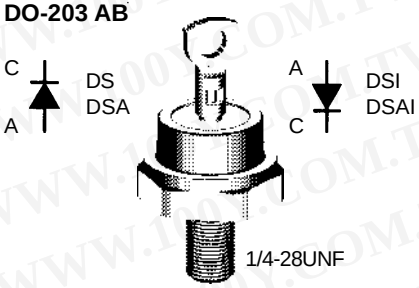
Rectifier Diode
Avalanche Diode

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

DO-203 AB



A = Anode C = Cathode

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

Symbol	Test Conditions		Characteristic Values		
I_R	T_{VJ} = T_{VJM}; V_R = V_{RRM}		≤	4	mA
V_F	I_F = 150 A; T_{VJ} = 25°C		≤	1.55	V
V_{T0}	For power-loss calculations only			0.85	V
r_T	T_{VJ} = T_{VJM}			4.5	mΩ
R_{thJC}	DC current			1.05	K/W
R_{thJH}	DC current			1.25	K/W
d_S	Creepage distance on surface			4.05	mm
d_A	Strike distance through air			3.9	mm
a	Max. allowable acceleration			100	m/s^2

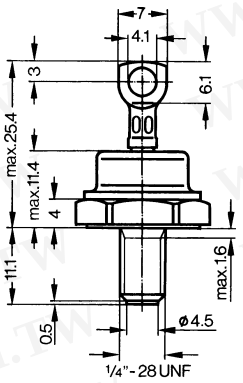
Data according to IEC 60747
IXYS reserves the right to change limits, test conditions and dimensions

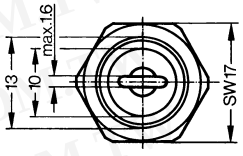
Features
- International standard package, JEDEC DO-203 AB (DO-5)
- Planar glassivated chips

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")





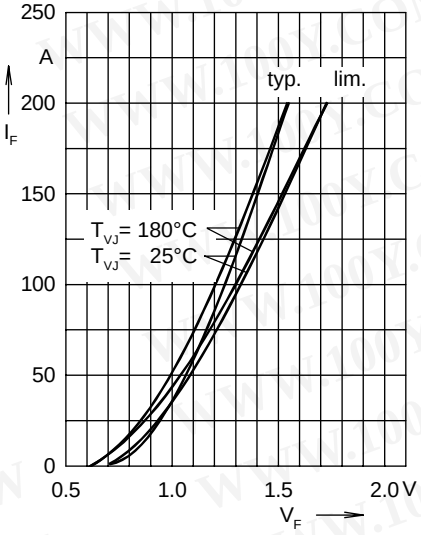


Fig. 1 Forward characteristics

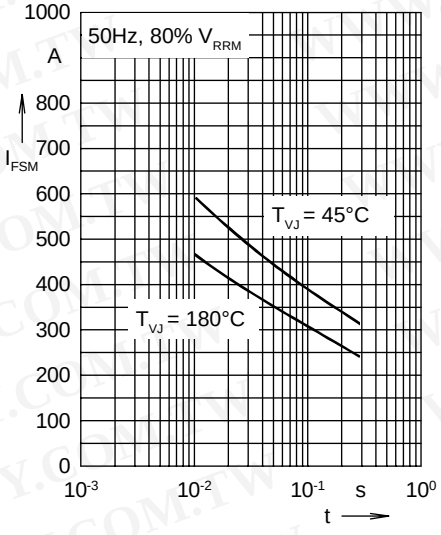


Fig. 2 Surge overload current
I_{FSM}: crest value, t: duration

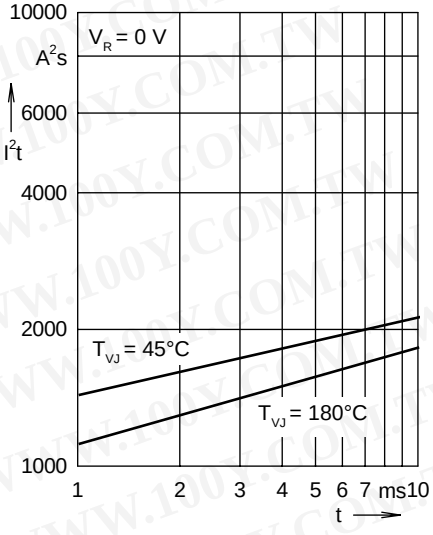


Fig. 3 I^2t versus time (1-10 ms)

