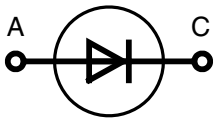
Avalanche Diode

V_{RRM} = 1200-1800 V
$I_{F(RMS)}$ = 18 A
I_{FAVM} = 11 A

V_{RSM} V	$V_{(BR)min}$ V	V_{RRM} V	Type
1300	1300	1200	DSA 9-12F
1700	1750	1600	DSA 9-16F
1900	1950	1800	DSA 9-18F



DO-203 AA

A = Anode, C = Cathode

Symbol	Conditions			Maximum Ratings	
I_{FRMS}	$T_{VJ} = T_{VJM}$			18	A
I_{FAVM}	T_C = 150°C; 180° sine			11	A
P_{RSM}	T_{VJM}, t_p = 10 ms			4.5	kW
I_{FSM}	T_{VJ} = 45°C;	t = 10 ms	(50 Hz), sine	250	A
		t = 8.3 ms	(60 Hz), sine	265	
	T_{VJ} = 150°C;	t = 10 ms	(50 Hz), sine	200	A
		t = 8.3 ms	(60 Hz), sine	220	
I^2t	T_{VJ} = 45°C;	t = 10 ms	(50 Hz), sine	310	A^2s
		t = 8.3 ms	(60 Hz), sine	295	
	T_{VJ} = 150°C;	t = 10 ms	(50 Hz), sine	200	A^2s
		t = 8.3 ms	(60 Hz), sine	190	
T_{VJ}				-40...+180	°C
T_{VJM}				180	°C
T_{stg}				-40...+180	°C
M_d	mounting torque			2.2...2.8	Nm
Weight	typical			5	g

Symbol	Conditions		Characteristic Values typ.	max.	
I_R	$V_R = V_{RRM}$	$T_{VJ} = T_{VJM}$		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	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

Features

- International standard package JEDEC DO-203 AA
- Planar passivated chips

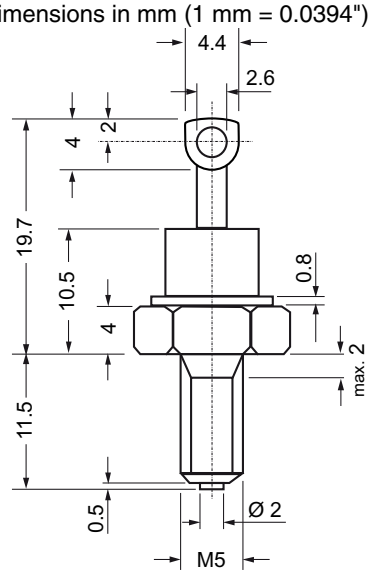
Applications

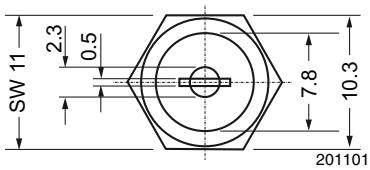
- Supplies for DC power equipment
- DC supply for PWM inverter
- Field supply for DC motors
- Battery DC power supplies

Advantages

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

Dimensions in mm (1 mm = 0.0394")





