

Excellent Integrated System Limited

Stocking Distributor

Click to view price, real time Inventory, Delivery & Lifecycle Information:

[IXYS Corporation](#)

[VUO160-16NO7](#)

For any questions, you can email us directly:

sales@integrated-circuit.com

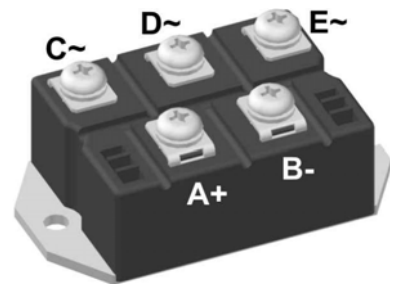
Standard Rectifier Module


3~ Rectifier
$V_{RRM} = 1600\text{ V}$
$I_{DAV} = 175\text{ A}$
$I_{FSM} = 1800\text{ A}$

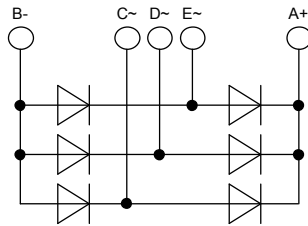
3~ Rectifier Bridge

Part number

VUO160-16NO7



 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:

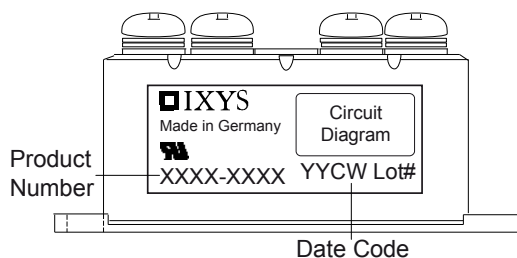
- Diode for main rectification
- For three phase bridge configurations
- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

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				1700	V	
V_{RRM}	max. repetitive reverse blocking voltage				1600	V	
I_R	reverse current	$V_R = 1600\text{ V}$			200	μA	
		$V_R = 1600\text{ V}$			2	mA	
V_F	forward voltage drop	$I_F = 60\text{ A}$			1.10	V	
		$I_F = 180\text{ A}$			1.40	V	
		$I_F = 60\text{ A}$	$T_{VJ} = 125^\circ\text{C}$			1.00	V
		$I_F = 180\text{ A}$				1.39	V
I_{DAV}	bridge output current	$T_C = 110^\circ\text{C}$ rectangular $d = \frac{1}{3}$			175	A	
V_{F0}	threshold voltage	} for power loss calculation only			0.77	V	
r_F	slope resistance				3.4	m Ω	
R_{thJC}	thermal resistance junction to case				0.5	K/W	
R_{thCH}	thermal resistance case to heatsink			0.2		K/W	
P_{tot}	total power dissipation				250	W	
I_{FSM}	max. forward surge current	$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}$	$T_{VJ} = 45^\circ\text{C}$		1.80	kA	
		$t = 8,3\text{ ms}; (60\text{ Hz}), \text{ sine}$	$V_R = 0\text{ V}$		1.95	kA	
		$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}$	$T_{VJ} = 150^\circ\text{C}$			1.53	kA
		$t = 8,3\text{ ms}; (60\text{ Hz}), \text{ sine}$	$V_R = 0\text{ V}$			1.65	kA
I^2t	value for fusing	$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}$	$T_{VJ} = 45^\circ\text{C}$		16.2	kA ² s	
		$t = 8,3\text{ ms}; (60\text{ Hz}), \text{ sine}$	$V_R = 0\text{ V}$		15.7	kA ² s	
		$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}$	$T_{VJ} = 150^\circ\text{C}$			11.7	kA ² s
		$t = 8,3\text{ ms}; (60\text{ Hz}), \text{ sine}$	$V_R = 0\text{ V}$			11.3	kA ² s
C_J	junction capacitance	$V_R = 400\text{ V}; f = 1\text{ MHz}$			35	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

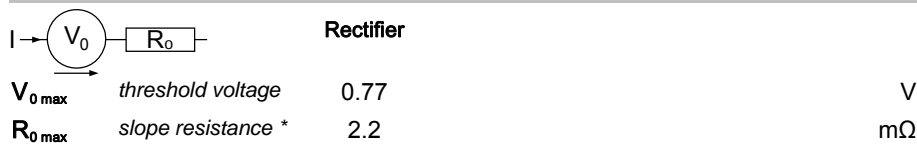


Ordering	Part Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	VUO160-16NO7	VUO160-16NO7	Box	5	462462

