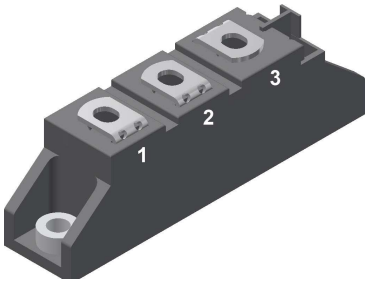
Standard Rectifier Module

V_{RRM}	=	2x 1200 V
I_{FAV}	=	85 A
V_F	=	1.1 V

Phase leg

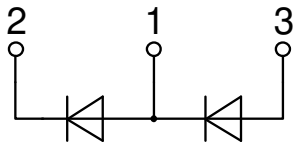
Part number

MDMA85P1200TG



Backside: isolated

E72873



Features / Advantages:

- Package with DCB ceramic
- Improved temperature and power cycling
- Planar passivated chips
- Very low forward voltage drop
- Very low leakage current

Applications:

- Diode for main rectification
- For single and three phase bridge configurations
- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

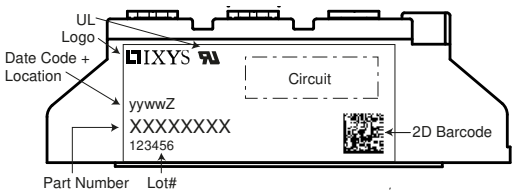
Package: TO-240AA

- Isolation Voltage: 4800 V~
- Industry standard outline
- RoHS compliant
- Height: 30 mm
- Base plate: DCB ceramic
- Reduced weight
- Advanced power cycling

Rectifier

Symbol	Definition	Conditions		Ratings min.	typ.	max.	Unit
V_{RSM}	*max. non-repetitive reverse blocking voltage*		T_{VJ} = 25°C			1300	V
V_{RRM}	*max. repetitive reverse blocking voltage*		T_{VJ} = 25°C			1200	V
I_R	*reverse current*	V_R = 1200 V	T_{VJ} = 25°C			100	µA
		V_R = 1200 V	T_{VJ} = 150°C			2	mA
V_F	*forward voltage drop*	I_F = 85 A	T_{VJ} = 25°C			1.15	V
		I_F = 170 A				1.38	V
		I_F = 85 A	T_{VJ} = 125°C			1.10	V
		I_F = 170 A				1.39	V
I_{FAV}	*average forward current*	T_C = 100°C	T_{VJ} = 150°C			85	A
		rectangular d = 0.5					
V_{F0}	*threshold voltage* } *for power loss calculation only*		T_{VJ} = 150°C			0.79	V
r_F	*slope resistance* }					3.5	mΩ
R_{thJC}	*thermal resistance junction to case*					0.35	K/W
R_{thCH}	*thermal resistance case to heatsink*				0.2		K/W
P_{tot}	*total power dissipation*		T_C = 25°C			350	W
I_{FSM}	*max. forward surge current*	t = 10 ms; (50 Hz), sine	T_{VJ} = 45°C			1.50	kA
		t = 8,3 ms; (60 Hz), sine	V_R = 0 V			1.62	kA
		t = 10 ms; (50 Hz), sine	T_{VJ} = 150°C			1.28	kA
		t = 8,3 ms; (60 Hz), sine	V_R = 0 V			1.38	kA
I^2t	*value for fusing*	t = 10 ms; (50 Hz), sine	T_{VJ} = 45°C			11.3	kA²s
		t = 8,3 ms; (60 Hz), sine	V_R = 0 V			10.9	kA²s
		t = 10 ms; (50 Hz), sine	T_{VJ} = 150°C			8.13	kA²s
		t = 8,3 ms; (60 Hz), sine	V_R = 0 V			7.87	kA²s
C_J	*junction capacitance*	V_R = 400 V; f = 1 MHz	T_{VJ} = 25°C		60		pF

Package TO-240AA					Ratings			
Symbol	**Definition**	**Conditions**			**min.**	**typ.**	**max.**	**Unit**
I_{RMS}	*RMS current*	per terminal					200	A
T_{VJ}	*virtual junction temperature*				-40		150	°C
T_{op}	*operation temperature*				-40		125	°C
T_{stg}	*storage temperature*				-40		125	°C
Weight						76		g
M_D	*mounting torque*				2.5		4	Nm
M_T	*terminal torque*				2.5		4	Nm
$d_{Spp/App}$	*creepage distance on surface | striking distance through air*		*terminal to terminal*	13.0	9.7			mm
$d_{Spb/Apb}$			*terminal to backside*	16.0	16.0			mm
V_{ISOL}	*isolation voltage*	t = 1 second	50/60 Hz, RMS; I_{ISOL} ≤ 1 mA		4800			V
		t = 1 minute			4000			V



