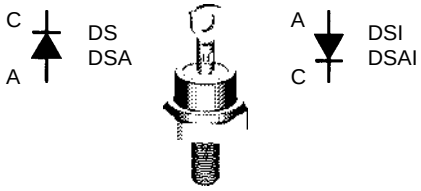
Rectifier Diode
Avalanche Diode

V_{RRM} = 800-1800 V
$I_{F(RMS)}$ = 40 A
$I_{F(AV)M}$ = 25 A

V_{RSM} V	$V_{(BR)min}$ ① V	V_{RRM} V	Anode on stud	Cathode on stud
900	-	800	DS 17-08A	DSI 17-08A
1300	-	1200	DS 17-12A	DSI 17-12A
1300	1300	1200	DSA 17-12A	DSAI 17-12A
1700	1750	1600	DSA 17-16A	DSAI 17-16A
1900	1950	1800	DSA 17-18A	DSAI 17-18A

① Only for Avalanche Diodes

DO-203 AA



A = Anode C = Cathode

Symbol	Test Conditions		Maximum Ratings	
$I_{F(RMS)}$	T_{VJ} = T_{VJM}		40	A
$I_{F(AV)M}$	T_{case} = 125°C; 180° sine		25	A
P_{RSM}	DSA(I) types, T_{VJ} = T_{VJM}, t_p = 10 µs		7	kW
I_{FSM}	T_{VJ} = 45°C;	t = 10 ms (50 Hz), sine	370	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	400	A
	T_{VJ} = T_{VJM}	t = 10 ms (50 Hz), sine	300	A
	V_R = 0	t = 8.3 ms (60 Hz), sine	320	A
I^2t	T_{VJ} = 45°C	t = 10 ms (50 Hz), sine	680	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	660	A^2s
	T_{VJ} = T_{VJM}	t = 10 ms (50 Hz), sine	450	A^2s
	V_R = 0	t = 8.3 ms (60 Hz), sine	430	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			6	g

Symbol	Test Conditions		Characteristic Values		
I_R	T_{VJ} = T_{VJM}; V_R = V_{RRM}		≤	4	mA
V_F	I_F = 55 A; T_{VJ} = 25°C		≤	1.36	V
V_{T0}	For power-loss calculations only			0.85	V
r_T	T_{VJ} = T_{VJM}			8	mΩ
R_{thJC}	DC current			1.5	K/W
R_{thJH}	DC current			2.1	K/W
d_S	Creepage distance on surface			2.05	mm
d_A	Strike distance through air			2.05	mm
a	Max. allowable acceleration			100	m/s^2

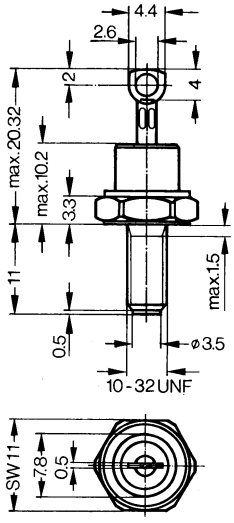
Data according to IEC 60747
IXYS reserves the right to change limits, test conditions and dimensions

Features
- International standard package, JEDEC DO-203 AA (DO-4)
- 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")



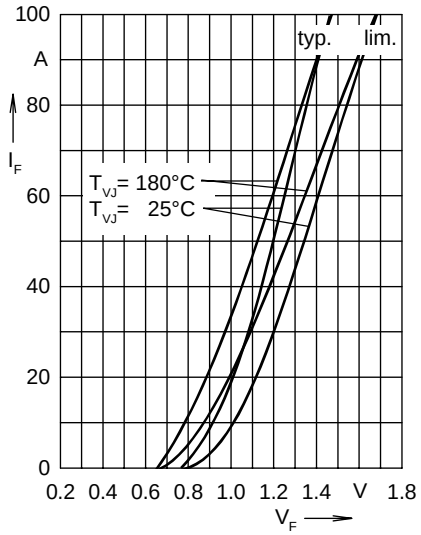


Fig. 1 Forward characteristics

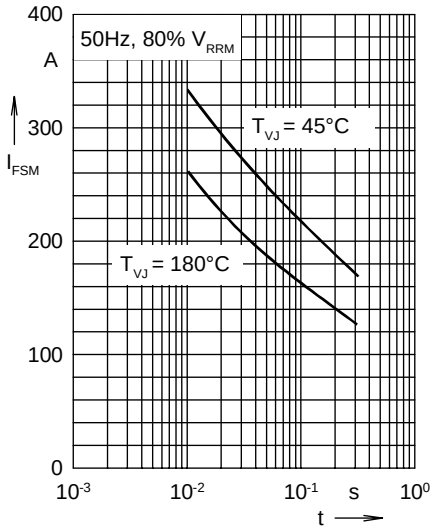


Fig. 2 Surge overload current
I_{FSM}: crest value, t: duration

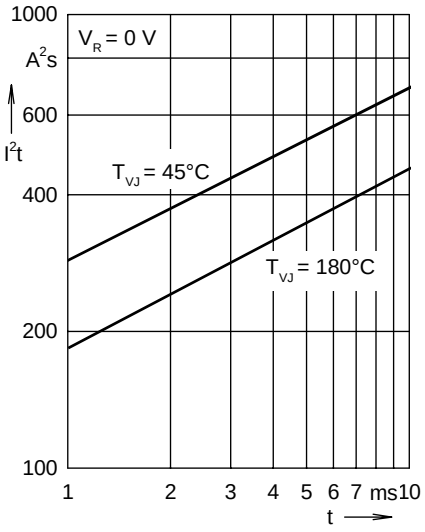


Fig. 3 I^2t versus time (1-10 ms)