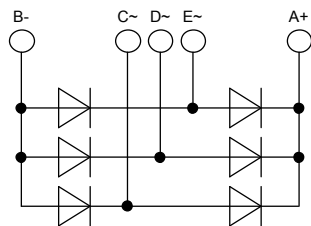
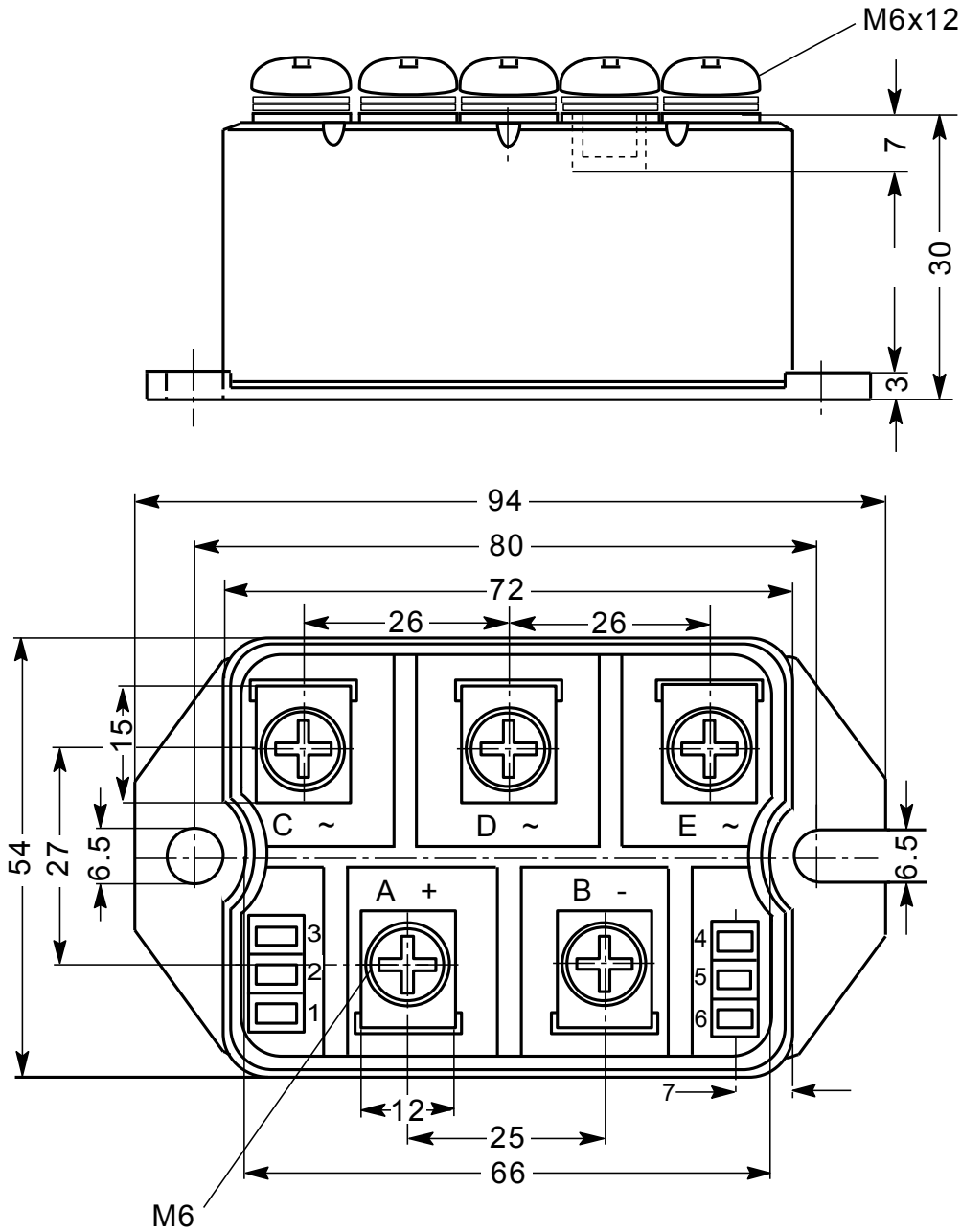
Equivalent Circuits for Simulation

