



Arrow VUO62-16N07 Standard Rectifier Module Owner's Manual

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ARROW



3~ Rectifier Bridge



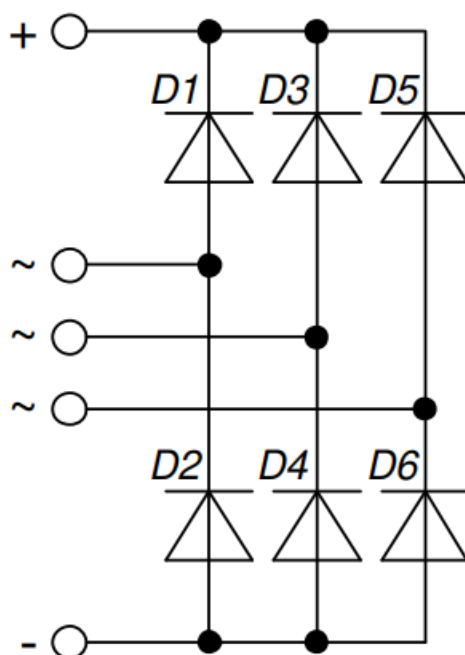
Part number
VUO62-16N07

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VUO62-16NO7 Standard Rectifier Module

3~ Rectifier		
VRRM	=	1600 V
IDAV	=	60 A
IFSM	=	550 A



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

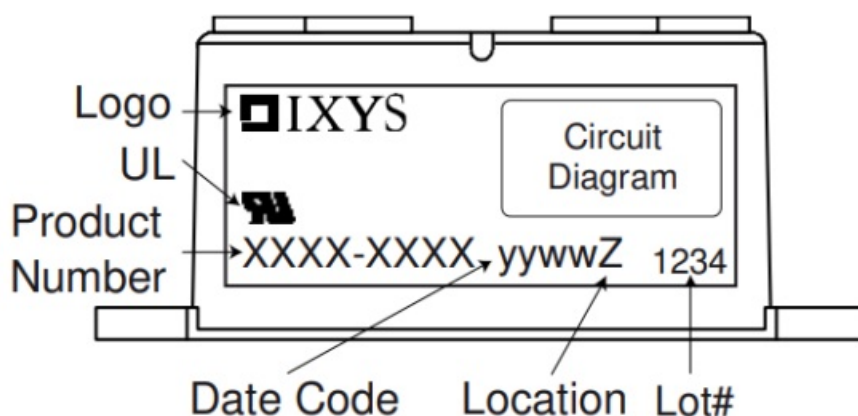
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Rectifier

Rectifier				Ratings			
Symbol	Definition	Conditions		min.	typ.	max.	Unit
VRSM	<i>max. non-repetitive reverse blocking voltage</i>		TVJ = 25°C			1700	V
VRRM	<i>max. repetitive reverse blocking voltage</i>		TVJ = 25°C			1600	V
I_R	<i>reverse current</i>	V _R = 1600 V V _R = 1600 V	TVJ = 25°C TVJ = 150°C			40 1.5	μA mA
VF	<i>forward voltage drop</i>	I _F = 20 A I _F = 60 A	T _{VJ} = 25°C			1.07 1.30	V V
		I _F = 20 A I _F = 60 A	T _{VJ} = 125 °C			0.96 1.27	V V
I_{DAV}	<i>bridge output current rectangular d = 1/3</i>	T _C = 120°C	TVJ = 150°C			60	A
VF0 r_F	<i>threshold voltage slope resistance</i>	<i>for power loss calculation only</i>	TVJ = 150°C			0.78 8.1	V m Ω
R_{thJC}	<i>thermal resistance junction to case</i>					1.1	K/W
R_{thCH}	<i>thermal resistance case to heatsink</i>				0.4		K/W
P_{tot}	<i>total power dissipation</i>		T _C = 25°C			110	W
IFSM	<i>max. forward surge current</i>	t = 10 ms; (50 Hz), sine t = 8,3 ms; (60 Hz) , sine	T _{VJ} = 45°C V _R = 0 V			550 595	A A
		t = 10 ms; (50 Hz), sine t = 8,3 ms; (60 Hz) , sine	TVJ = 150°C V _R = 0 V			470 505	A A
I²t	<i>value for fusing</i>	t = 10 ms; (50 Hz), sine t = 8,3 ms; (60 Hz) , sine	T _{VJ} = 45°C V _R = 0 V			1.52 1.48	kA ² s kA ² s
		t = 10 ms; (50 Hz), sine t = 8,3 ms; (60 Hz) , sine	T _{VJ} = 150°C V _R = 0 V			1.11 1.06	kA ² s kA ² s
C_J	<i>junction capacitance</i>	V _R = 400 V; f = 1 MHz	TVJ = 25°C		19		pF