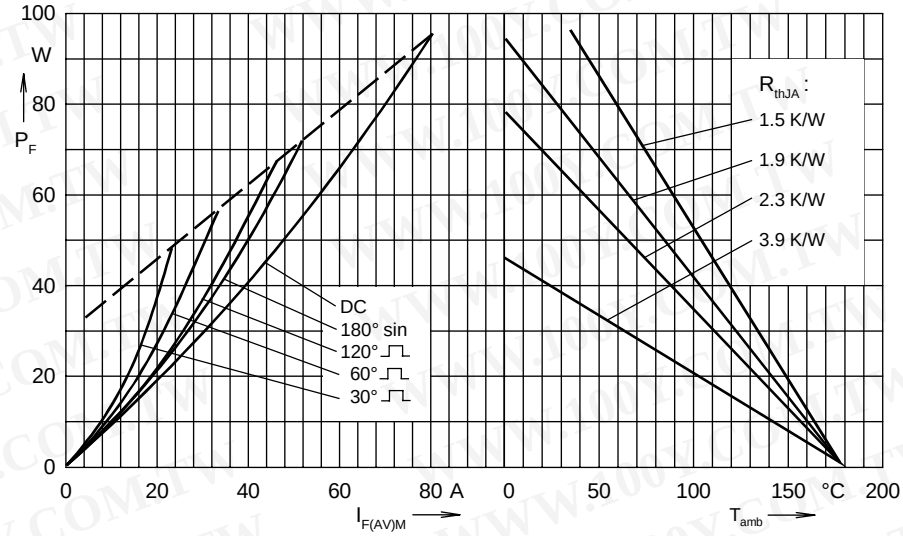


Fig. 4 Power dissipation versus forward current and ambient temperature

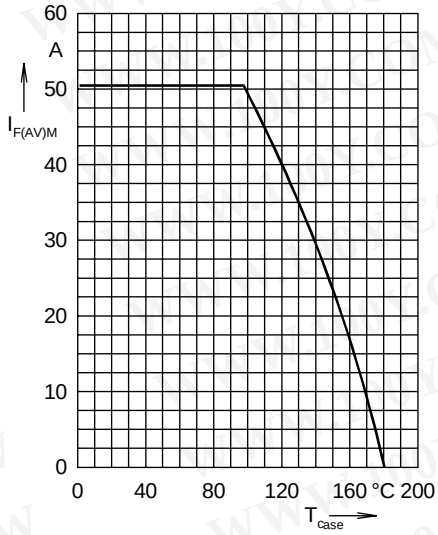


Fig. 5 Max. forward current at case temperature 180° sine

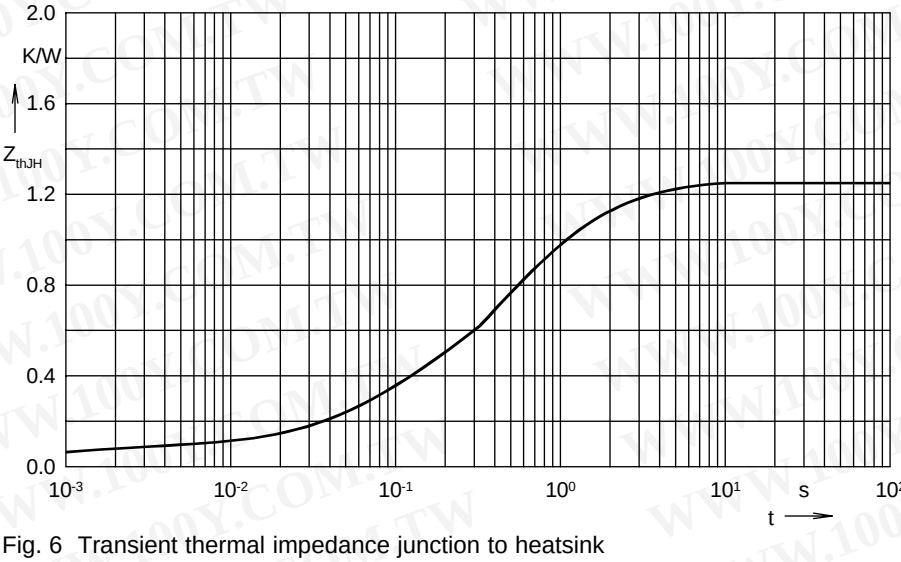


Fig. 6 Transient thermal impedance junction to heatsink

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