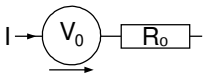
Part description

M = Module
D = Diode
M = Standard Rectifier
A = (up to 1800V)
85 = Current Rating [A]
P = Phase leg
1200 = Reverse Voltage [V]
TG = TO-240AA

Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	MDMA85P1200TG	MDMA85P1200TG	Box	36	513015

Equivalent Circuits for Simulation

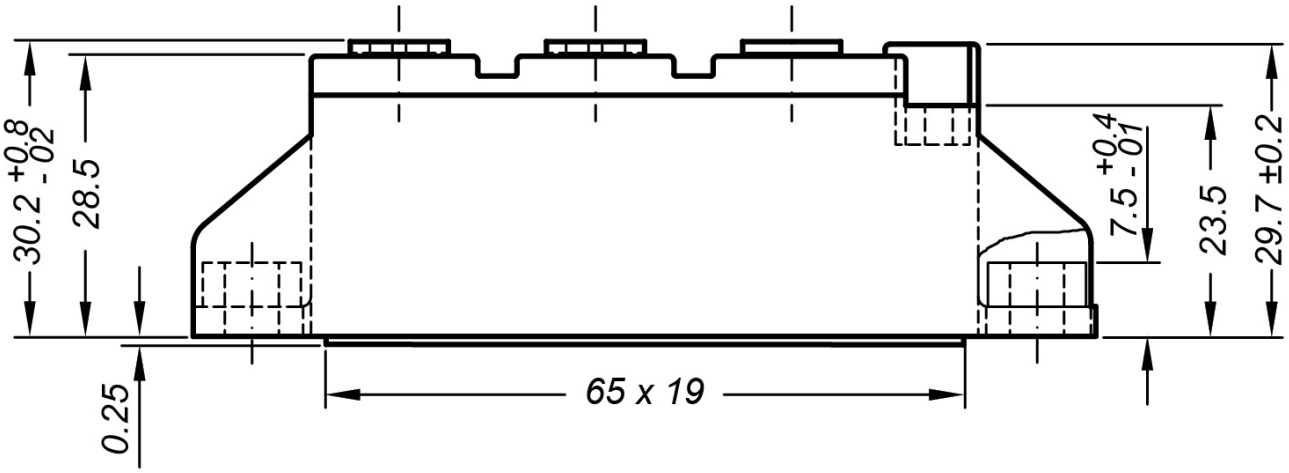
** on die level* T_{VJ} = 150°C



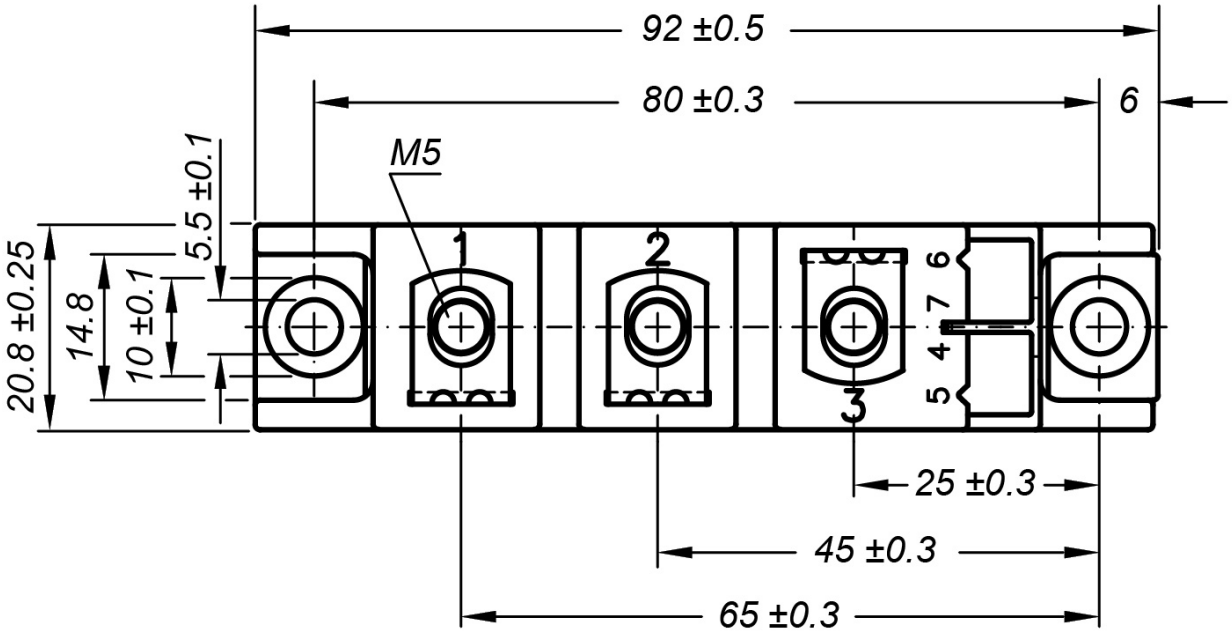
Rectifier

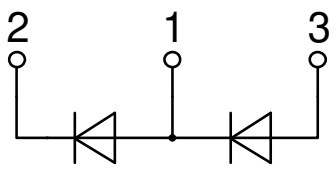
$V_{0\ max}$	*threshold voltage*	0.79	V
$R_{0\ max}$	*slope resistance **	2.3	mΩ