* on die level

$T_{vj} = 150\text{ °C}$



Outlines PWS-E



Rectifier

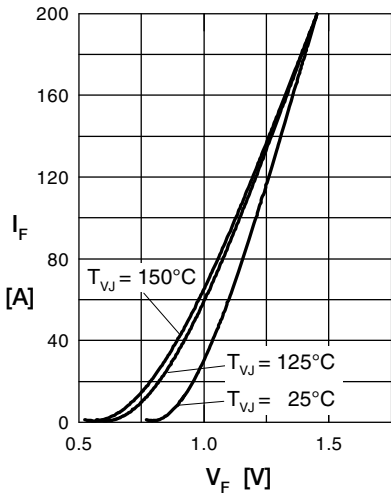


Fig. 1 Forward current vs. voltage drop per diode

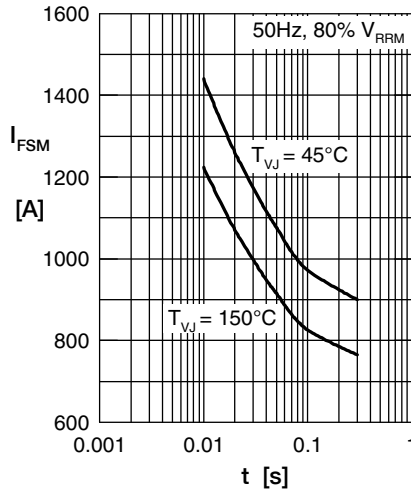


Fig. 2 Surge overload current vs. time per diode

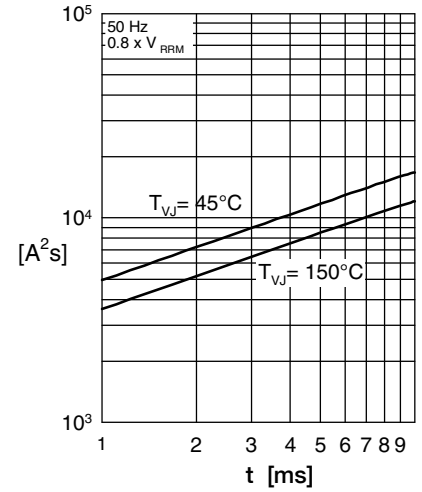


Fig. 3 I^2t vs. time per diode

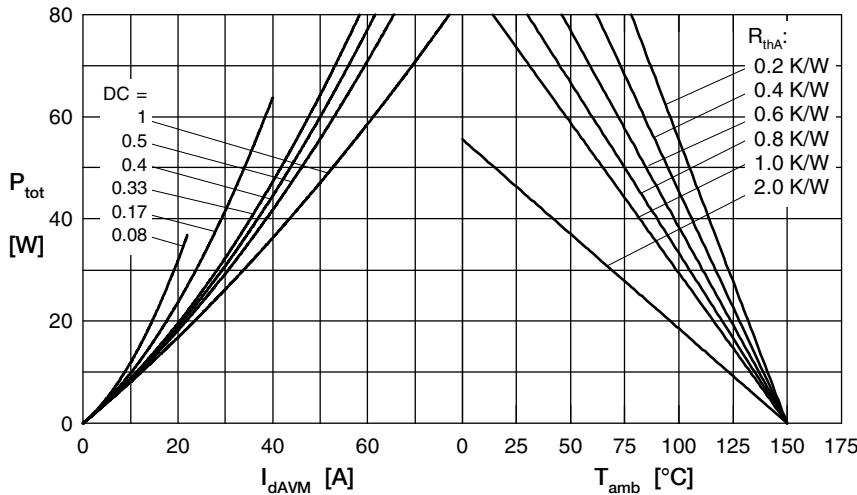


Fig. 4 Power dissipation vs. forward current and ambient temperature per diode

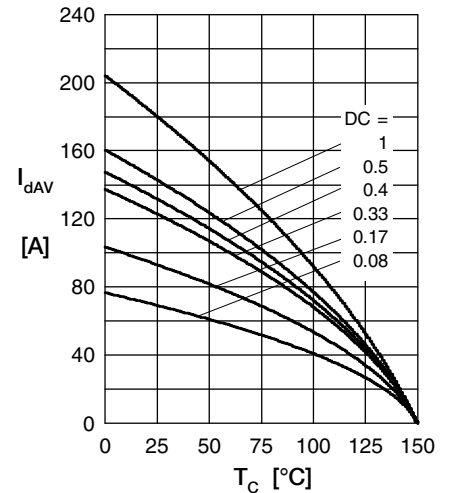


Fig. 5 Max. forward current vs. case temperature per diode

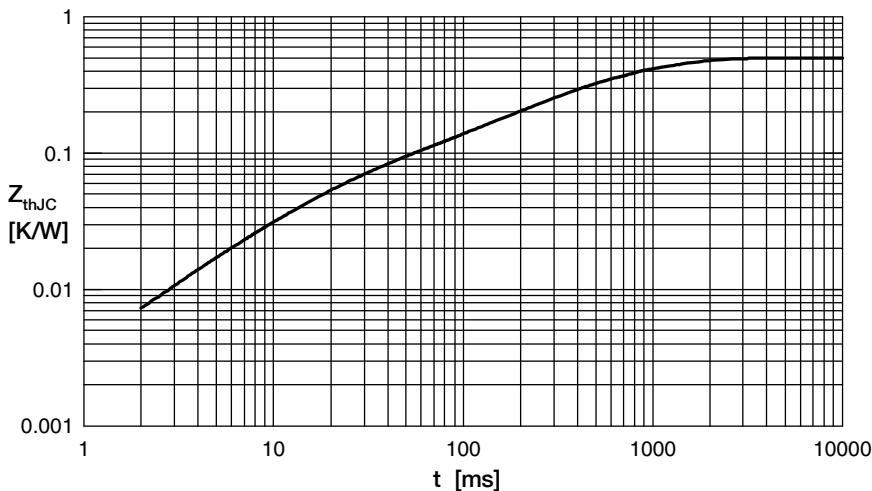


Fig. 6 Transient thermal impedance junction to case vs. time per diode

R_i	t_i
0.050	0.02
0.003	0.01
0.120	0.225
0.217	0.8
0.110	0.58