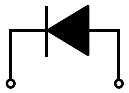
SD20

Discrete Diodes

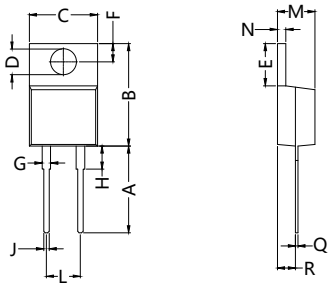
1.Cathode 2. Anode



1.Cathode 2. Anode

	V_{RSM} V	V_{RRM} V
SD2001	200	100
SD2002	300	200
SD2004	500	400
SD2008	900	800
SD2010	1100	1000
SD2012	1300	1200
SD2016	1700	1600

Dimensions TO-220AC



Dim.	Millimeter	
	Min.	Max.
A	12.70	13.97
B	14.73	16.00
C	9.91	10.66
ØD	3.54	4.08
E	5.85	6.85
F	2.54	3.18
G	1.15	1.65
H	2.79	5.84
J	0.64	1.01
L	5.05BSC	
M	4.32	4.82
N	1.14	1.39
Q	0.35	0.56
R	2.29	2.79

Symbol	Test Conditions		Maximum Ratings	Unit
$I_{F(AV)M}$	TC=110°C; 180° sine		20	A
I_{FSM}	T_{VJ}=45°C; V_R =0V;	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	250 275	A
	T_{VJ}=150°C; V_R =0V;	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	225 245	
I^2t	T_{VJ}=45°C; V_R =0V;	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	350 360	A^2s
	T_{VJ}=150°C; V_R =0V;	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	315 335	
T_{VJ} T_{VJM} T_{stg}			-40...+150 150 -40...+150	°C
M_d	Mounting torque		0.4...0.6	Nm
Weight			2	g

Symbol	Test Conditions	Characteristic Values	Unit
I_R	T_{VJ}=T_{VJM}; V_R=V_{RRM}	≤ 1	mA
V_F	I_F=20A; T_{VJ}=25°C	≤ 1.25	V
V_{TO}	For power-loss calculations only	0.85	V
r_T	T_{VJ}=T_{VJM}	13	mΩ
R_{thJC}	DC current	1.25	K/W

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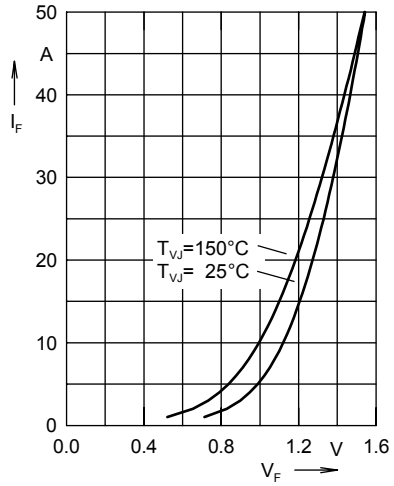

