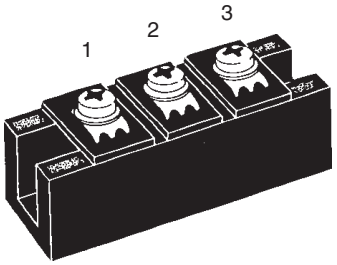
High Power Diode Modules

Preliminary data

I_{FRMS} = 2x350 A
I_{FAVM} = 2x224 A
V_{RRM} = 1400-1800 V

V_{RSM} V	V_{RRM} V	Type
1500	1400	MDD 200-14N1
1700	1600	MDD 200-16N1
1900	1800	MDD 200-18N1





Symbol	Conditions		Maximum Ratings	
I_{FRMS}	$T_{VJ} = T_{VJM}$		350	A
I_{FAVM}	T_C = 100°C; 180° sine		224	A
I_{FSM}	T_{VJ} = 45°C;	t = 10 ms (50 Hz), sine	10500	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	11200	A
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	9100	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	9700	A
I^2dt	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	551000	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	527000	A^2s
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	414000	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	395000	A^2s
T_{VJ}			-40...+150	°C
T_{VJM}			150	°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)		2.25-2.75/20-25	Nm/lb.in.
	Terminal connection torque (M6)		4.5-5.5/40-48	Nm/lb.in.
Weight	Typical including screws		120	g

Symbol	Conditions	Characteristic Values	
I_R	$T_{VJ} = T_{VJM}$; $V_R = V_{RRM}$	20	mA
V_F	I_F = 300 A; T_{VJ} = 25°C	1.3	V
V_{T0}	For power-loss calculations only	0.8	V
r_T	$T_{VJ} = T_{VJM}$	1.5	mΩ
Q_S	T_{VJ} = 125°C; I_F = 300 A, -di/dt = 50 A/µs	625	µC
I_{RM}		275	A
R_{thJC}	per diode; DC current	0.13	K/W
	per module	0.065	K/W
R_{thJK}	per diode; DC current	0.23	K/W
	per module	0.115	K/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

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 base plate
- Planar passivated chips
- Isolation voltage 3600 V~

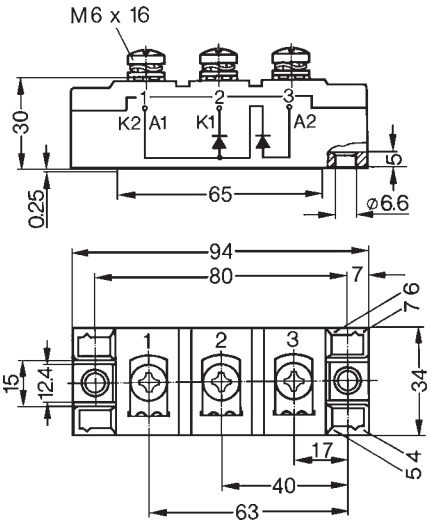
Applications

- 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

Dimensions in mm (1 mm = 0.0394")



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

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