Standard Rectifier Module

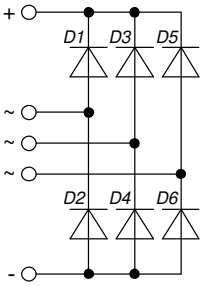
3~ Rectifier		
V_{RRM}	=	800 V
$I_{D\ V}$	=	60
I_{FSM}	=	550

3~ Rectifier Bridge

Part number

VUO62-08NO7

E72873



Features / dvantages:

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

pplications:

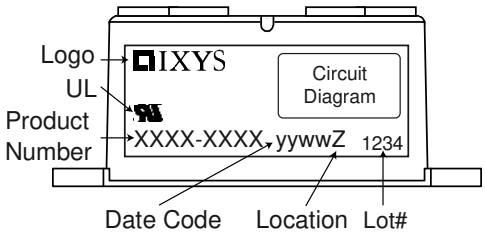
- Diode for main rectification
- For three phase bridge configurations
- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

Package: PWS-D

- Isolation Voltage: 3000 V~
- Industry standard outline
- RoHS compliant
- Easy to mount with two screws
- Base plate: Copper internally DCB isolated
- dvanced power cycling

Rectifier				Ratings			
Symbol	**Definition**	**Conditions**		**min.**	**typ.**	**max.**	**Unit**
V_{RSM}	*max. o -repetitive reverse blocki g voltage*		T_{VJ} = 25°C			900	V
V_{RRM}	*max. repetitive reverse blocki g voltage*		T_{VJ} = 25°C			800	V
I_R	*reverse curre t*	V_R = 800 V	T_{VJ} = 25°C			40	µ
		V_R = 800 V	T_{VJ} = 150°C			1.5	m
V_F	*forward voltage drop*	I_F = 20	T_{VJ} = 25°C			1.07	V
		I_F = 60				1.30	V
		I_F = 20	T_{VJ} = 125°C			0.96	V
		I_F = 60				1.27	V
$I_{D\ v}$	*bridge output curre t*	T_C = 120°C rectangular d = ⅓	T_{VJ} = 150°C			60	
V_{F0}	*threshold voltage* } *for power loss calculatio o ly*		T_{VJ} = 150°C			0.78	V
r_F	*slope resista ce*					8.1	mΩ
R_{thJC}	*thermal resista ce ju ctio to case*					1.1	K/W
R_{thCH}	*thermal resista ce case to heatsi k*				0.4		K/W
P_{tot}	*total power dissipatio*		T_C = 25°C			110	W
I_{FSM}	*max. forward surge curre t*	t = 10 ms; (50 Hz), sine	T_{VJ} = 45°C			550	
		t = 8,3 ms; (60 Hz), sine	V_R = 0 V			595	
		t = 10 ms; (50 Hz), sine	T_{VJ} = 150°C			470	
		t = 8,3 ms; (60 Hz), sine	V_R = 0 V			505	
I^2t	*value for fusi g*	t = 10 ms; (50 Hz), sine	T_{VJ} = 45°C			1.52	k ²s
		t = 8,3 ms; (60 Hz), sine	V_R = 0 V			1.48	k ²s
		t = 10 ms; (50 Hz), sine	T_{VJ} = 150°C			1.11	k ²s
		t = 8,3 ms; (60 Hz), sine	V_R = 0 V			1.06	k ²s
C_J	*ju ctio capacita ce*	V_R = 400 V; f = 1 MHz	T_{VJ} = 25°C		19		pF

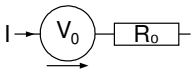
Package PWS-D				Ratings			
Symbol	**Definition**	**Conditions**		**min.**	**typ.**	**max.**	**Unit**
I_{RMS}	*RMS curre t*	per terminal				150	
T_{VJ}	*virtual ju ctio temperature*			-40		150	°C
T_{op}	*operatio temperature*			-40		125	°C
T_{stg}	*storage temperature*			-40		125	°C
Weight					159		g
M_D	*mou ti g torque*			4.25		5.75	Nm
M_T	*termi al torque*			4.25		5.75	Nm
$d_{Spp/pp}$	*creepage dista ce o surface | striki g dista ce through air*		*termi al to termi al*	9.5			mm
$d_{Spb/pb}$			*termi al to backside*	26.0			mm
V_{ISOL}	*isolatio voltage*	t = 1 second	50/60 Hz, RMS; I_{ISOL} ≤ 1 m	3000			V
		t = 1 minute		2500			V



Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	VUO62-08NO7	VUO62-08NO7	Box	10	460443

