

Rectifier Diode Avalanche Diode

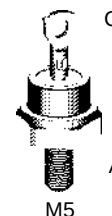
$$V_{\text{BRM}} = 800\text{-}1800 \text{ V}$$
$$I_{F(RMS)} = 18 \text{ A}$$
$$I_{F(AV)M} = 11 \text{ A}$$

V_{RSM} V	$V_{(BR)min}^{①}$ V	V_{RRM} V	Standard Types	Avalanche Types
900		800	DS9-08F	
1300	1300	1200	DS9-12F	DSA9-12F
1700	1750	1600		DSA9-16F
1900	1950	1800		DSA9-18F

① Only for Avalanche Diodes



DO-203 AA



A = Anode C = Cathode

Symbol	Test Conditions	Maximum Ratings		
I _{F(RMS)}	T _{VJ} = T _{VJM}	18	A	
I _{F(AVM)}	T _{case} = 150°C; 180° sine	11	A	
P _{RSM}	DSA types, T _{VJ} = T _{VJM} , t _p = 10 μs	4.5	kW	
I _{FSM}	T _{VJ} = 45°C;			
	V _R = 0	t = 10 ms (50 Hz), sine	250	A
		t = 8.3 ms (60 Hz), sine	265	A
I ² t	T _{VJ} = T _{VJM}	t = 10 ms (50 Hz), sine	200	A
	V _R = 0	t = 8.3 ms (60 Hz), sine	220	A
I ² t	T _{VJ} = 45°C	t = 10 ms (50 Hz), sine	310	A ² s
	V _R = 0	t = 8.3 ms (60 Hz), sine	295	A ² s
T _{VJ} T _{VJM} T _{stg}	T _{VJ} = T _{VJM}	t = 10 ms (50 Hz), sine	200	A ² s
	V _R = 0	t = 8.3 ms (60 Hz), sine	190	A ² s
T _{VJ} T _{VJM} T _{stg}		-40...+180	°C	
		180	°C	
T _{stg}		-40...+180	°C	
M _d	Mounting torque	2.2-2.8	Nm	
		19-25	lb.in.	
Weight		5	g	

Features

- International standard package, JEDEC DO-203 AA
- Planar glassivated chips

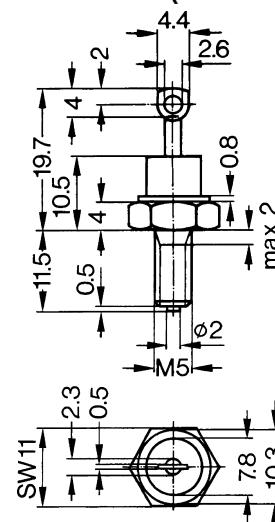
Applications

- Supplies for DC power equipment
- DC supply for PWM inverter
- Field supply for DC motors
- Battery DC power supplies

Advantages

- Space and weight savings
- Simple 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

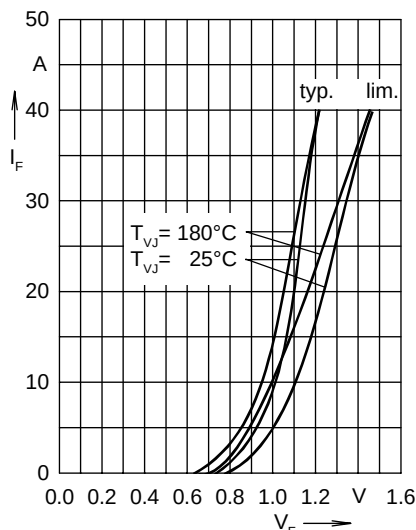


Fig. 1 Forward characteristics

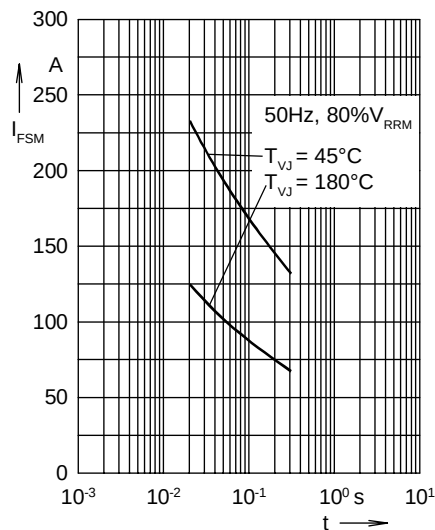


Fig. 2 Surge overload current
 I_{FSM} : crest value, t : duration

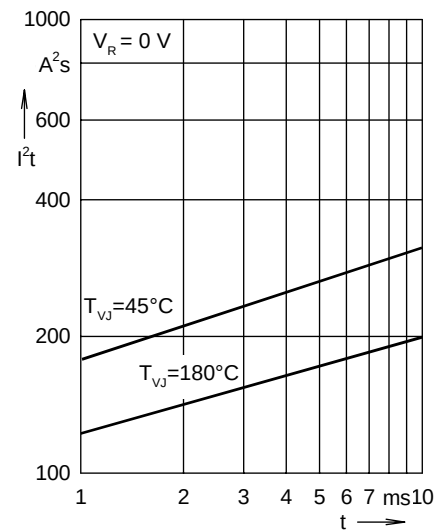


Fig. 3 I^2t versus time (1-10 ms)

