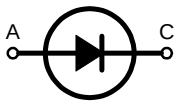
Rectifier Diode
Avalanche Diode

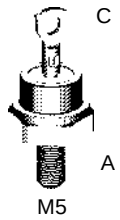
V_{RRM} = 800-1800 V
$I_{F(RMS)}$ = 18 A
$I_{F(AV)M}$ = 11 A

V_{RSM} V	$V_{(BR)min}$ ① V	V_{RRM} V	Standard Types	Avalanche Types
900		800	DS 9-08F	
1300	1300	1200	DS 9-12F	DSA 9-12F
1700	1750	1600		DSA 9-16F
1900	1950	1800		DSA 9-18F

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;	t = 10 ms (50 Hz), sine	250	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	265	A
	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^2t	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	310	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	295	A^2s
	T_{VJ} = T_{VJM}	t = 10 ms (50 Hz), sine	200	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	190	A^2s
T_{VJ}			-40...+180	°C
T_{VJM}			180	°C
T_{stg}			-40...+180	°C
M_d	Mounting torque		2.2-2.8	Nm
			19-25	lb.in.
Weight			5	g

Symbol	Test Conditions		Characteristic Values		
I_R	T_{VJ} = T_{VJM}; V_R = V_{RRM}		≤	3	mA
V_F	I_F = 36 A; T_{VJ} = 25°C		≤	1.4	V
V_{T0}	For power-loss calculations only			0.85	V
r_T	T_{VJ} = T_{VJM}			15	mΩ
R_{thJC}	DC current			2.0	K/W
	180° sine			2.17	K/W
R_{thJH}	DC current			3.0	K/W
d_S	Creepage distance on surface			2.0	mm
d_A	Strike distance through air			2.0	mm
a	Max. allowable acceleration			100	m/s^2

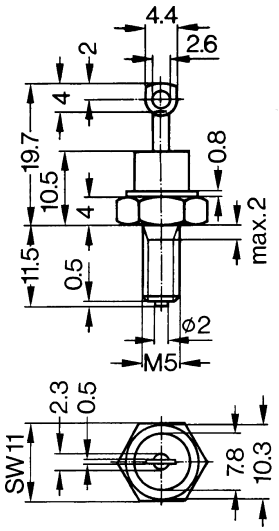
Data according to IEC 60747
IXYS reserves the right to change limits, test conditions and dimensions

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")



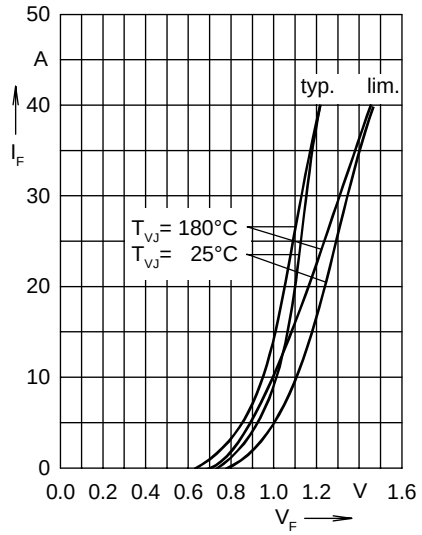


Fig. 1 Forward characteristics

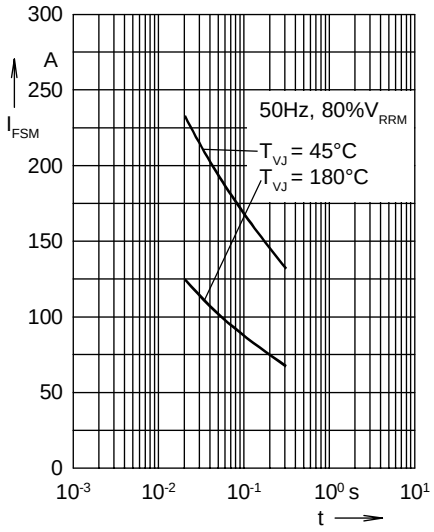


Fig. 2 Surge overload current
I_{FSM}: crest value, t: duration

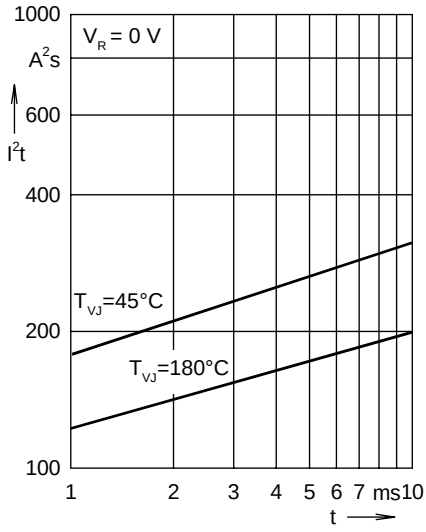


Fig. 3 I^2t versus time (1-10 ms)

