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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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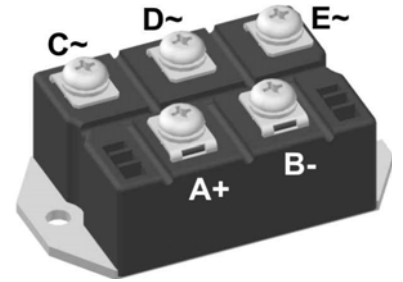
# Standard Rectifier Module

<b>3~ Rectifier</b>	
$V_{RRM}$	= 800 V
$I_{DAV}$	= 240 A
$I_{FSM}$	= 2800 A

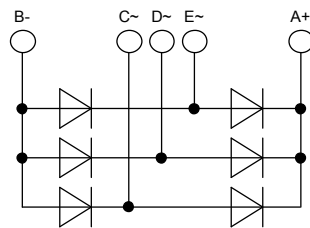
## 3~ Rectifier Bridge

Part number

**VUO190-08NO7**



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:

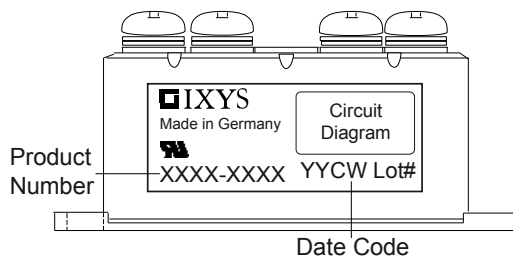
- Diode for main rectification
- For three phase bridge configurations
- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

### 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	$T_{VJ} = 25^{\circ}C$			900	V
$V_{RRM}$	max. repetitive reverse blocking voltage	$T_{VJ} = 25^{\circ}C$			800	V
$I_R$	reverse current	$V_R = 800 V$	$T_{VJ} = 25^{\circ}C$		200	$\mu A$
		$V_R = 800 V$	$T_{VJ} = 150^{\circ}C$		3.5	mA
$V_F$	forward voltage drop	$I_F = 80 A$	$T_{VJ} = 25^{\circ}C$		1.07	V
		$I_F = 240 A$			1.36	V
		$I_F = 80 A$	$T_{VJ} = 125^{\circ}C$		0.96	V
		$I_F = 240 A$			1.33	V
$I_{DAV}$	bridge output current	$T_C = 110^{\circ}C$ rectangular $d = 1/3$	$T_{VJ} = 150^{\circ}C$		240	A
$V_{FO}$	threshold voltage	} for power loss calculation only	$T_{VJ} = 150^{\circ}C$		0.74	V
$r_F$	slope resistance				2.4	m $\Omega$
$R_{thJC}$	thermal resistance junction to case				0.4	K/W
$R_{thCH}$	thermal resistance case to heatsink			0.15		K/W
$P_{tot}$	total power dissipation		$T_C = 25^{\circ}C$		310	W
$I_{FSM}$	max. forward surge current	$t = 10 \text{ ms; (50 Hz), sine}$	$T_{VJ} = 45^{\circ}C$		2.80	kA
		$t = 8,3 \text{ ms; (60 Hz), sine}$	$V_R = 0 V$		3.03	kA
		$t = 10 \text{ ms; (50 Hz), sine}$	$T_{VJ} = 150^{\circ}C$		2.38	kA
		$t = 8,3 \text{ ms; (60 Hz), sine}$	$V_R = 0 V$		2.57	kA
$I^2t$	value for fusing	$t = 10 \text{ ms; (50 Hz), sine}$	$T_{VJ} = 45^{\circ}C$		39.2	kA <sup>2</sup> s
		$t = 8,3 \text{ ms; (60 Hz), sine}$	$V_R = 0 V$		38.1	kA <sup>2</sup> s
		$t = 10 \text{ ms; (50 Hz), sine}$	$T_{VJ} = 150^{\circ}C$		28.3	kA <sup>2</sup> s
		$t = 8,3 \text{ ms; (60 Hz), sine}$	$V_R = 0 V$		27.5	kA <sup>2</sup> s
$C_J$	junction capacitance	$V_R = 400 V; f = 1 \text{ MHz}$	$T_{VJ} = 25^{\circ}C$		133	pF

Package PWS-E			Ratings			
Symbol	Definition	Conditions	min.	typ.	max.	Unit
$I_{RMS}$	RMS current	per terminal			250	A
$T_{stg}$	storage temperature		-40		125	°C
$T_{VJ}$	virtual junction temperature		-40		150	°C
<b>Weight</b>				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
$d_{Spt/Abp}$		terminal to backside	26.0			mm
$V_{ISOL}$	isolation voltage	t = 1 second	3000			V
		t = 1 minute	2500			V

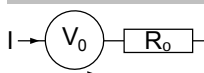


Ordering	Part Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	VUO190-08NO7	VUO190-08NO7	Box	5	462489