Equivalent Circuits for Simulation

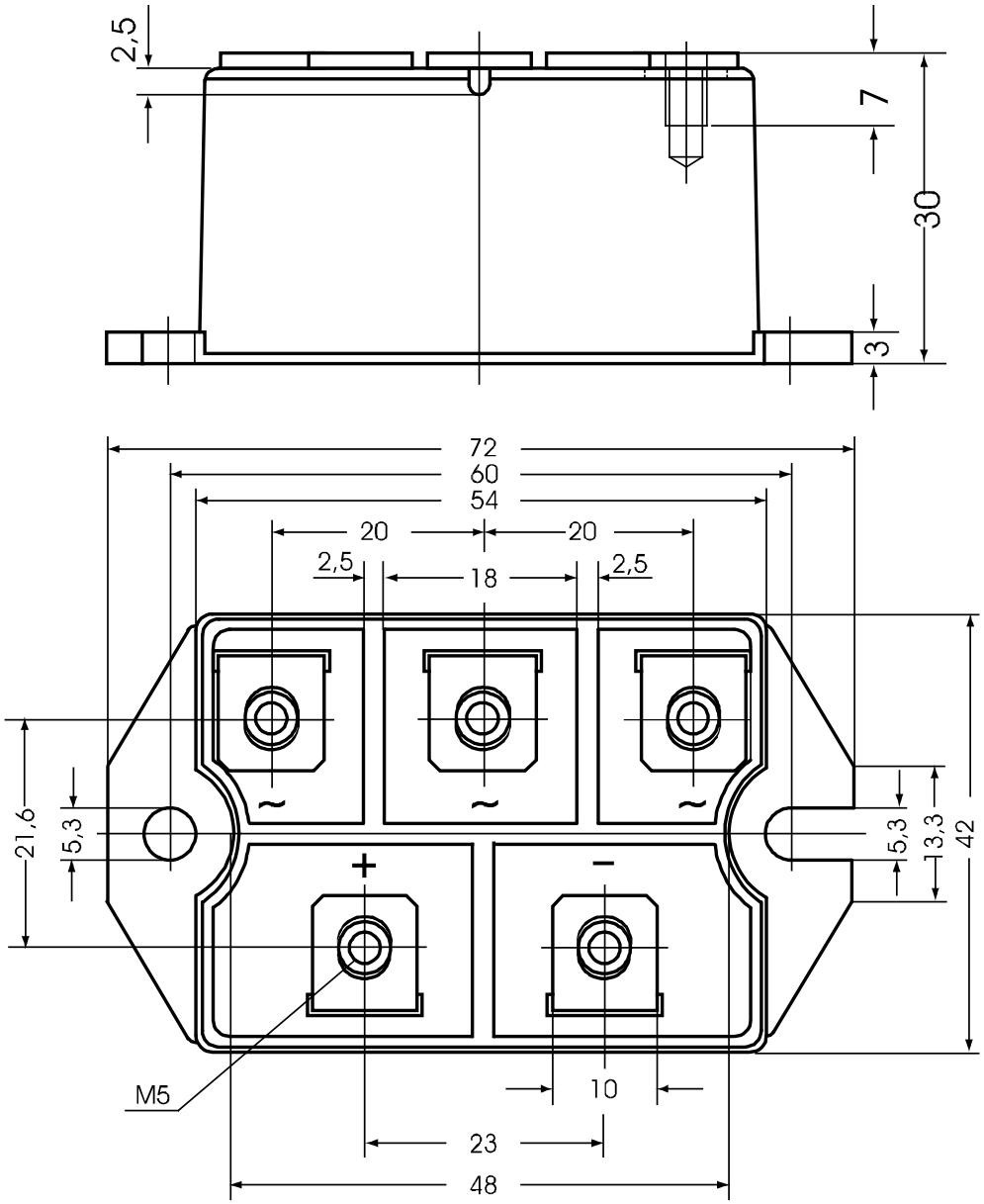
** o die level* T_{VJ} = 150°C

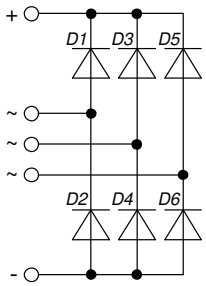


Rectifier

$V_{0\,max}$	*threshold voltage*	0.78	V
$R_{0\,max}$	*slope resista ce **	6.9	mΩ

Outlines PWS-D





Rectifier

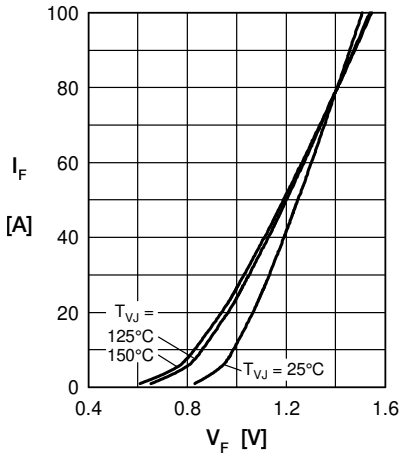


Fig. 1 Forward current vs. voltage drop per diode

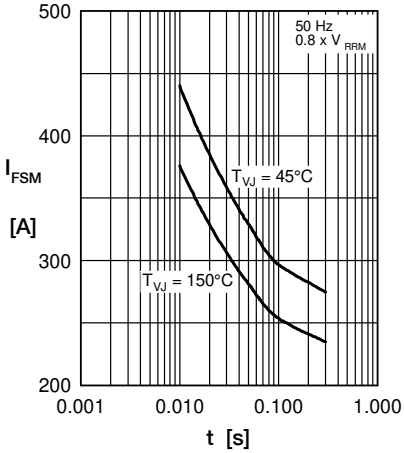


Fig. 2 Surge overload current vs. time per diode

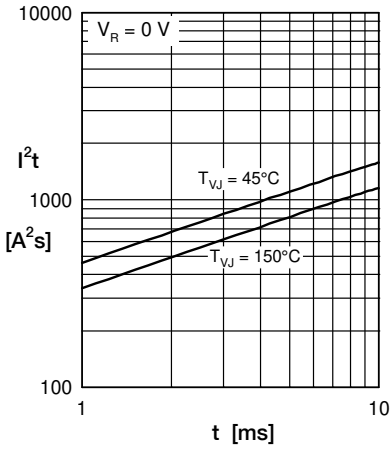


