阅读申明

1. 本站收集的数据手册和产品资料都来自互联网，版权归原作者所有。如读者和版权方有任何异议请及时告之，我们将妥善解决。
2. 本站提供的中文数据手册是英文数据手册的中文翻译，其目的是协助用户阅读，该译文无法自动跟随原稿更新，同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
3. 本站提供的产品资料，来自厂商的技术支持或者使用者的心得体会等，其内容可能存在描叙上的差异，建议读者做出适当判断。
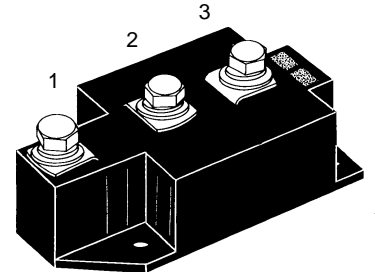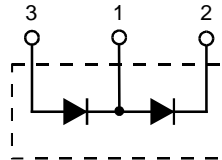4. 如需与我们联系，请发邮件到marketing@iczoom.com，主题请标有"数据手册"字样。

Read Statement

High Power Diode Modules

I_{FRMS} = 2x 480 A
I_{FAVM} = 2x 305 A
V_{RRM} = 800-2200 V

V_{RSM} V	V_{RRM} V	Type
900	800	MDD 310-08N1
1300	1200	MDD 310-12N1
1500	1400	MDD 310-14N1
1700	1600	MDD 310-16N1
2100	2000	MDD 310-20N1
2300	2200	MDD 310-22N1

Symbol	Test Conditions		Maximum Ratings	
I_{FRMS}	$T_{VJ} = T_{VJM}$		480	A
I_{FAVM}	$T_C = 100°C$; 180° sine		305	A
I_{FSM}	$T_{VJ} = 45°C$;	t = 10 ms (50 Hz), sine	11 500	A
	$V_R = 0$	t = 8.3 ms (60 Hz), sine	12 200	A
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	9 600	A
	$V_R = 0$	t = 8.3 ms (60 Hz), sine	10 200	A
$\int i^2 dt$	$T_{VJ} = 45°C$	t = 10 ms (50 Hz), sine	662 000	A^2s
	$V_R = 0$	t = 8.3 ms (60 Hz), sine	620 000	A^2s
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	460 000	A^2s
	$V_R = 0$	t = 8.3 ms (60 Hz), sine	430 000	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 (M5)		2.5-5/22-44	Nm/lb.in.
	Terminal connection torque (M8)		12-15/106-132	Nm/lb.in.
Weight	Typical including screws		320	g

Symbol	Test Conditions	Characteristic Values	
I_{RRM}	$T_{VJ} = T_{VJM}$; $V_R = V_{RRM}$	40	mA
V_F	$I_F = 600$ A; $T_{VJ} = 25°C$	1.2	V
V_{T0}	For power-loss calculations only	0.75	V
r_T	$T_{VJ} = T_{VJM}$	0.63	mΩ
R_{thJC}	per diode; DC current	0.129	K/W
	per module	0.065	K/W
R_{thJK}	per diode; DC current	0.169	K/W
	per module	0.0845	K/W
Q_S	$T_{VJ} = 125°C$, $I_F = 400$ A; -di/dt = 50 A/μs	760	μC
I_{RM}		275	A
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

(R_thJC / R_thJK: "other values see Fig. 6/7")

Data according to IEC 60747 and refer to a single diode unless otherwise stated.
IXYS reserves the right to change limits, test conditions and dimensions

Features
- Direct copper bonded Al_2O_3-ceramic base plate
- Planar passivated chips
- Isolation voltage 3600 V~
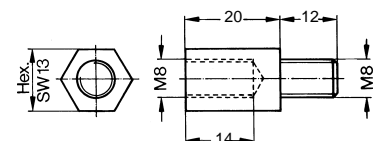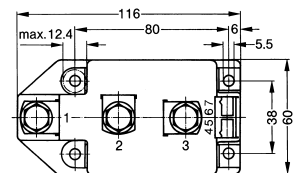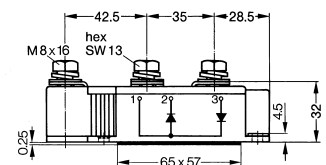- UL registered, E 72873

