



Standard Rectifier Module

= 2x 1600 V

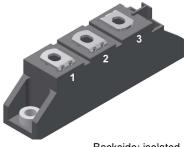
85 A

 V_{F} 1.1 V

Phase leg

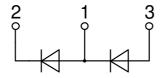
Part number

MDMA85P1600TG



Backside: isolated





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

Disclaimer Notice

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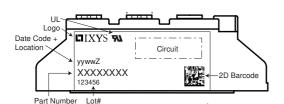


Rectifier				Ratings			
Symbol	Definition	Conditions		min.	typ.	max.	Unit
V _{RSM}	max. non-repetitive reverse bloc	king voltage	$T_{VJ} = 25^{\circ}C$			1700	V
V_{RRM}	max. repetitive reverse blocking	voltage	$T_{VJ} = 25^{\circ}C$			1600	V
I _R	reverse current	V _R = 1600 V	$T_{VJ} = 25^{\circ}C$			100	μΑ
		$V_R = 1600 \text{ V}$	$T_{VJ} = 150$ °C			2	mΑ
V _F	forward voltage drop	I _F = 85 A	$T_{VJ} = 25^{\circ}C$			1.15	V
		$I_F = 170 A$				1.38	٧
		I _F = 85 A	T _{vJ} = 125°C			1.10	٧
		$I_F = 170 A$				1.39	٧
I FAV	average forward current	T _C = 100°C	T _{vJ} = 150°C			85	Α
		rectangular $d = 0.5$					1 1 1 1
V _{F0}	threshold voltage		T _{vJ} = 150°C			0.79	٧
r _F	slope resistance } for power	loss calculation only				3.5	mΩ
R _{thJC}	thermal resistance junction to ca	ase				0.35	K/W
R _{thCH}	thermal resistance case to heats	sink			0.2		K/W
P _{tot}	total power dissipation		$T_{C} = 25^{\circ}C$			350	W
I _{FSM}	max. forward surge current	t = 10 ms; (50 Hz), sine	$T_{VJ} = 45^{\circ}C$			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
l²t	value for fusing	t = 10 ms; (50 Hz), sine	$T_{VJ} = 45^{\circ}C$			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	$V_{B} = 400 \text{ V}; f = 1 \text{ MHz}$	$T_{VJ} = 25^{\circ}C$		60		pF



MDMA85P1600TG

Package	Package TO-240AA			Ratings				
Symbol	Definition	Conditions			min.	typ.	max.	Unit
I _{RMS}	RMS current	per terminal					200	Α
T _{VJ}	virtual junction temperatur	е			-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
$\mathbf{M}_{_{T}}$	terminal torque				2.5		4	Nm
d _{Spp/App}	oroonaga diatanaa an aurf	ace striking distance through air	terminal to terminal	13.0	9.7			mm
$d_{Spb/Apb}$	creepage distance on sum	ace Striking distance through an	terminal to backside	16.0	16.0			mm
V	isolation voltage	t = 1 second	50/60 Hz. BMS: Isor ≤ 1 mA		4800			٧
.002		t = 1 minute			4000			٧



Part description

M = Module

D = Diode
M = Standard Rectifier

A = (up to 1800V) 85 = Current Rating [A]

P = Phase leg

1600 = Reverse Voltage [V]

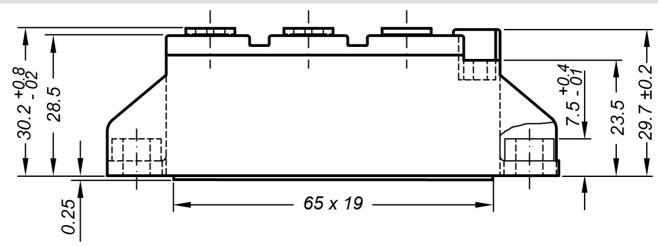
TG = TO-240AA

Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	MDMA85P1600TG	MDMA85P1600TG	Box	36	513008

Equiva	lent Circuits for	Simulation	* on die level	$T_{VJ} = 150$ °C
$I \rightarrow V_0$)—[R_o]-	Rectifier		
V _{0 max}	threshold voltage	0.79		V
$R_{0 max}$	slope resistance *	2.3		$m\Omega$



Outlines TO-240AA



General tolerance: DIN ISO 2768 class "c"

