

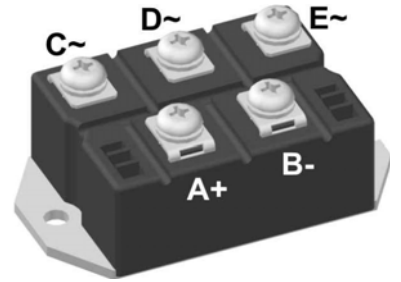
Standard Rectifier Module

3~ Rectifier
$V_{RRM} = 1800\text{ V}$
$I_{DAV} = 125\text{ A}$
$I_{FSM} = 1200\text{ A}$

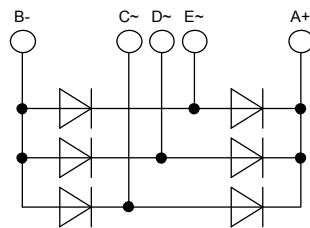
3~ Rectifier Bridge

Part number

VUO110-18NO7



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:

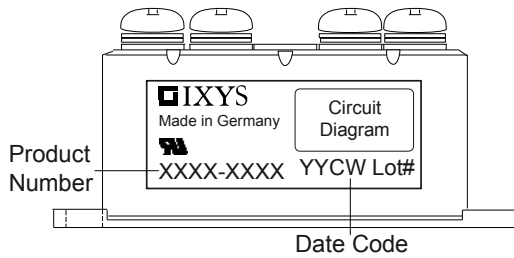
- Diode for main rectification
- For three phase bridge configurations
- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

Package: PWS-E

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

Rectifier				Ratings		
Symbol	Definition	Conditions	min.	typ.	max.	Unit
V_{RSM}	max. non-repetitive reverse blocking voltage	$T_{VJ} = 25^{\circ}C$			1900	V
V_{RRM}	max. repetitive reverse blocking voltage	$T_{VJ} = 25^{\circ}C$			1800	V
I_R	reverse current	$V_R = 1800 V$	$T_{VJ} = 25^{\circ}C$		100	μA
		$V_R = 1800 V$	$T_{VJ} = 150^{\circ}C$		2	mA
V_F	forward voltage drop	$I_F = 50 A$	$T_{VJ} = 25^{\circ}C$		1.13	V
		$I_F = 150 A$			1.46	V
		$I_F = 50 A$	$T_{VJ} = 125^{\circ}C$		1.04	V
		$I_F = 150 A$			1.47	V
I_{DAV}	bridge output current	$T_C = 110^{\circ}C$ rectangular $d = \frac{1}{3}$	$T_{VJ} = 150^{\circ}C$		125	A
V_{FO}	threshold voltage	} for power loss calculation only	$T_{VJ} = 150^{\circ}C$		0.79	V
r_F	slope resistance				4.5	m Ω
R_{thJC}	thermal resistance junction to case				0.7	K/W
R_{thCH}	thermal resistance case to heatsink			0.3		K/W
P_{tot}	total power dissipation		$T_C = 25^{\circ}C$		175	W
I_{FSM}	max. forward surge current	$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$	$T_{VJ} = 45^{\circ}C$		1.20	kA
		$t = 8,3 \text{ ms}; (60 \text{ Hz}), \text{ sine}$	$V_R = 0 V$		1.30	kA
		$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$	$T_{VJ} = 150^{\circ}C$		1.02	kA
		$t = 8,3 \text{ ms}; (60 \text{ Hz}), \text{ sine}$	$V_R = 0 V$		1.10	kA
I^2t	value for fusing	$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$	$T_{VJ} = 45^{\circ}C$		7.20	kA ² s
		$t = 8,3 \text{ ms}; (60 \text{ Hz}), \text{ sine}$	$V_R = 0 V$		6.98	kA ² s
		$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$	$T_{VJ} = 150^{\circ}C$		5.20	kA ² s
		$t = 8,3 \text{ ms}; (60 \text{ Hz}), \text{ sine}$	$V_R = 0 V$		5.04	kA ² s
C_J	junction capacitance	$V_R = 400 V; f = 1 \text{ MHz}$	$T_{VJ} = 25^{\circ}C$		37	pF