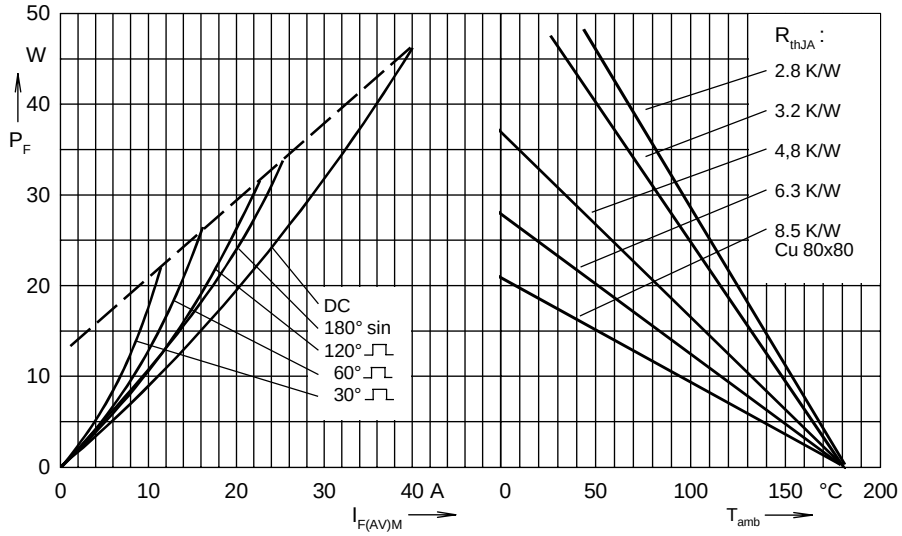


Fig. 4 Power dissipation versus forward current and ambient temperature

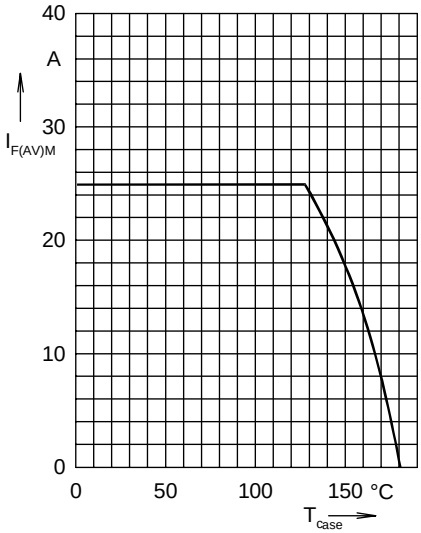


Fig. 5 Max. forward current at case temperature 180° sine

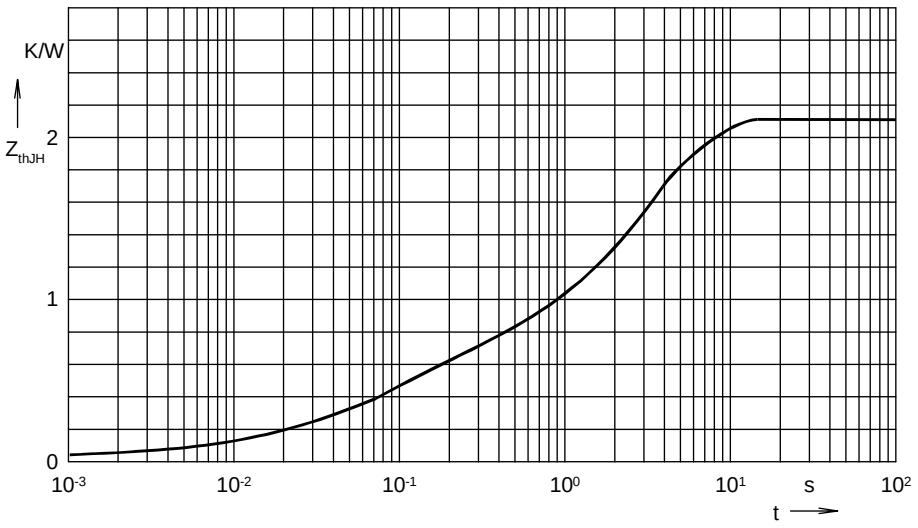


Fig. 6 Transient thermal impedance junction to heatsink

R_{thJH} for various conduction angles d:

d	R_{thJH} (K/W)
DC	2.10
180°	2.23
120°	2.33
60°	2.53
30°	2.72

Constants for Z_{thJH} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.1006	0.0021
2	0.5311	0.0881
3	0.8683	2.968
4	0.600	3.20