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

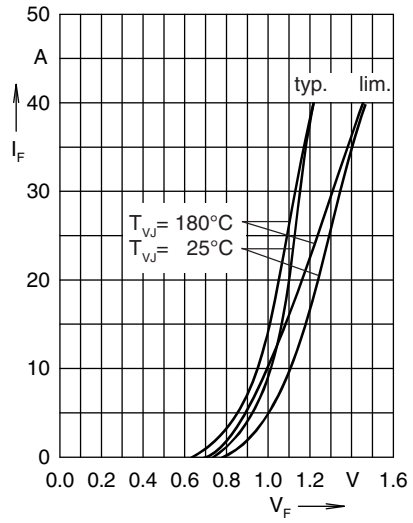

Fig. 1 Forward characteristics

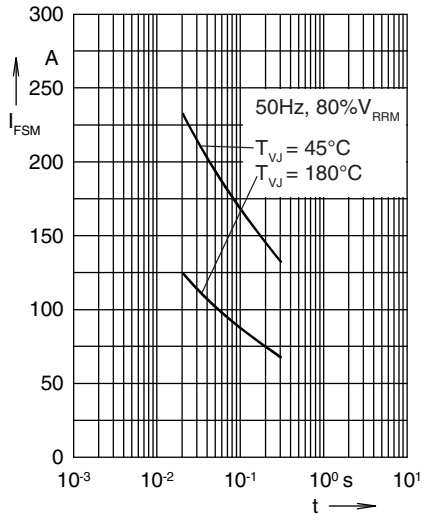

Fig. 2 Surge overload current
I_{FSM}: crest value, t: duration

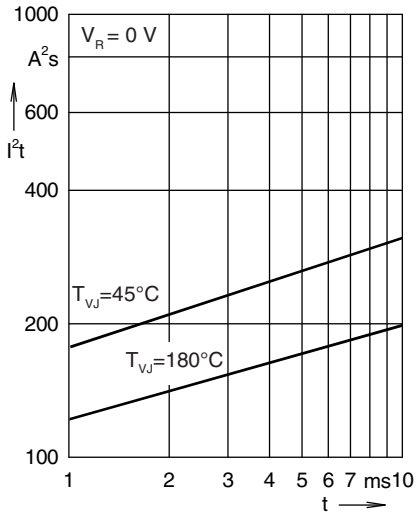

Fig. 3 I^2t versus time (1-10 ms)

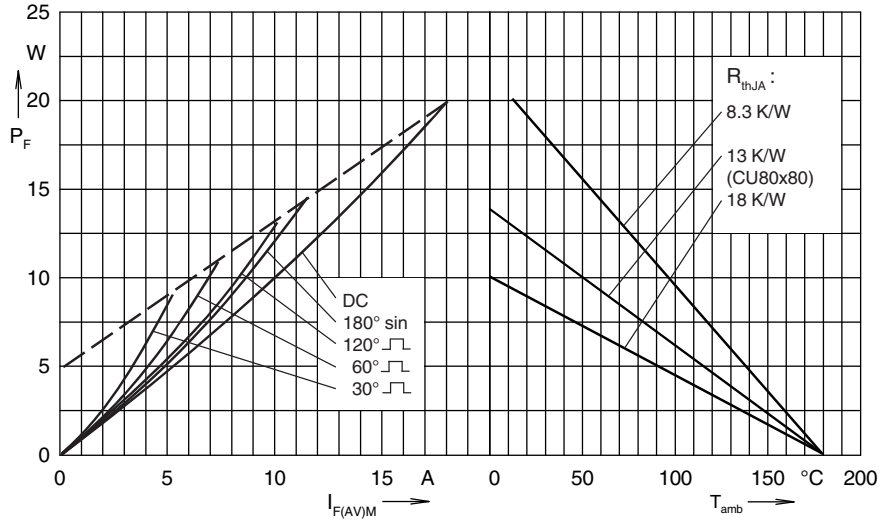

Fig. 4 Power dissipation versus forward current and ambient temperature

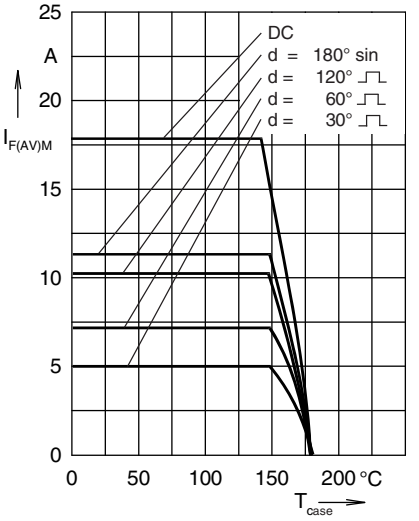

Fig. 5 Max. forward current at case temperature

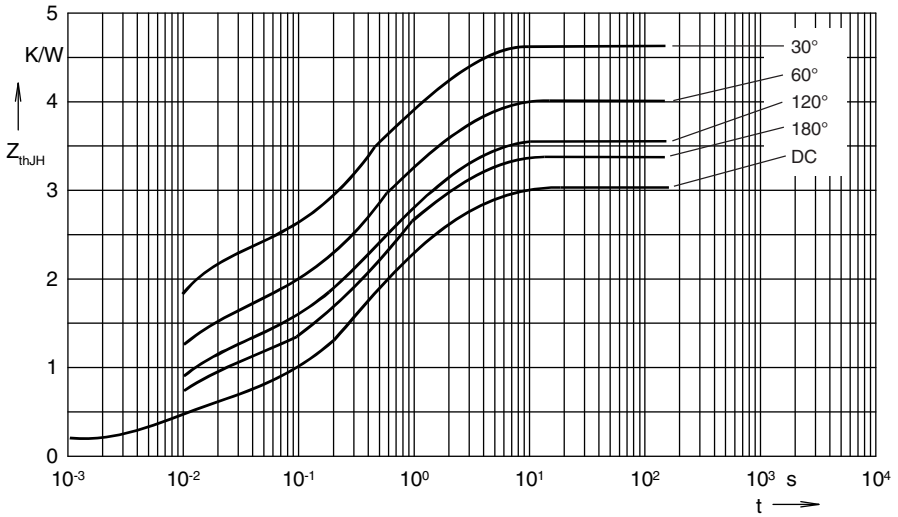

Fig. 6 Transient thermal impedance junction to heatsink

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