

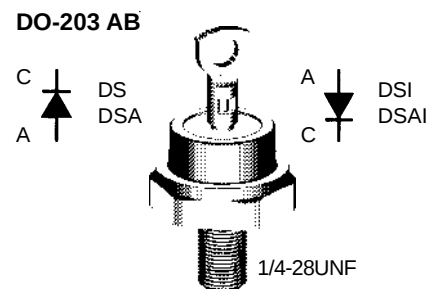
Rectifier Diode

Avalanche Diode

$$V_{\text{BRM}} = 800\text{-}1800 \text{ V}$$
$$I_{F(RMS)} = 80 \text{ A}$$
$$I_{F(AV)M} = 49 \text{ A}$$

V_{RSM} V	$V_{(BR)min}$ ① V	V_{RRM} V	 Anode on stud	 Cathode on stud
900	-	800	DS 35-08A	DSI 35-08A
1300	-	1200	DS 35-12A	DSI 35-12A
1300	1300	1200	DSA 35-12A	DSAI 35-12A
1700	1750	1600	DSA 35-16A	DSAI 35-16A
1900	1950	1800	DSA 35-18A	DSAI 35-18A

① Only for Avalanche Diodes



A = Anode C = Cathode

Symbol	Test Conditions	Maximum Ratings		
$I_{F(RMS)}$	$T_{VJ} = T_{VJM}$	80	A	
$I_{F(AVM)}$	$T_{case} = 100^{\circ}\text{C}; 180^{\circ}$ sine	49	A	
P_{RSM}	DSA(I) types, $T_{VJ} = T_{VJM}$, $t_p = 10\ \mu\text{s}$	11	kW	
I_{FSM}	$T_{VJ} = 45^{\circ}\text{C};$			
	$V_R = 0$	t = 10 ms (50 Hz), sine	650	A
		t = 8.3 ms (60 Hz), sine	690	A
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	600	A
I^2t	$V_R = 0$	t = 8.3 ms (60 Hz), sine	640	A
	$T_{VJ} = 45^{\circ}\text{C}$	t = 10 ms (50 Hz), sine	2100	A ² s
	$V_R = 0$	t = 8.3 ms (60 Hz), sine	2000	A ² s
	$T_{VJ} = T_{VJM}$	t = 10 ms (50 Hz), sine	1800	A ² s
T_{VJ} T_{VJM} T_{stg}	$V_R = 0$	t = 8.3 ms (60 Hz), sine	1700	A ² s
			-40...+180	$^{\circ}\text{C}$
			180	$^{\circ}\text{C}$
			-40...+180	$^{\circ}\text{C}$
M_d	Mounting torque	4.5-5.5	Nm	
		40-49	lb.in.	
Weight		15	g	

Features

- International standard package, JEDEC DO-203 AB (DO-5)
- Planar glassivated chips

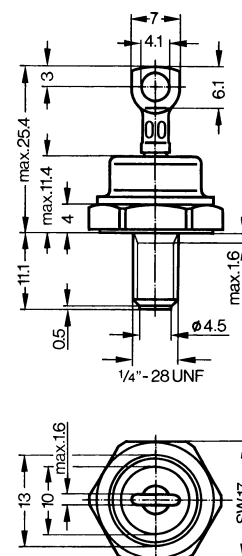
Applications

- High power rectifiers
- Field supply for DC motors
- 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

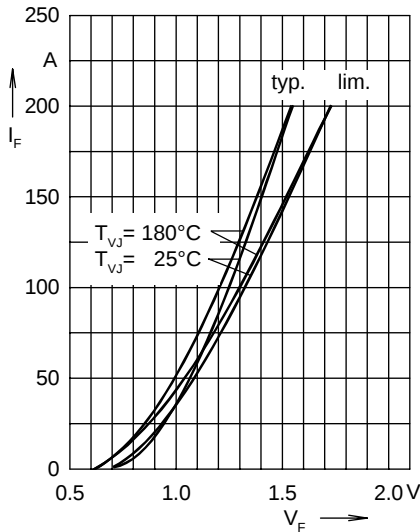


Fig. 1 Forward characteristics

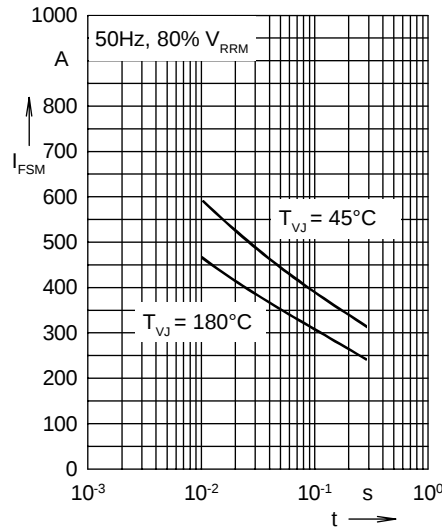


Fig. 2 Surge overload current
 I_{FSM} : crest value, t : duration

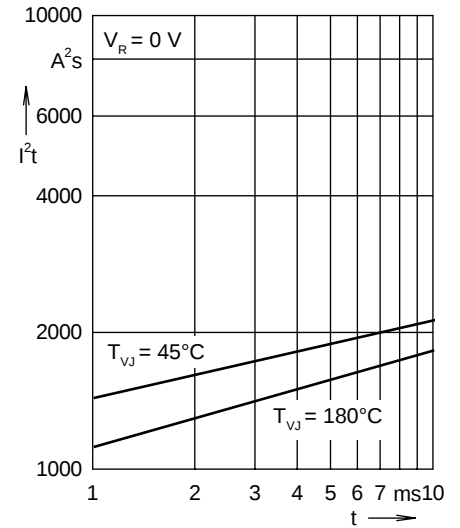


Fig. 3 I^2t versus time (1-10 ms)