### Equivalent Circuits for Simulation

\* on die level

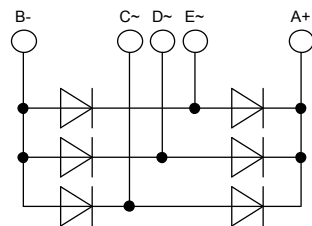
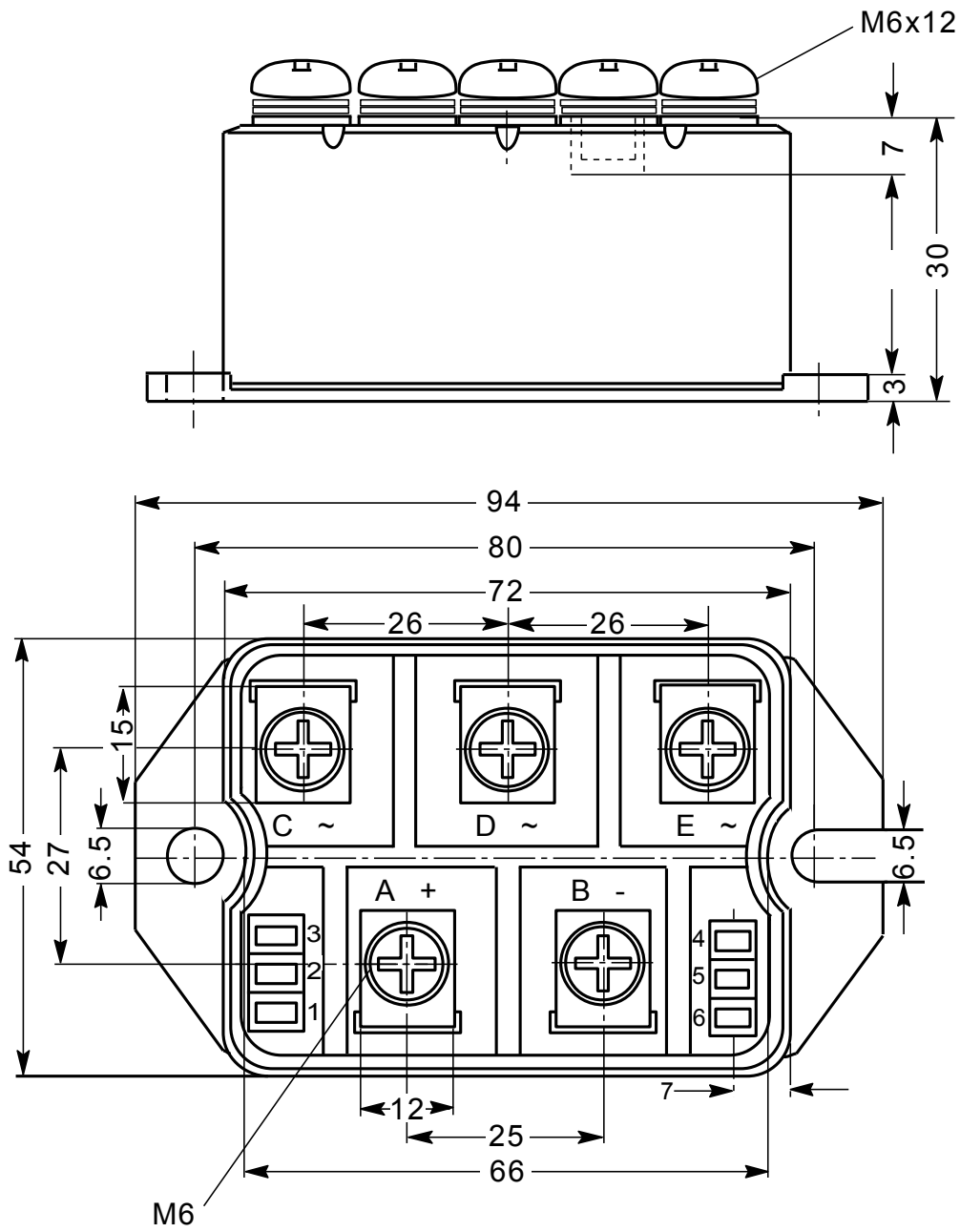
$T_{VJ} = 150\text{ °C}$



