

Rectifier Diode Avalanche Diode

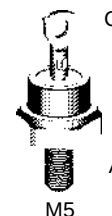
$$V_{\text{BRM}} = 800\text{-}1800 \text{ V}$$
$$I_{F(RMS)} = 18 \text{ A}$$
$$I_{F(AV)M} = 11 \text{ A}$$

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
$I_{F(AVM)}$	$T_{case} = 150^{\circ}\text{C}; 180^{\circ} \text{ sine}$	11	A
P_{RSM}	DSA types, $T_{VJ} = T_{VJM}$, $t_p = 10 \mu\text{s}$	4.5	kW
I_{FSM}	$T_{VJ} = 45^{\circ}\text{C};$	250	A
	$V_R = 0$	265	A
	$T_{VJ} = T_{VJM}$	200	A
	$V_R = 0$	220	A
I^2t	$T_{VJ} = 45^{\circ}\text{C}$	310	A^2s
	$V_R = 0$	295	A^2s
	$T_{VJ} = T_{VJM}$	200	A^2s
	$V_R = 0$	190	A^2s
T_{VJ}		-40...+180	$^{\circ}\text{C}$
T_{VJM}		180	$^{\circ}\text{C}$
T_{stg}		-40...+180	$^{\circ}\text{C}$
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

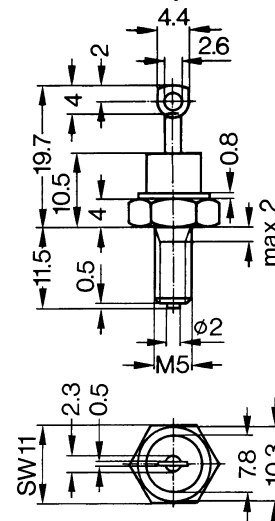
Applications

- 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

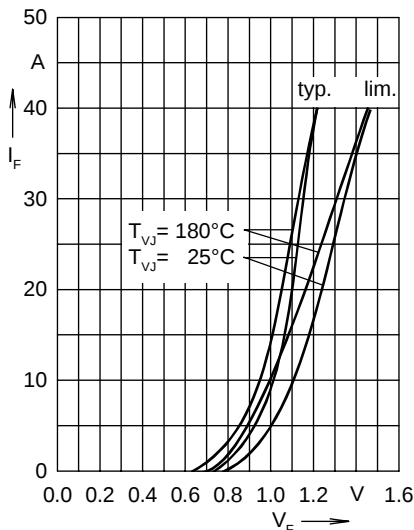


Fig. 1 Forward characteristics

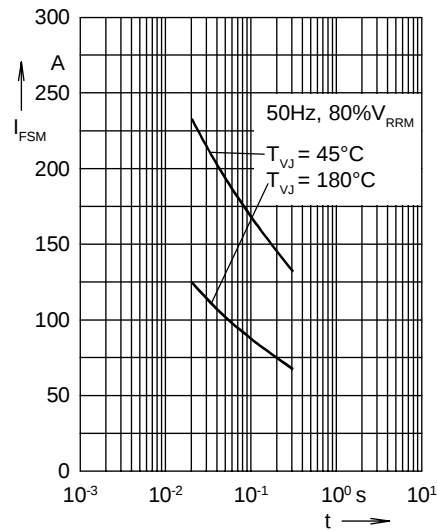


Fig. 2 Surge overload current
 I_{FSM} : crest value, t : duration

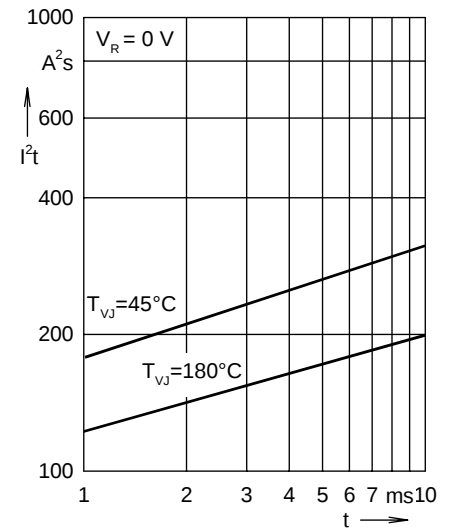


Fig. 3 I^2t versus time (1-10 ms)

