

Rectifier Diode Avalanche Diode

$$V_{RRM} = 800-1800 \text{ V}$$

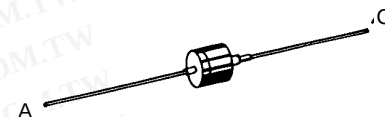
$$I_{F(RMS)} = 7 \text{ A}$$

$$I_{F(AV)M} = 3.6 \text{ A}$$

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V_{RSM} V	$V_{(BR)min}$ ① V	V_{RRM} V	Standard Types	Avalanche Types
900		800	DS 2-08A	
1300	1300	1200	DS 2-12A	DSA 2-12A
1700	1750	1600		DSA 2-16A
1900	1950	1800		DSA 2-18A

① Only for Avalanche Diodes



A = Anode C = Cathode

Symbol	Test Conditions	Maximum Ratings
$I_{F(RMS)}$	$T_{VJ} = T_{VJM}$	7 A
$I_{F(AV)M}$	$T_{amb} = 45^{\circ}\text{C}; R_{thJA} = 30 \text{ K/W}; 180^{\circ} \text{ sine}$	3.6 A
	$T_{amb} = 45^{\circ}\text{C}; R_{thJA} = 115 \text{ K/W}; 180^{\circ} \text{ sine}$	1.2 A
P_{RSM}	DSA types, $T_{VJ} = 25^{\circ}\text{C}, t_p = 10 \mu\text{s}$	2.5 kW
I_{FSM}	$T_{VJ} = 45^{\circ}\text{C}; V_R = 0$	120 A
	$t = 10 \text{ ms (50 Hz), sine}$	127 A
	$t = 8.3 \text{ ms (60 Hz), sine}$	
	$T_{VJ} = T_{VJM}; V_R = 0$	100 A
	$t = 10 \text{ ms (50 Hz), sine}$	106 A
	$t = 8.3 \text{ ms (60 Hz), sine}$	
I^2t	$T_{VJ} = 45^{\circ}\text{C}; V_R = 0$	72 A^2s
	$t = 10 \text{ ms (50 Hz), sine}$	68 A^2s
	$t = 8.3 \text{ ms (60 Hz), sine}$	
	$T_{VJ} = T_{VJM}; V_R = 0$	50 A^2s
	$t = 10 \text{ ms (50 Hz), sine}$	47 A^2s
	$t = 8.3 \text{ ms (60 Hz), sine}$	
T_{VJM}		180 $^{\circ}\text{C}$
T_{VJ}		-40...+180 $^{\circ}\text{C}$
T_{stg}		-40...+180 $^{\circ}\text{C}$
Weight		2.4 g

Features

- International standard package
- Axial wire connexions
- Planar glassivated chips

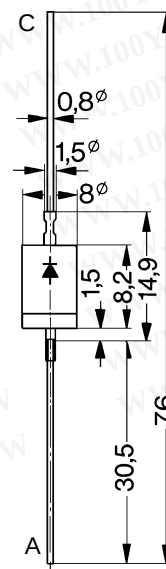
Applications

- Low power rectifiers
- Field supply for DC motors
- Power supplies
- High voltage rectifiers

Advantages

- Space and weight savings
- Simple PCB mounting
- Improved temperature and power cycling
- Reduced protection circuits

Dimensions in mm (1 mm = 0.0394")