Package PWS-E			Ratings			
Symbol	Definition	Conditions	min.	typ.	max.	Unit
I_{RMS}	RMS current	per terminal			200	A
T_{stg}	storage temperature		-40		125	°C
T_{VJ}	virtual junction temperature		-40		150	°C
Weight				284		g
M_D	mounting torque		4.25		5.75	Nm
M_T	terminal torque		4.25		5.75	Nm
$d_{Spp/App}$	creepage distance on surface striking distance through air	terminal to terminal	12.0			mm
$d_{Spb/Apb}$		terminal to backside	26.0			mm
V_{ISOL}	isolation voltage	t = 1 second	3000			V
		t = 1 minute	2500			V

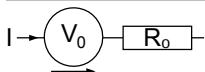


Ordering	Part Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	VUO110-18NO7	VUO110-18NO7	Box	5	462411

Equivalent Circuits for Simulation

* on die level

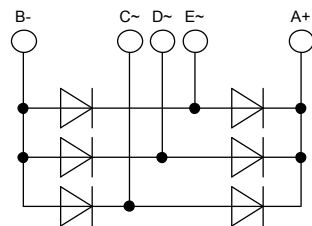
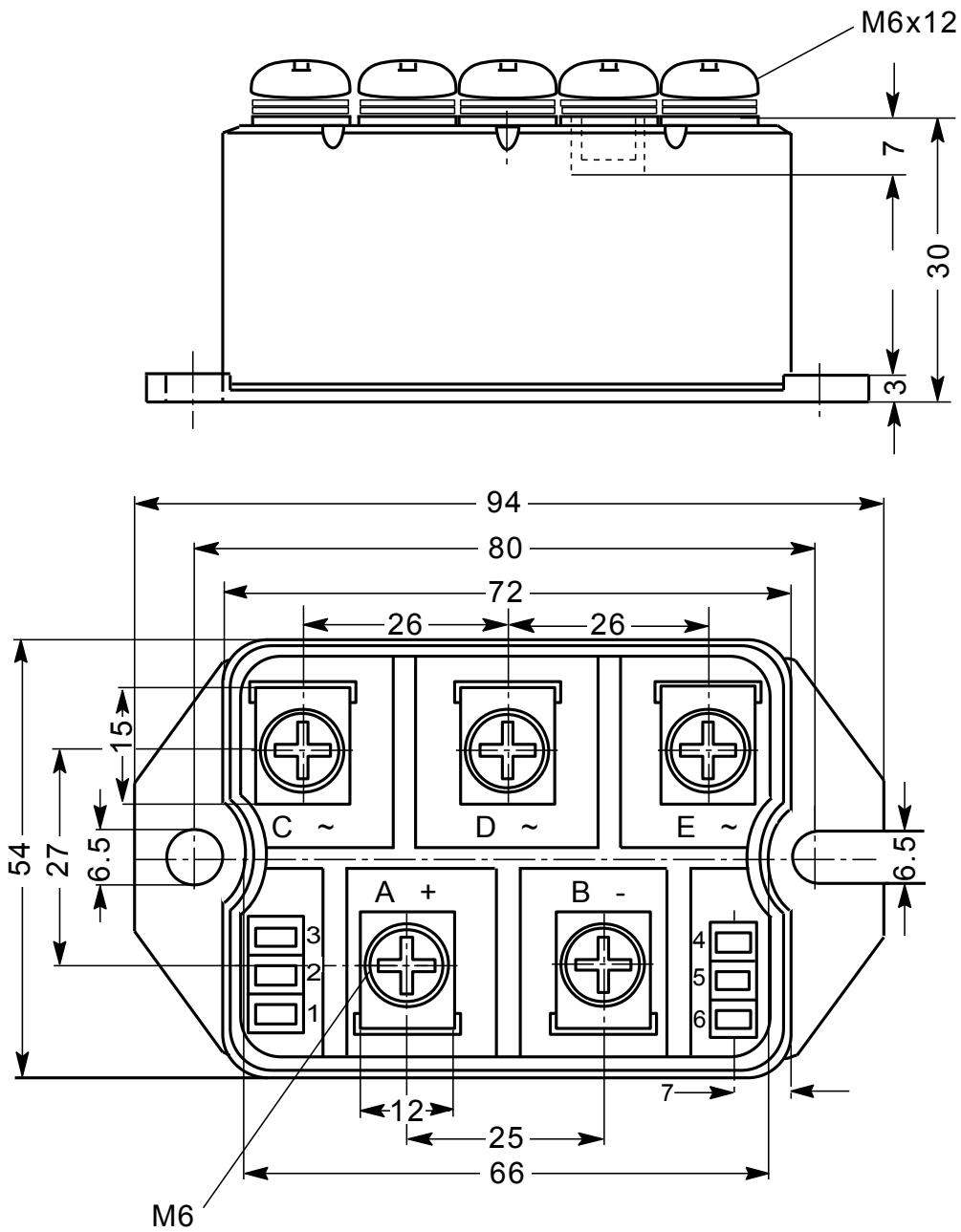
$T_{VJ} = 150\text{ °C}$



