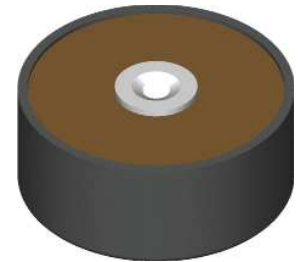


High Voltage Rectifiers

$$V_{RRM} = 8000 \text{ V}$$

$$I_{F(AV)M} = 4.2 \text{ A}$$

V_{RRM} V	Standard Types	Power Designation
8000	UGE 1112 AY4	Si-E 3000 / 1300-2.5



Symbol	Conditions	Maximum Ratings
$I_{F(RMS)}$ $I_{F(AV)M}$	air self cooling; $T_{amb} = 45^{\circ}\text{C}$ - without cooling plate - with colling plate	7 A 2.0 A 2.5 A
	forced air cooling; $v = 3 \text{ m/s}$, $T_{amb} = 35^{\circ}\text{C}$ - without cooling plate - with colling plate	3.2 A 4.1 A
	oil cooling; $T_{amb} = 35^{\circ}\text{C}$ - without cooling plate - with colling plate	4.2 A 4.2 A
P_{RSM}	$T_{VJ} = 150^{\circ}\text{C}$; $t_p = 10 \mu\text{s}$	2.5 kW
I_{FSM}	non repetitive, 50 c/s (for 60 c/s add 10%) $T_{VJ} = 45^{\circ}\text{C}$; $t_p = 10 \text{ ms}$	120 A
	$T_{VJ} = 150^{\circ}\text{C}$; $t_p = 10 \text{ ms}$	100 A
T_{VJ} T_{stg} T_{VJM}		-40...+150 $^{\circ}\text{C}$ -40...+150 $^{\circ}\text{C}$ 150 $^{\circ}\text{C}$
Weight		122 g

Symbol	Conditions	Characteristic Values
I_R	$V_R = V_{RRM}$ $T_{VJ} = 150^{\circ}\text{C}$	$\leq 1 \text{ mA}$
V_F	$I_F = 7 \text{ A}$ $T_{VJ} = 25^{\circ}\text{C}$	6.25 V
V_{T0}	$T_{VJ} = 150^{\circ}\text{C}$	4,25 V
r_T	$T_{VJ} = 150^{\circ}\text{C}$	215 $\text{m}\Omega$
a	$f = 50\text{Hz}$	5 x 9.81 m/s^2
M_d		8 Nm

Data according to IEC 60747-2

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IXYS reserve the right to change limits, test conditions and dimensions.

Features

- Hermetically sealed Epoxy
- Use in oil
- Avalanche characteristics

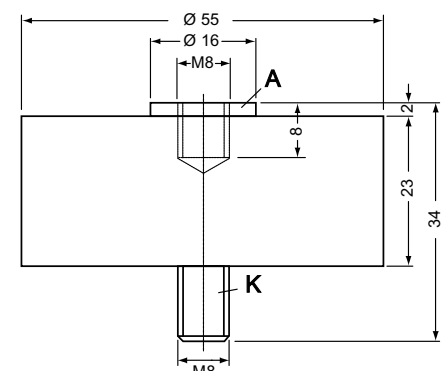
Applications

- X-Ray equipment
- Electrostatic dust precipitators
- Electronic beam welding
- Lasers
- Cable test equipment

Advantages

- Simple mounting
- Improved temperature and power cycling
- Reduced protection circuits
- Series and parallel operation

Dimensions in mm (1 mm = 0.0394")



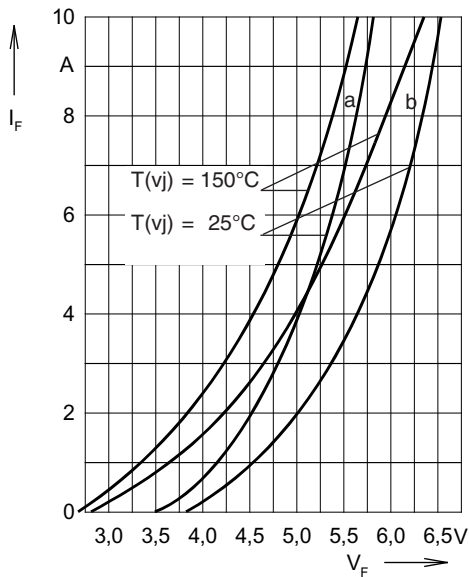


Fig. 1: Forward characteristics

Instantaneous forward current I_F as a function of instantaneous forward voltage drop V_F for junction temperature $T_{(vj)} = 25^\circ\text{C}$ and $T_{(vj)} = 150^\circ\text{C}$