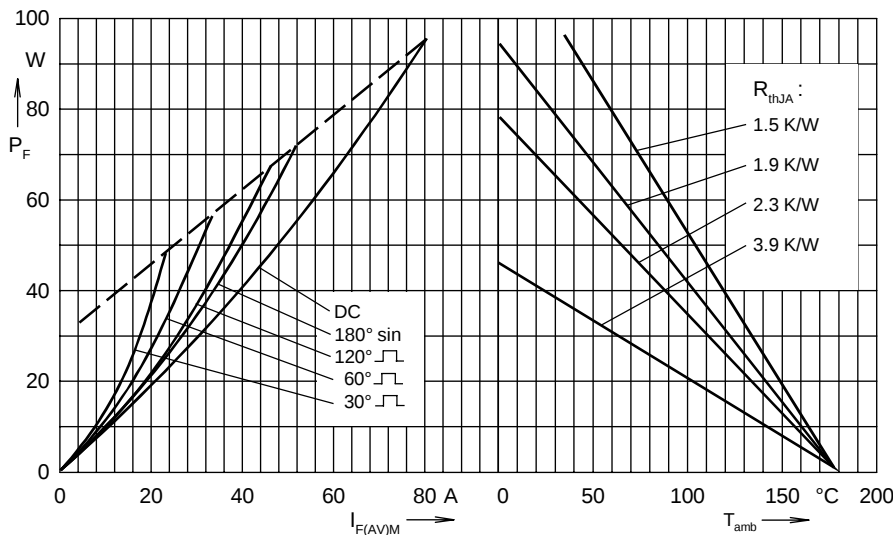


Fig. 4 Power dissipation versus forward current and ambient temperature

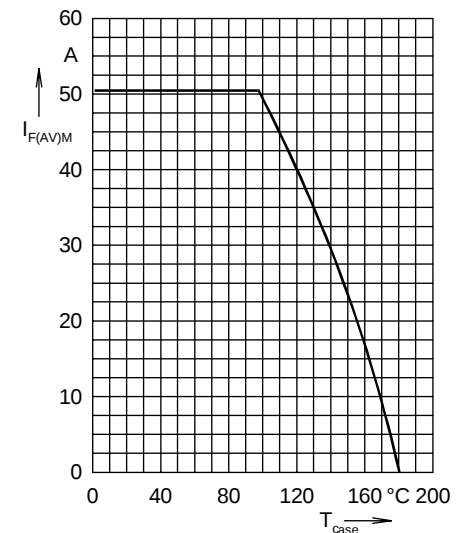


Fig. 5 Max. forward current at case temperature 180° sine

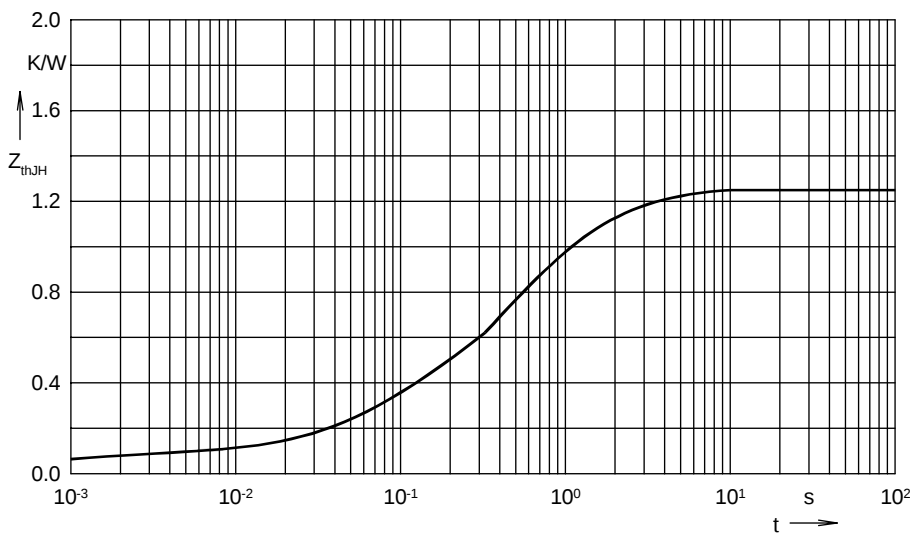


Fig. 6 Transient thermal impedance junction to heatsink

R_{thJH} for various conduction angles d :

d	R_{thJH} (K/W)
DC	1.25
180°	1.37
120°	1.47
60°	1.74
30°	2.08

Constants for Z_{thJH} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.10	0.0012
2	0.25	0.1181
3	0.70	0.6540
4	0.20	2.0