Fig. 1 Forward current versus voltage drop per diode

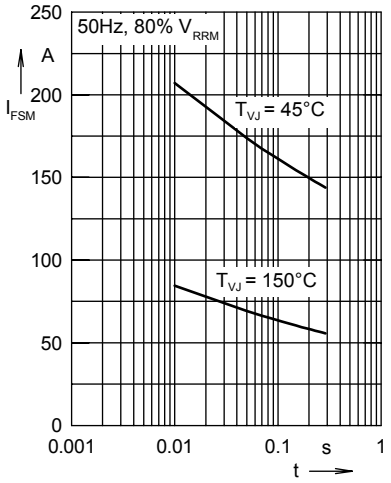

Fig. 2 Surge overload current

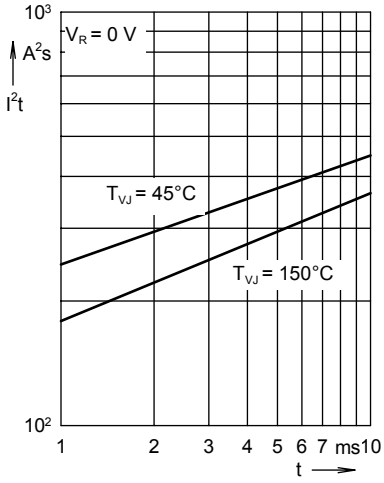

Fig. 3 I^2t versus time per diode

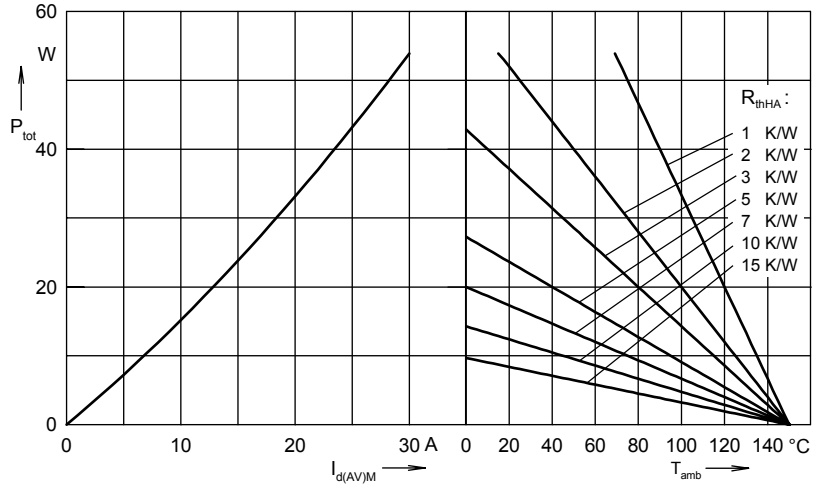

Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180 °

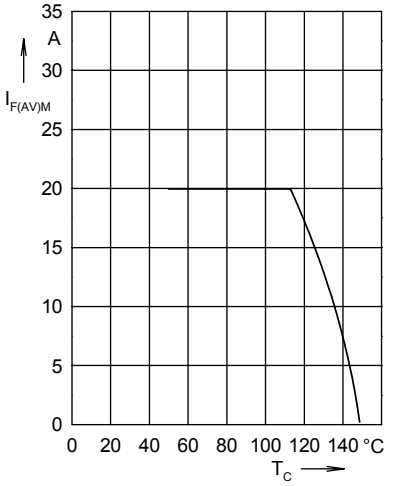

Fig. 5 Max. forward current versus case temperature

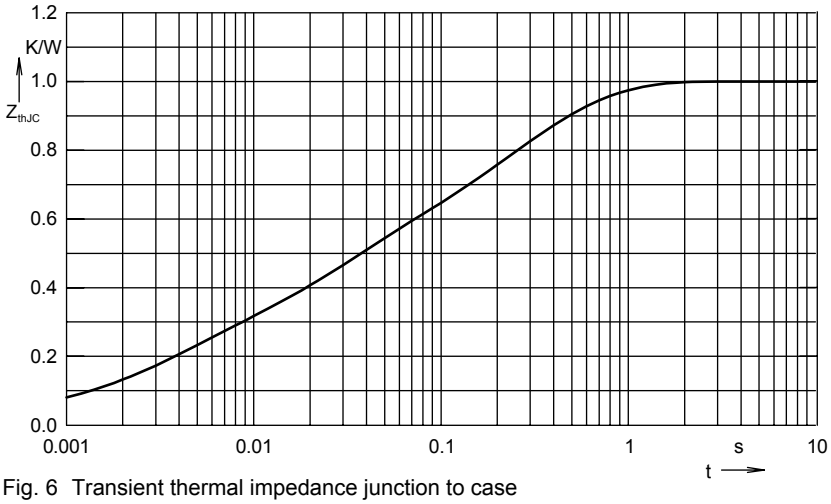

Fig. 6 Transient thermal impedance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi}(K/W)	t_i (s)
1	0.01362	0.0001
2	0.1962	0.00316
3	0.267	0.023
4	0.3052	0.4
5	0.218	0.15

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