a = Mean value characteristic
b = Limit value characteristic

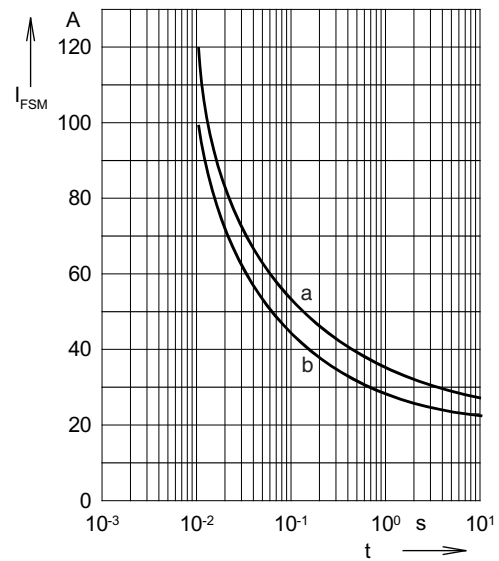


Fig. 2: Characteristics of maximum permissible current

The curves show the non repetitive peak one cycle surge forward current I_{FSM} as a function of time t and serve for rating protective devices.

a = Initial state $T_{(vj)} = 45^\circ\text{C}$
b = Initial state $T_{(vj)} = 150^\circ\text{C}$

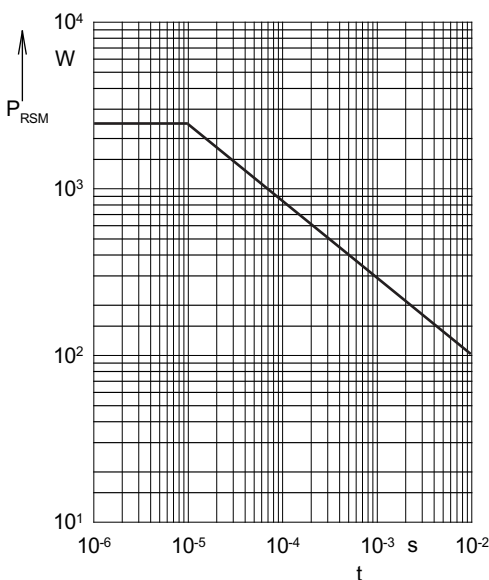


Fig. 3: Power loss

Non repetitive peak reverse power loss P_{RSM} as a function of time t , $T_{(vj)} = 150^\circ\text{C}$

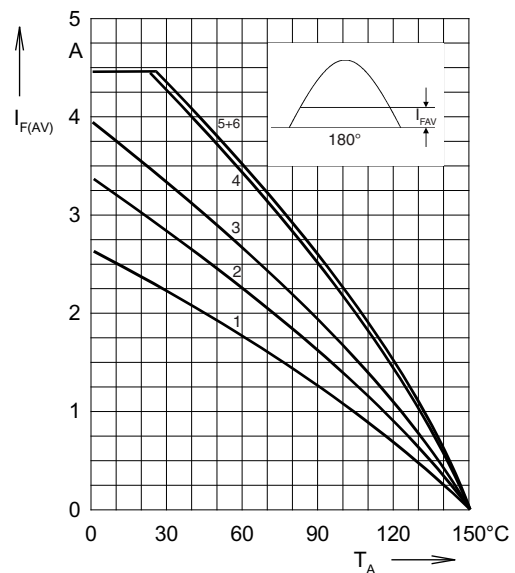


Fig. 4: Load diagram

Mean forward current $I_{F(AV)}$ of one module for a sine half wave for various cooling modes as a function of the cooling medium temperature T_{amb} for a resistive load (horizontal mounting).

Cooling modes

1 =	air self cooling	without	cooling plate
2 =	air self cooling	with	cooling plate
3 =	forced air cooling	without	cooling plate
4 =	forced air cooling	with	cooling plate
5 =	oil cooling	without	cooling plate
6 =	oil cooling	with	cooling plate

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