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")

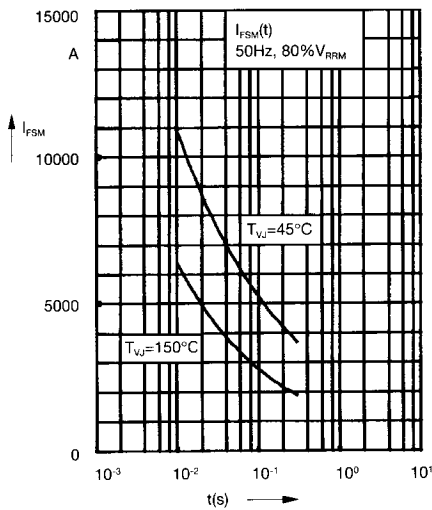Threaded spacer for higher Anode/Cathode construction: Type **ZY 250**, material brass

936

Fig. 1 Surge overload current
I_{FSM}: Crest value, t: duration
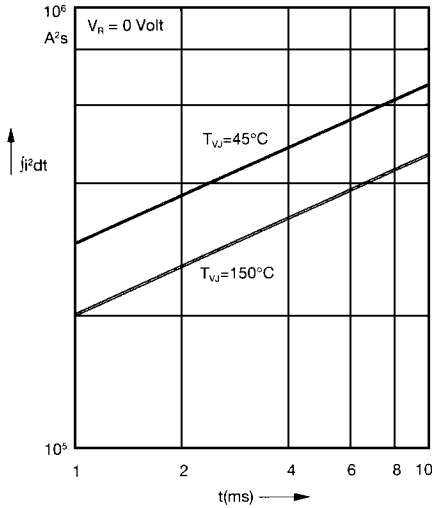

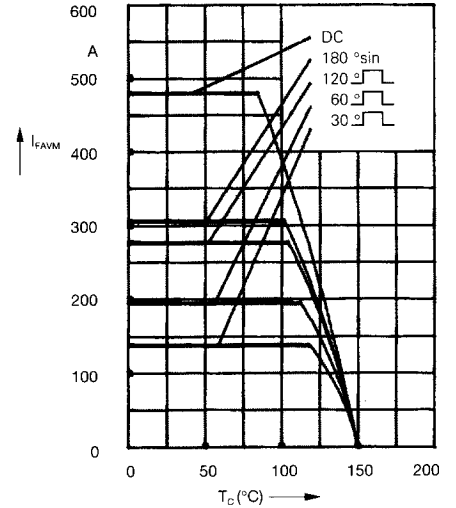Fig. 2 ∫i²dt versus time (1-10 ms)

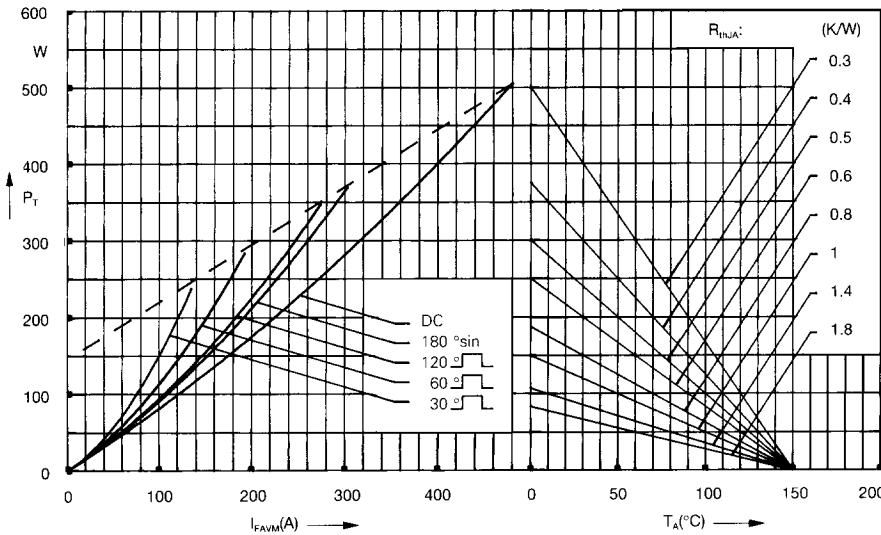Fig. 2a Maximum forward current at case temperature