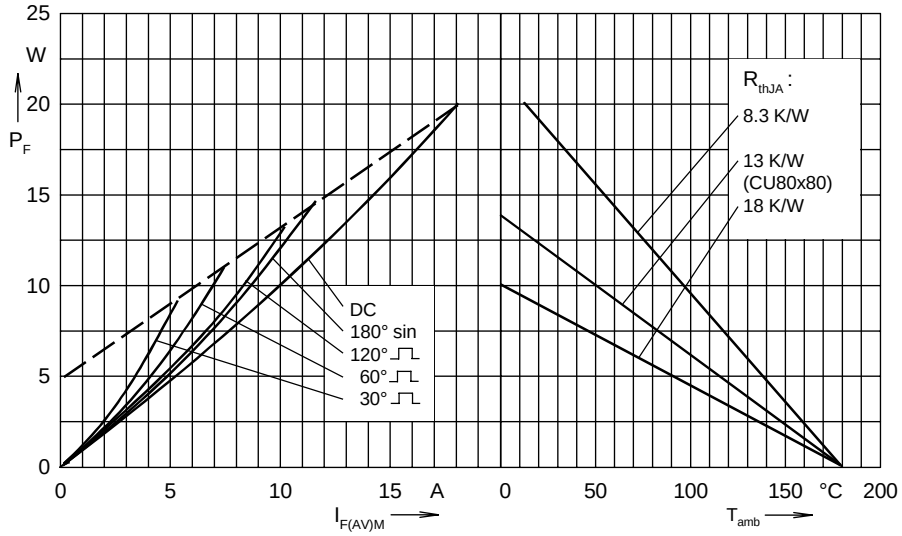


Fig. 4 Power dissipation versus forward current and ambient temperature

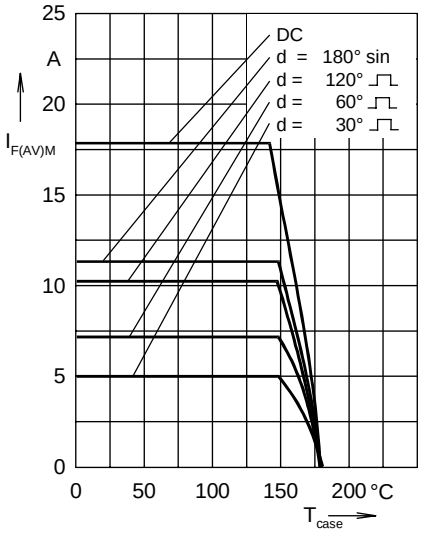


Fig. 5 Max. forward current at case temperature

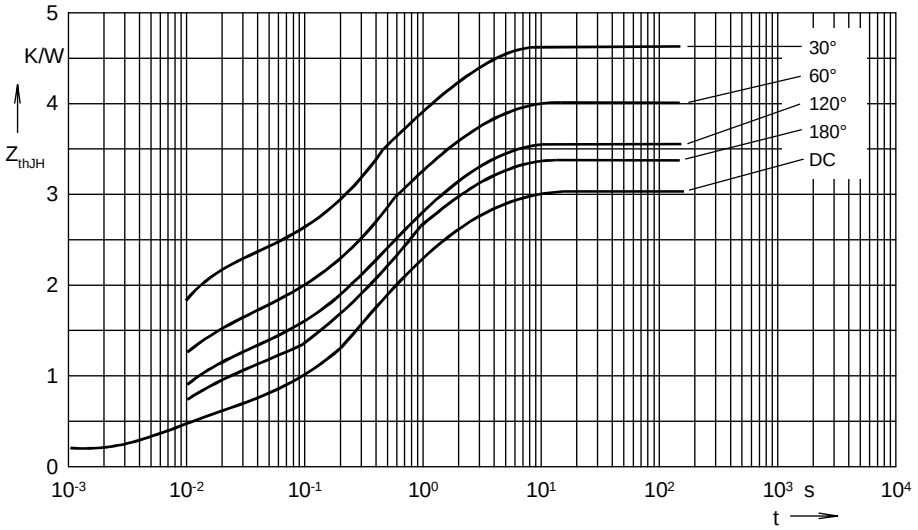


Fig. 6 Transient thermal impedance junction to heatsink

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

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