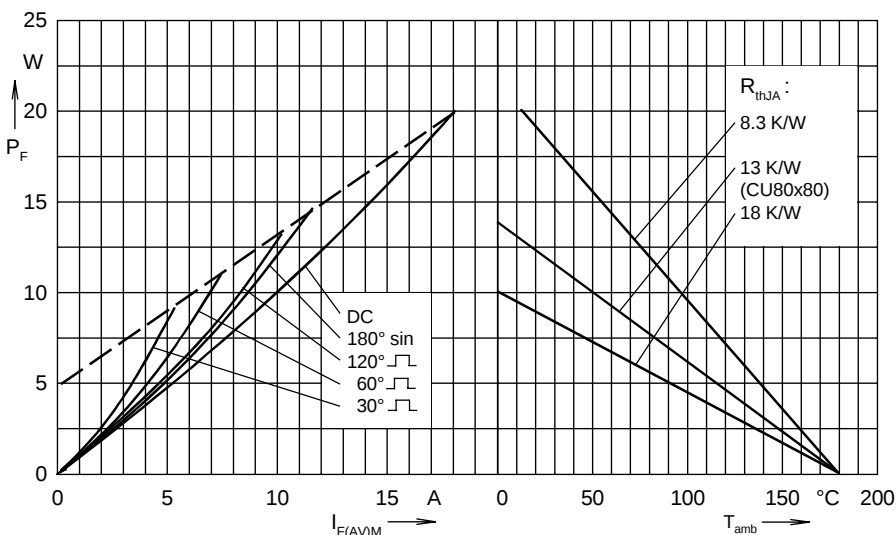


Fig. 4 Power dissipation versus forward current and ambient temperature

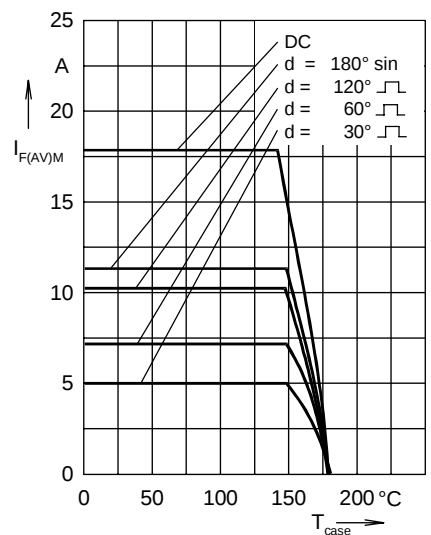


Fig. 5 Max. forward current at case temperature

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

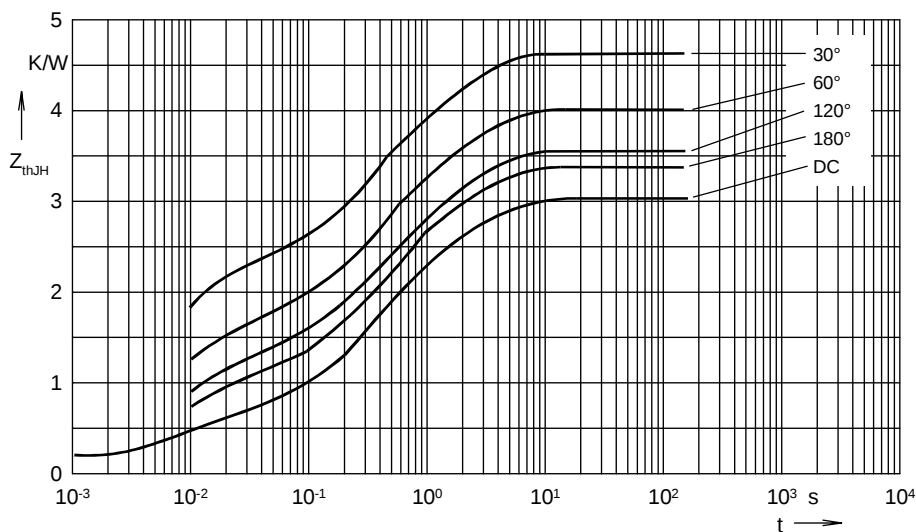


Fig. 6 Transient thermal impedance junction to heatsink