Data according to IEC 60747

IXYS reserves the right to change limits, test conditions and dimensions

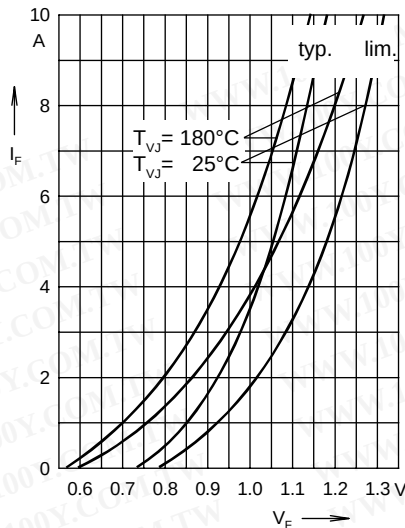


Fig. 1 Forward characteristics

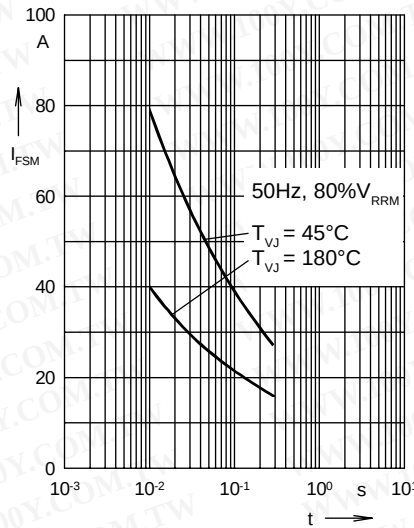


Fig. 2 Surge overload current
 I_{FSM} : crest value, t : duration

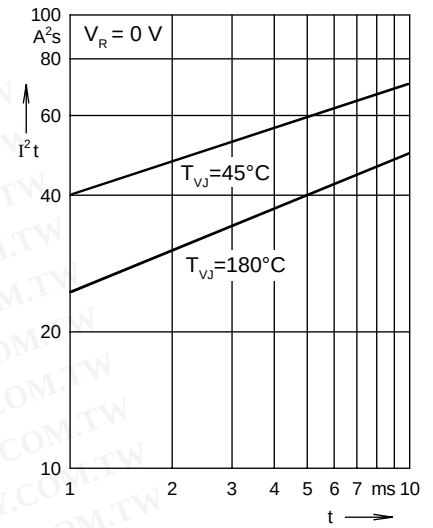


Fig. 3 I^2t versus time (1-10 ms)

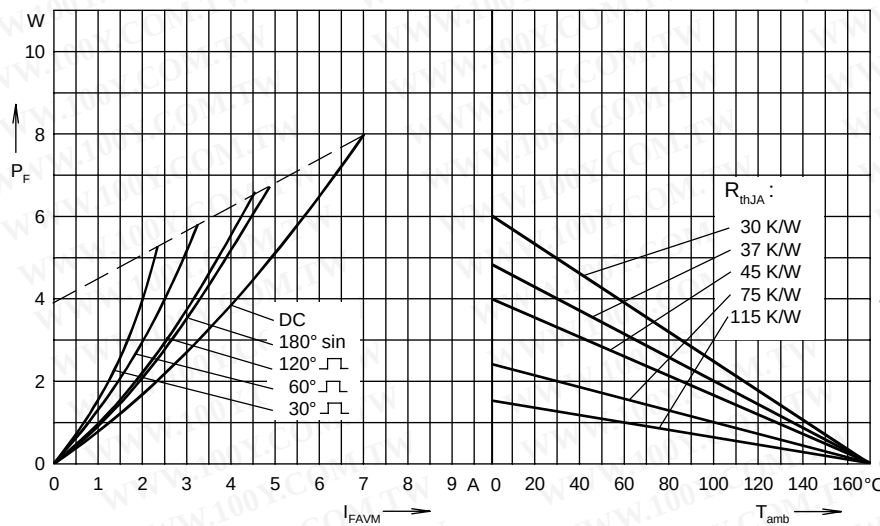


Fig. 4 Power dissipation versus forward current and ambient temperature

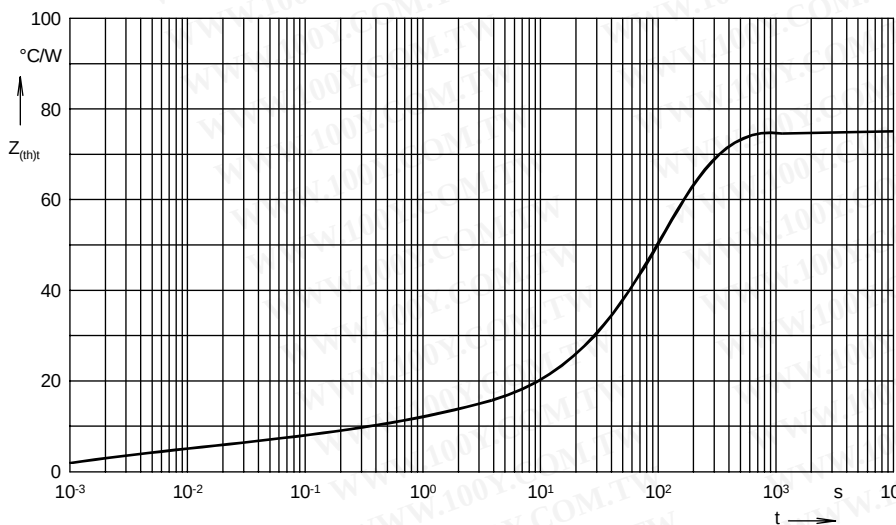


Fig. 5 Transient thermal impedance junction to ambient

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R_{thJA} for various conduction angles d :

d	R_{thJA} (K/W)
DC	75
180°	75.7
120°	76.1
60°	76.7
30°	77.4

Constants for Z_{thjt} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.15	0.001
2	10.85	0.1
3	64	35