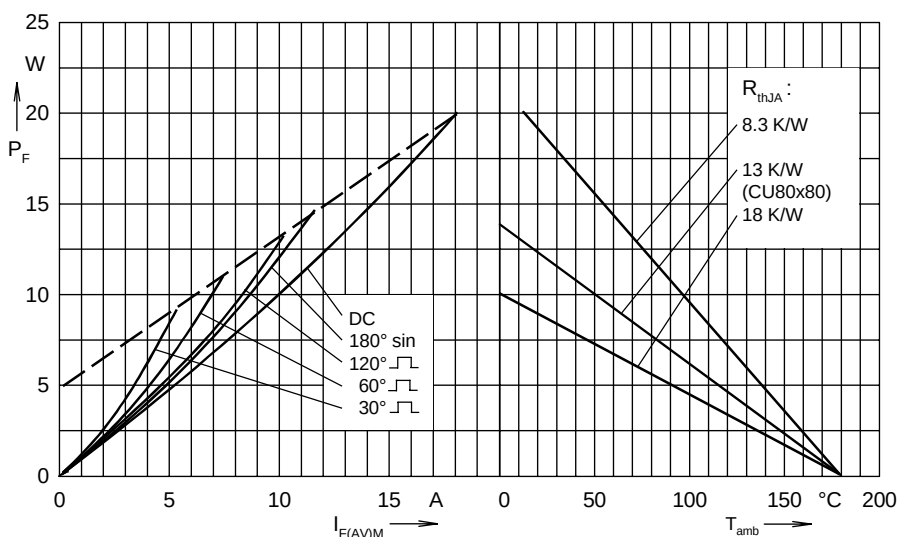


Fig. 4 Power dissipation versus forward current and ambient temperature

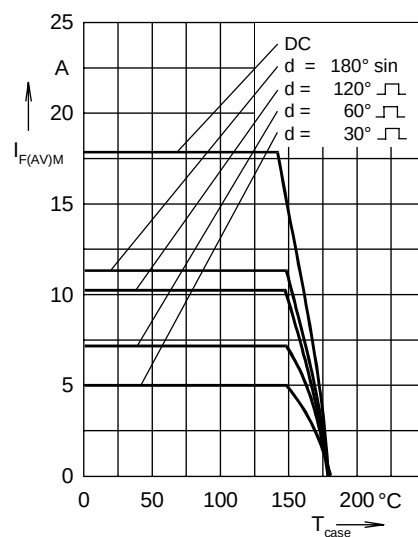


Fig. 5 Max. forward current at case temperature

R_{thJH} for various conduction angles d :

d	R_{thJH} (K/W)
DC	3.0
180°	3.35
120°	3.56
60°	4.0
30°	4.64

Constants for Z_{thJH} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.095	0.00032
2	0.515	0.0102
3	1.39	0.360
4	1.0	2.30

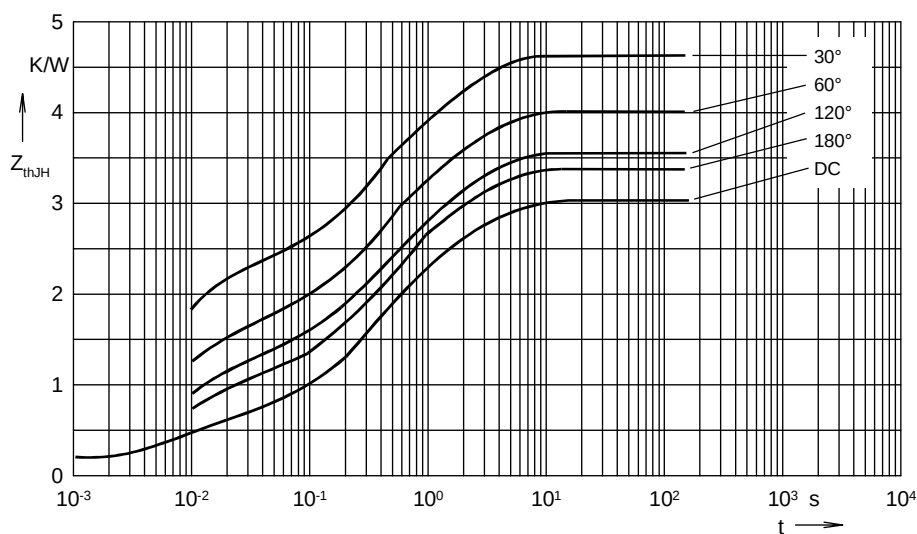


Fig. 6 Transient thermal impedance junction to heatsink

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