Rectifier

$V_{0\ max}$	threshold voltage	0.79	V
$R_{0\ max}$	slope resistance *	3.3	mΩ

Outlines PWS-E



Rectifier

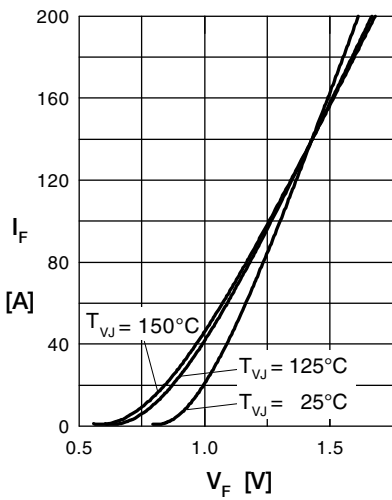


Fig. 1 Forward current vs. voltage drop per diode

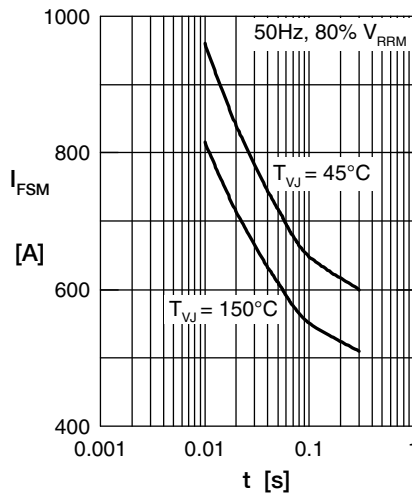


Fig. 2 Surge overload current vs. time per diode

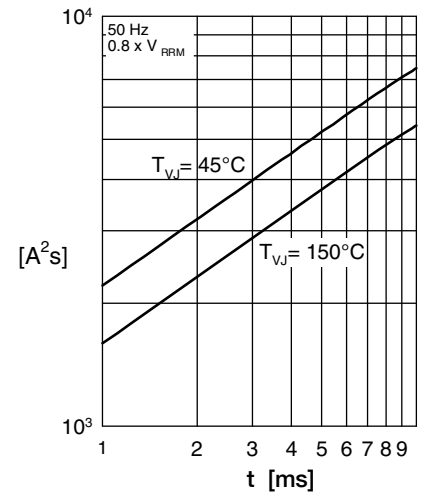


Fig. 3 I^2t vs. time per diode

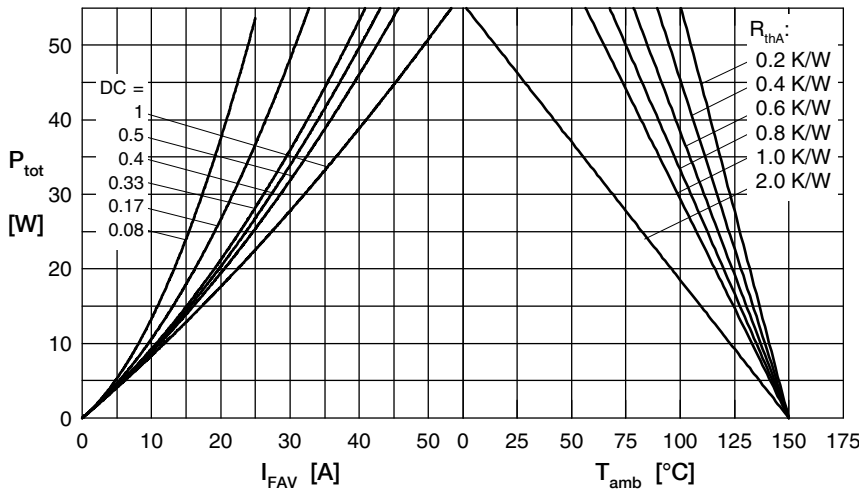


Fig. 4 Power dissipation vs. forward current and ambient temperature per diode

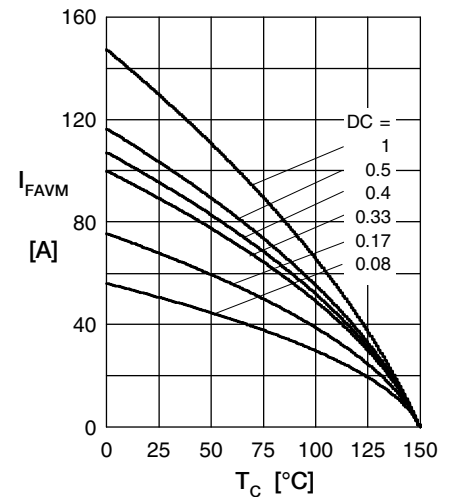


Fig. 5 Max. forward current vs. case temperature per diode

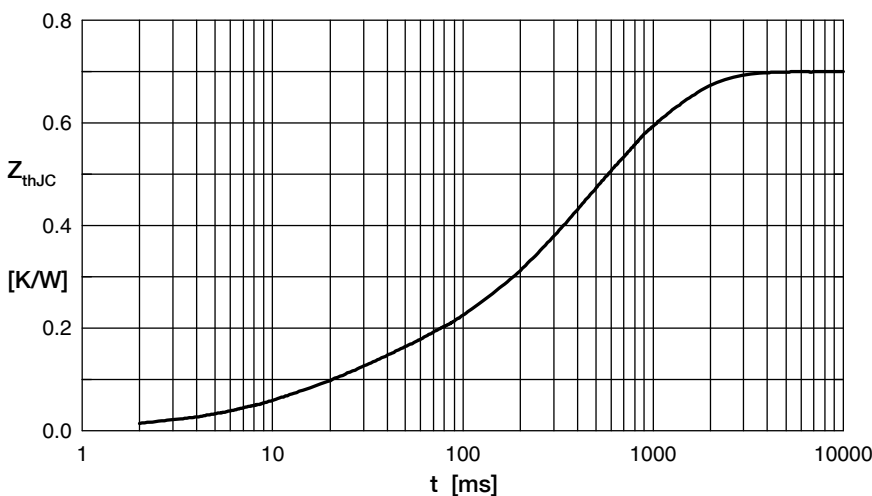


Fig. 6 Transient thermal impedance junction to case vs. time per diode

R_i	t_i
0.100	0.020
0.010	0.010
0.162	0.225
0.258	0.800
0.170	0.580

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Bridge Rectifiers](#) category:

Click to view products by [IXYS](#) manufacturer:

Other Similar products are found below :

[G3SBA60-E351](#) [GBJ1504-BP](#) [GBU10B-BP](#) [GBU15J-BP](#) [GBU15K-BP](#) [GBU4A-BP](#) [GBU4D-BP](#) [GBU6B-E3/45](#) [GSIB680-E3/45](#) [DB101-BP](#) [DBA100G](#) [DBA150G](#) [DBA20G](#) [DBA250G](#) [DBA40G](#) [DBD10G-TM-E](#) [DBF10G](#) [DBF250G](#) [DBG150G](#) [DBG250G](#) [DF10SA-E345](#) [RMB2S](#) [RCG](#) [APT30DF100HJ](#) [APT60DF20HJ](#) [B2S-E3/80](#) [BU1506-E351](#) [BU15085S-E345](#) [BU1508-E3/45](#) [BU1510-E3/45](#) [RS404GL-BP](#) [RS405GL-BP](#) [G3SBA20-E3/51](#) [G5SBA20-E3/51](#) [G5SBA60-E3/51](#) [GBJ1502-BP](#) [GBL02-E351](#) [GBL10-E3/45](#) [GBU10J-BP](#) [GBU4J-BP](#) [GBU4K-BP](#) [GBU8B-E3/45](#) [GBU8D-BP](#) [GBU8J-BP](#) [GSIB1520-E3/45](#) [MB1510](#) [MB352W](#) [MB6M-G](#) [B2M-E345](#) [B40C7000A](#) [B500C7000A](#)