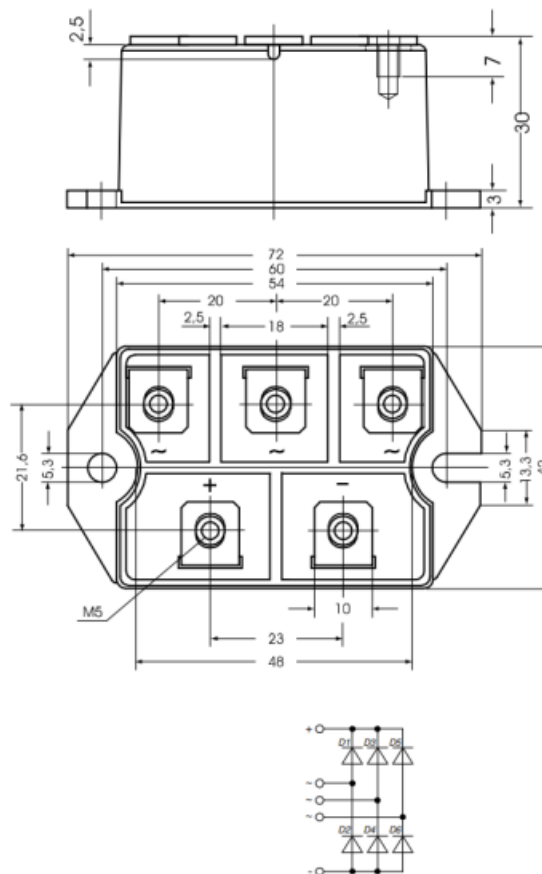
Package	PWS-D			Ratings			
Symbol	Definition	Conditions		min.	typ.	max.	Unit
I RMS	RMS current	per terminal				150	A
TVJ	virtual junction temperature			-40		150	°C
Top	operation temperature			-40		125	°C
Tstg	storage temperature			-40		125	°C
Weight					159		g
MD MT	mounting torque terminal torque			4.25		5.75	Nm
				4.25		5.75	Nm
dSpp/Api dSpb/Api b	creepage distance on surface / striking distance through air	terminal to terminal terminal to backside		9.5 26.0			mm mm
V ISOL	isolation voltage	t = 1 second t = 1 minute	50/60 Hz, RMS; IISOL ≤ 1 mA	3000 2500			V V



Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	VUO62-16NO7	VUO62-16NO7	Box	10	460478

Equivalent Circuits for Simulation	* on die level	T = VJ 150 °C
	Rectifier	
V0 max threshold voltage	0.78	V
R0 max slope resistance *	6.9	mΩ

Outlines PWS-D



Rectifier

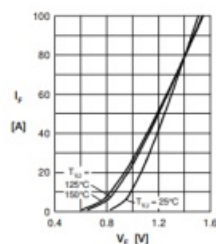


Fig. 1 Forward current vs. voltage drop per diode

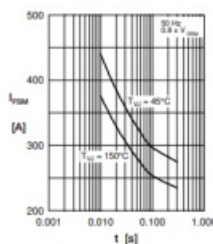


Fig. 2 Surge overload current vs. time per diode

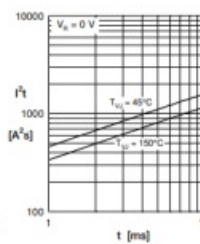


Fig. 3 I^2t vs. time per diode

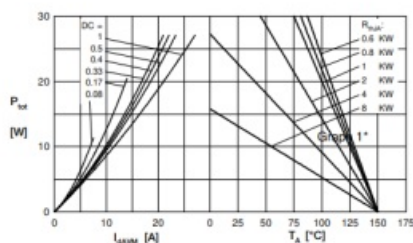


Fig. 4 Power dissipation vs. forward current and ambient temperature per diode

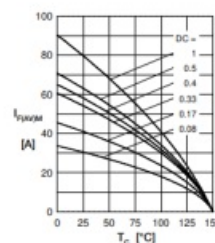


Fig. 5 Max. forward current vs. case temperature per diode

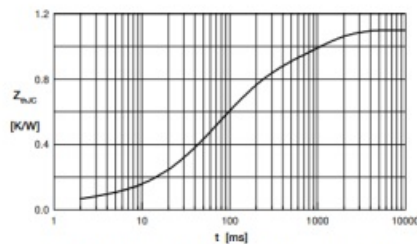
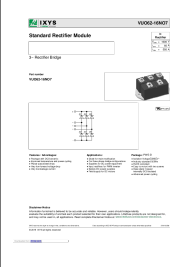


Fig. 6 Transient thermal impedance junction to case vs. time per diode

Constants for $Z_{\theta JC}$ calculation:

i	$R_{\theta JC}$ (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	0.51	0.920

Documents / Resources



[Arrow VUO62-16NO7 Standard Rectifier Module](#) [pdf] Owner's Manual
VUO62-16NO7, VUO62-16NO7 Standard Rectifier Module, VUO62-16NO7, Standard Rectifier Module, Rectifier Module, Module

References

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