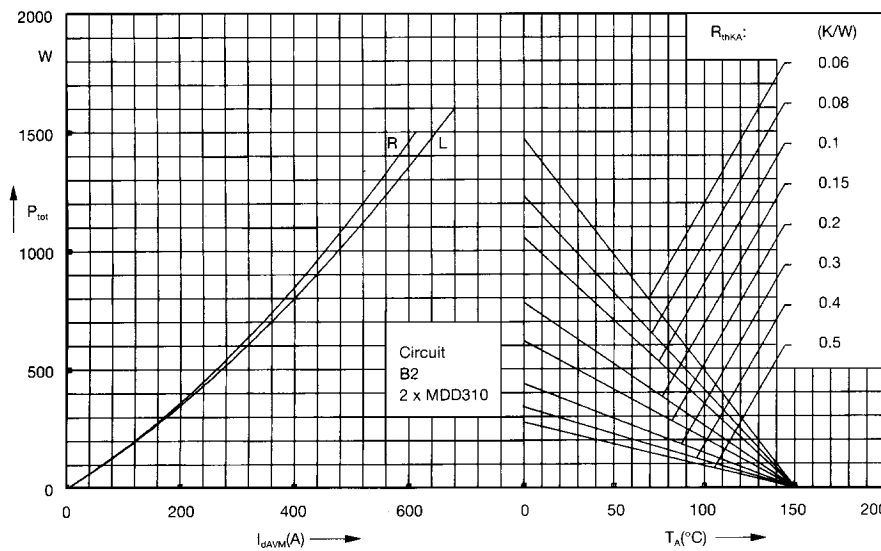Fig. 3 Power dissipation versus forward current and ambient temperature (per diode)

Fig. 4 Single phase rectifier bridge: Power dissipation versus direct output current and ambient temperature
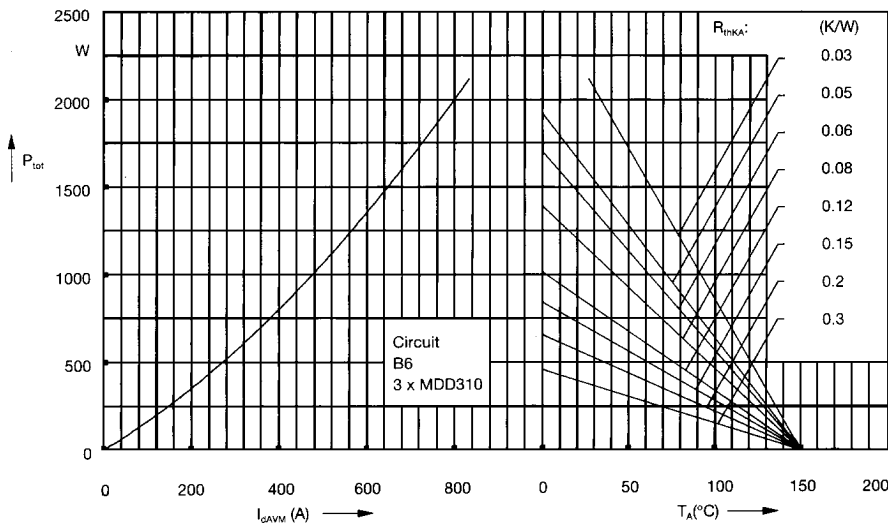R = resistive load
L = inductive load

