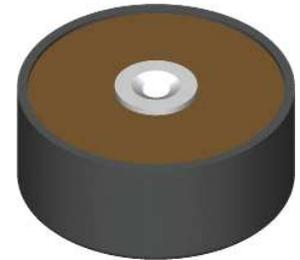


High Voltage Rectifiers

$V_{RRM} = 4800 \text{ V}$
 $I_{F(AV)M} = 10.2 \text{ A}$

V_{RRM}	Standard	Power Designation
V	Types	
4800	UGE 0221 AY4	Si-E 1750 / 775-4



Symbol	Conditions	Maximum Ratings
$I_{F(RMS)}$	air self cooling; $T_{amb} = 45^\circ\text{C}$	16 A
$I_{F(AV)M}$	- without cooling plate	3.8 A
	- with colling plate	5.4 A
	forced air cooling; $v = 3 \text{ m/s}$, $T_{amb} = 35^\circ\text{C}$	
	- without cooling plate	7.0 A
	- with colling plate	10.2 A
	oil cooling; $T_{amb} = 35^\circ\text{C}$	
	- without cooling plate	10.2 A
	- with colling plate	10.2 A
P_{RSM}	$T_{VJ} = 150^\circ\text{C}$; $t_p = 10 \mu\text{s}$	3.4 kW
I_{FSM}	non repetitive, 50 c/s (for 60 c/s add 10%)	
	$T_{VJ} = 45^\circ\text{C}$; $t_p = 10 \text{ ms}$	180 A
	$T_{VJ} = 150^\circ\text{C}$; $t_p = 10 \text{ ms}$	140 A
T_{VJ}		-40...+150 °C
T_{stg}		-40...+150 °C
T_{VJM}		150 °C

Weight		120 g
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Symbol	Conditions	Characteristic Values
I_R	$V_R = V_{RRM}$ $T_{VJ} = 150^\circ\text{C}$	$\leq 2 \text{ mA}$
V_F	$I_F = 30 \text{ A}$ $T_{VJ} = 25^\circ\text{C}$	4.8 V
V_{T0}	$T_{VJ} = 150^\circ\text{C}$	2,55 V
r_T	$T_{VJ} = 150^\circ\text{C}$	90 mΩ
a	$f = 50\text{Hz}$	$5 \times 9.81 \text{ m/s}^2$
M_d		8 Nm

Data according to IEC 60747-2

Features

- Hermetically sealed Epoxy
- Use in oil
- Avalanche characteristics

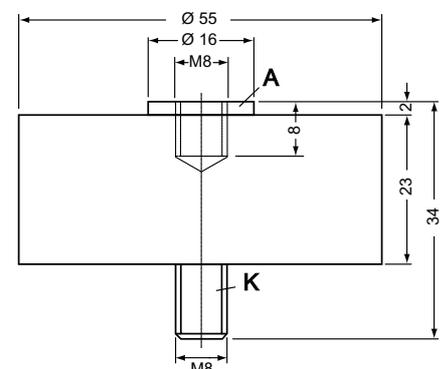
Applications

- 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")

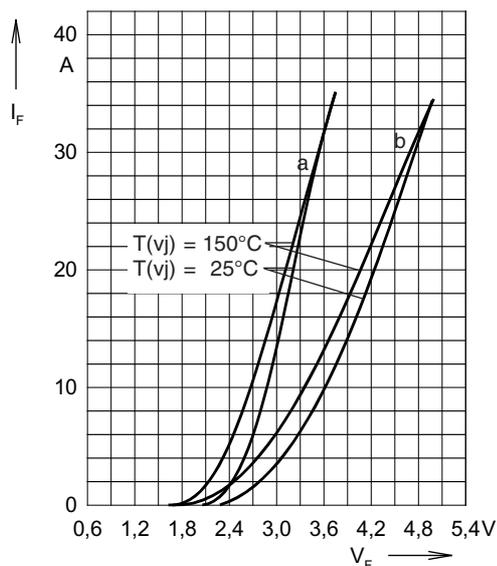


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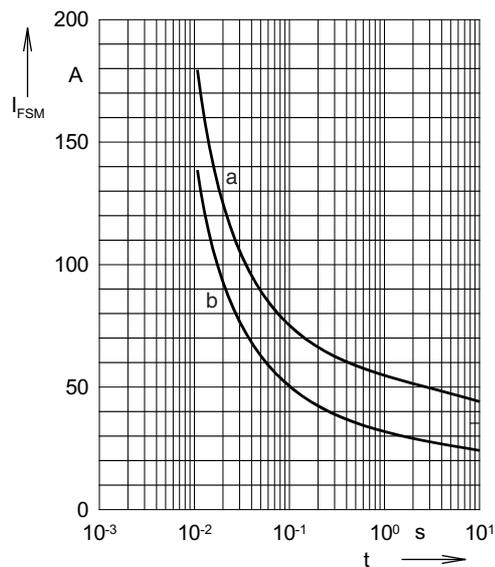
IXYS reserve the right to change limits, test conditions and dimensions.

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Fig. 1: Forward characteristics

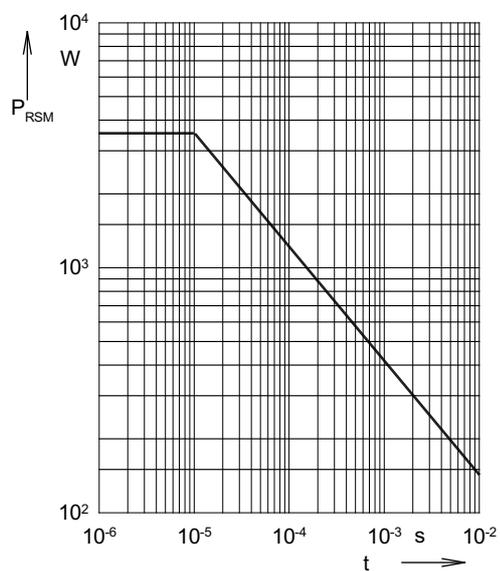
Instantaneous forward current I_F as a function of instantaneous forward voltage drop V_F for junction temperature $T_{(vj)} = 25^\circ\text{C}$ and $T_{(vj)} = 150^\circ\text{C}$

a = Mean value characteristic
 b = Limit value characteristic

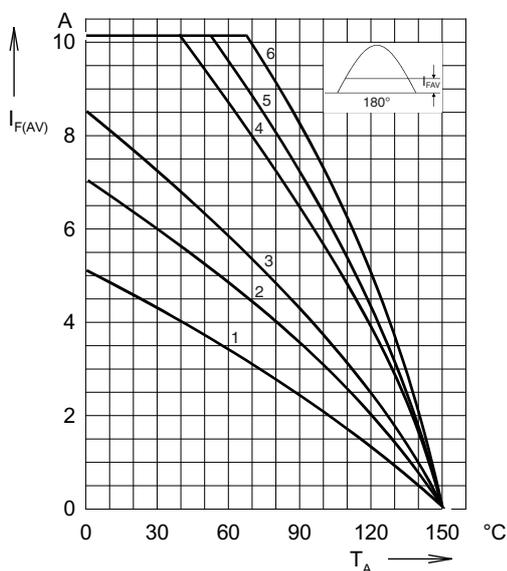

Fig. 2: Characteristics of maximum permissible current

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