Rectifier

$V_{0\ max}$	threshold voltage	0.74	V
$R_{0\ max}$	slope resistance *	1.2	mΩ

**Outlines PWS-E**



## Rectifier

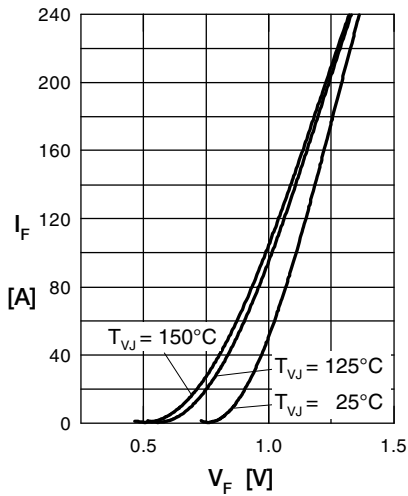


Fig. 1 Forward current vs. voltage drop per diode

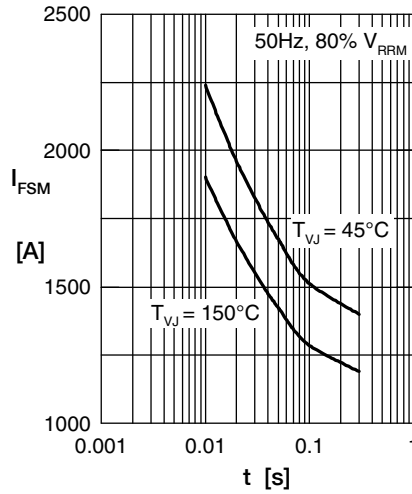


Fig. 2 Surge overload current vs. time per diode

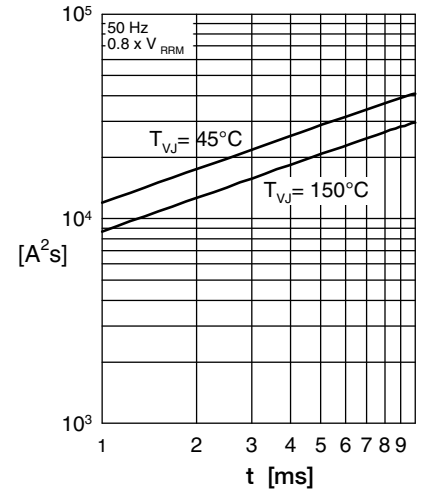


Fig. 3  $I^2t$  vs. time per diode

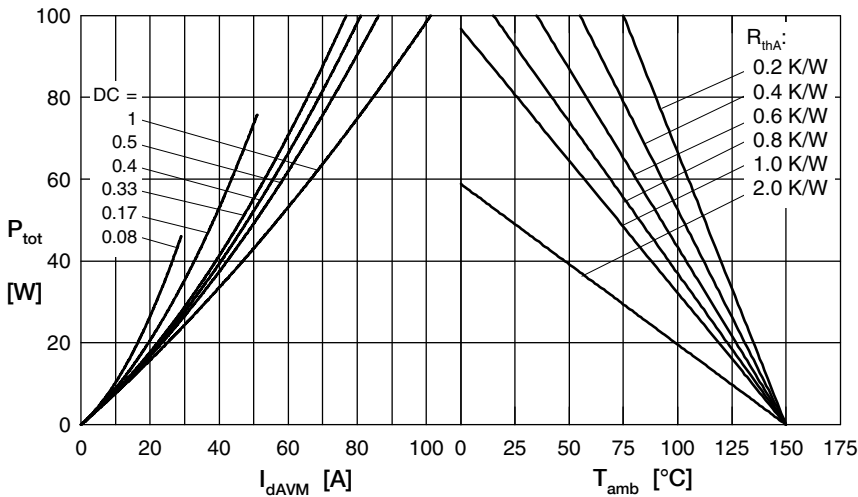


Fig. 4 Power dissipation vs. forward current and ambient temperature per diode

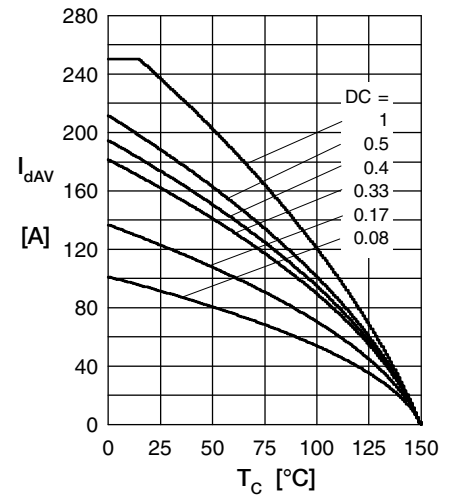


Fig. 5 Max. forward current vs. case temperature per diode

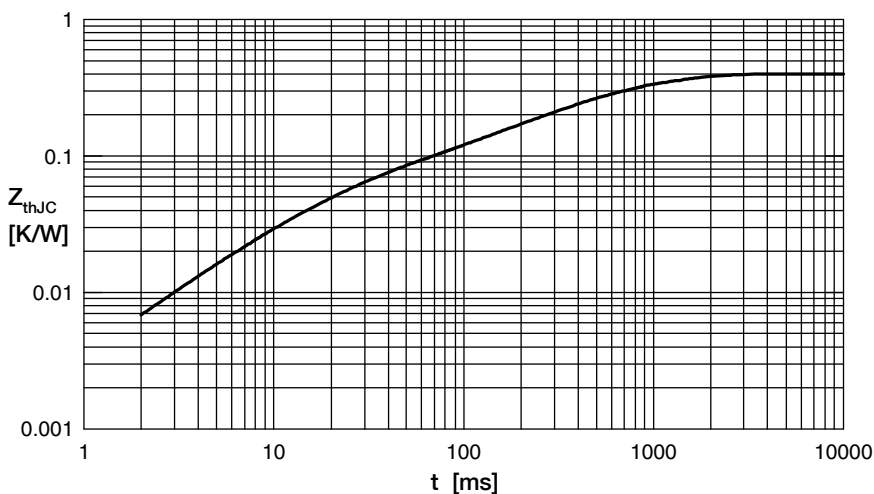


Fig. 6 Transient thermal impedance junction to case vs. time per diode