Outlines TO-240AA



General tolerance: DIN ISO 2768 class „c“





Rectifier

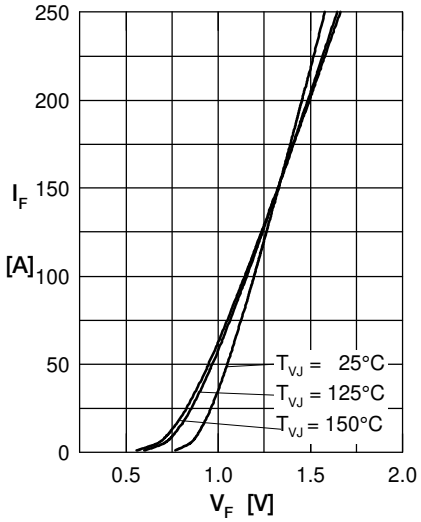


Fig. 1 Forward current versus voltage drop per diode

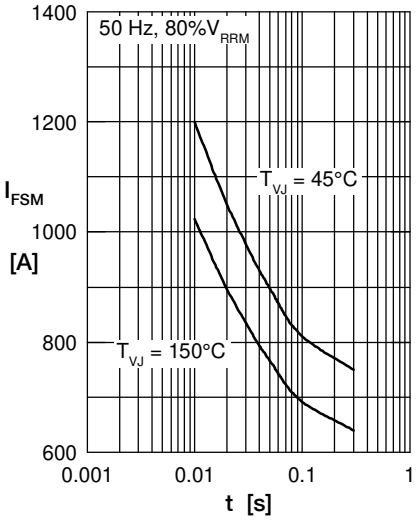


Fig. 2 Surge overload current vs. time per diode

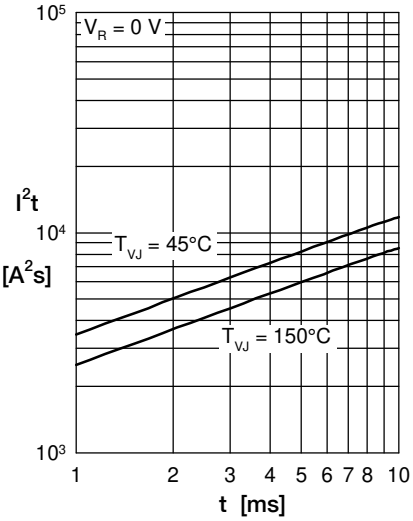


Fig. 3 I^2t versus time per diode

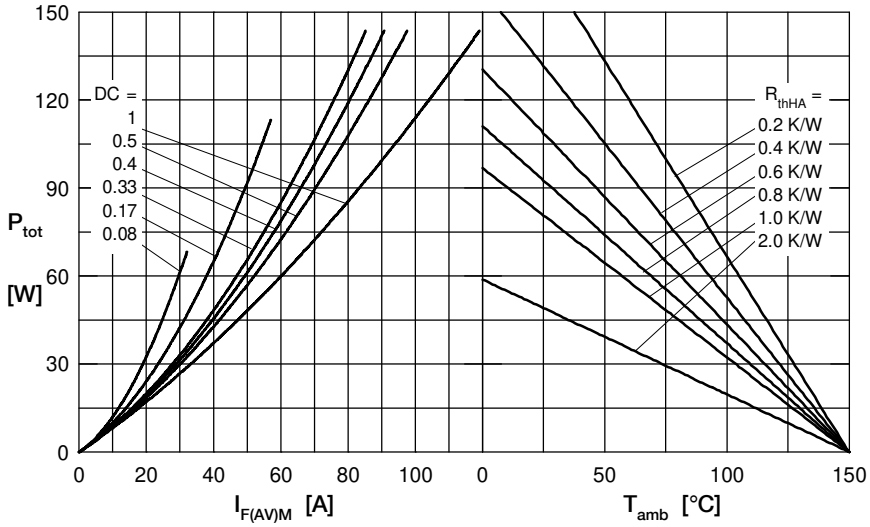


Fig. 4 Power dissipation vs. forward current and ambient temperature per diode

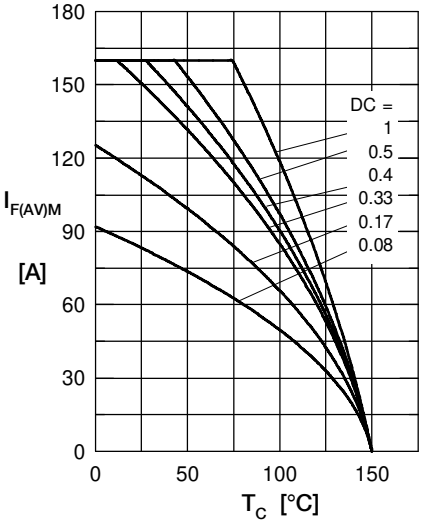


Fig. 5 Max. forward current vs. case temperature per diode

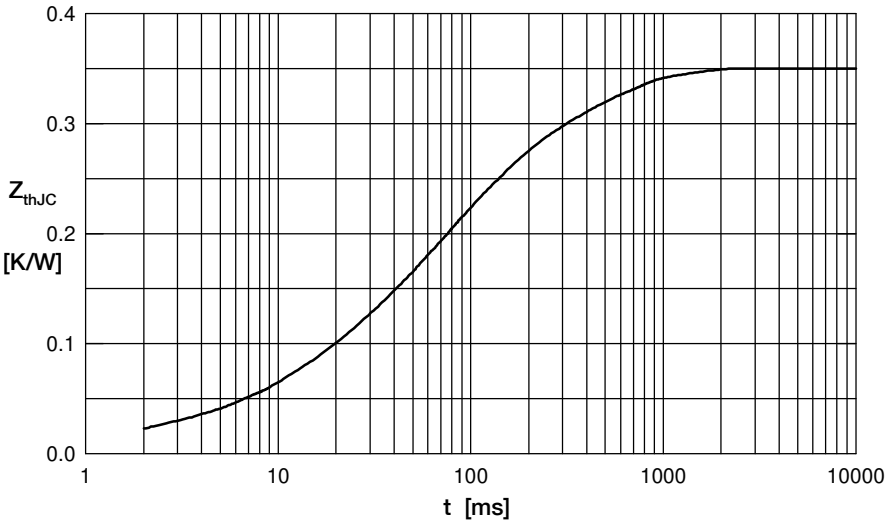


Fig. 6 Transient thermal impedance junction to case vs. time per diode

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.012	0.001
2	0.048	0.013
3	0.185	0.070
4	0.105	0.400

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for SCR Modules ***category:***

Click to view products by IXYS ***manufacturer:***

Other Similar products are found below :

DT430N22KOF T1851N60TOH T420N12TOF T470N16TOF T901N36TOF TD140N18KOF TD162N16KOF-A TD330N16AOF T300N14TOF T3710N06TOF VT T390N16TOF T460N24TOF T590N16TOF TD180N16KOF VSKE236/16PBF T1081N60TOH TT61N08KOF TD430N22KOF TT162N08KOF T2001N34TOF T901N35TOF T1080N02TOF T360N22TOF TZ810N22KOF T420N18TOF T420N14TOF TD305N16KOF T740N26TOF T360N24TOF T430N16TOF T300N16TOF TD520N22KOF TT305N16KOF TT270N16KOF TT190N16SOF TD600N16KOF T740N22TOF T640N12TOF T470N12TOF T360N26TOF NTE5728 ETZ1100N16P70HPSA1 T430N18TOF TD700N22KOFHPSA1 T3441N52TOH T2851N48TOH TD820N16KOFHPSA1 MCD501-16IO2 MCD501-18IO2 SK 100 KQ 12