Fig. 3 I^2t vs. time per diode

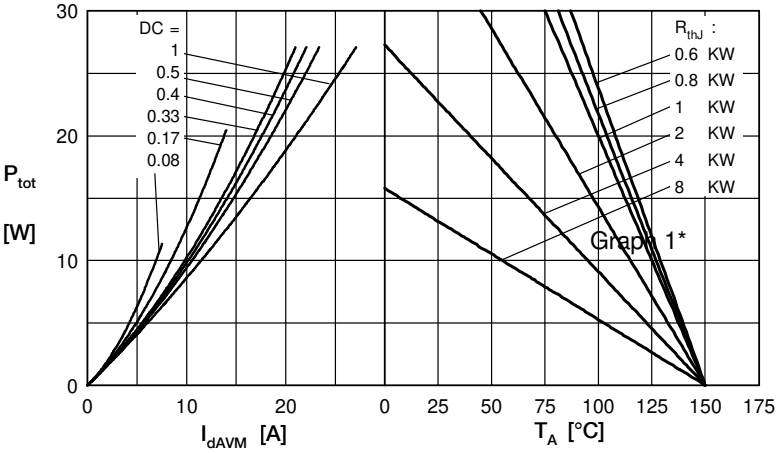


Fig. 4 Power dissipation vs. forward current and ambient temperature per diode

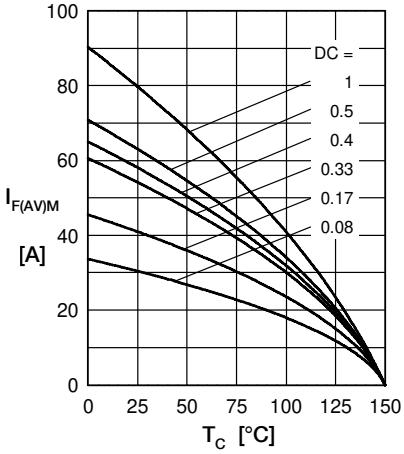


Fig. 5 Max. forward current vs. case temperature per diode

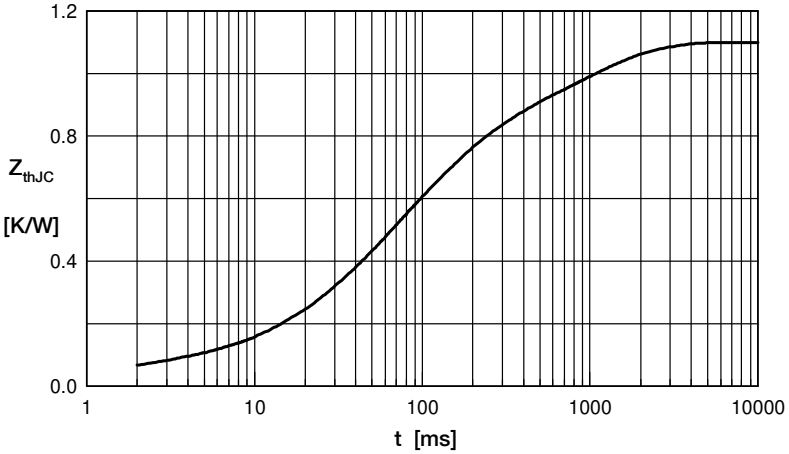


Fig. 6 Transient thermal impedance junction to case vs. time per diode

Constants for Z_{thJC} calculation:

i	R_{th} (K/W)	t_i (s)
1	0.05	0.001
2	0.14	0.030
3	0.25	0.060
4	0.35	0.130
5	0.31	0.920