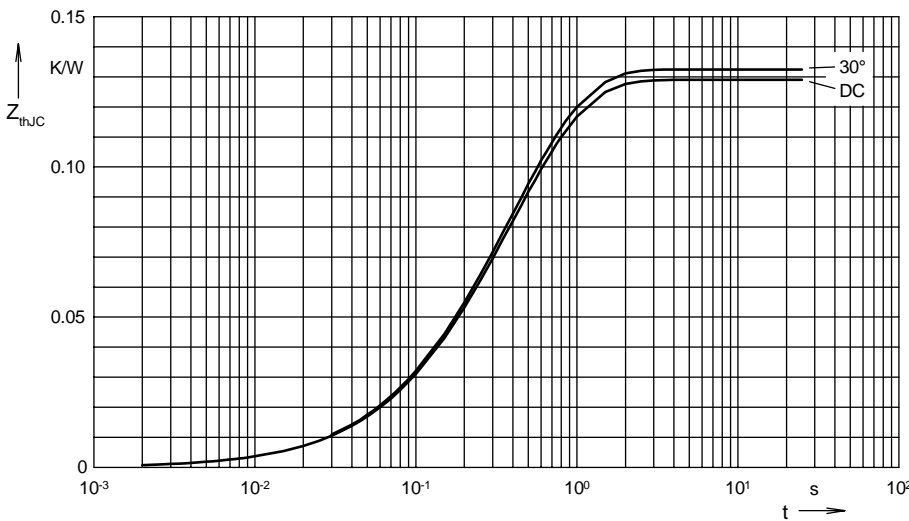Fig. 5 Three phase rectifier bridge: Power dissipation versus direct output current and ambient temperature

Fig. 6 Transient thermal impedance junction to case (per diode)

R_{thJC} for various conduction angles d:

d	R_{thJC} (K/W)
DC	0.129
180°	0.131
120°	0.132
60°	0.132
30°	0.133

Constants for Z_{thJC} calculation:

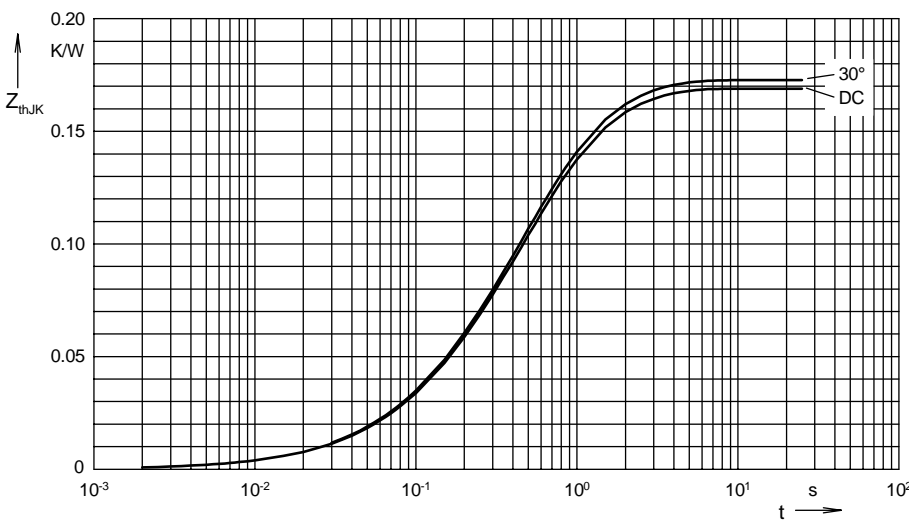| i	R_{thi} (K/W)	t_i (s)
1	0.0035	0.0099
2	0.0165	0.168
3	0.1091	0.456

Fig. 7 Transient thermal impedance junction to heatsink (per diode)

R_{thJK} for various conduction angles d:

d	R_{thJK} (K/W)
DC	0.169
180°	0.171
120°	0.172
60°	0.172
30°	0.173

Constants for Z_{thJK} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.0035	0.0099
2	0.0165	0.168
3	0.1091	0.456
4	0.04	1.36

838