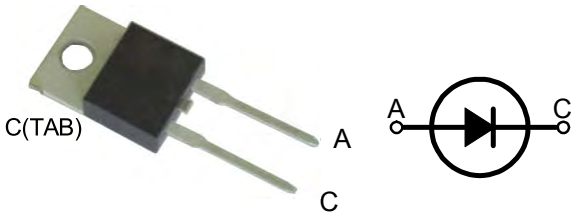
SD10

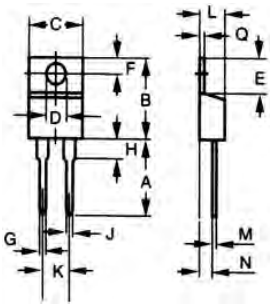
Discrete Diodes



A=Anode, C=Cathode, TAB=Cathode

	V_{RSM} V	V_{RRM} V
SD1001	200	100
SD1002	300	200
SD1004	500	400
SD1008	900	800
SD1010	1100	1000
SD1012	1300	1200
SD1016	1700	1600

Dimensions TO-220AC



Dim.	Inches Min.	Inches Max.	Milimeter Min.	Milimeter Max.
A	0.500	0.580	12.70	14.73
B	0.560	0.650	14.23	16.51
C	0.380	0.420	9.66	10.66
D	0.139	0.161	3.54	4.08
E	0.230	0.420	5.85	6.85
F	0.100	0.135	2.54	3.42
G	0.045	0.070	1.15	1.77
H	-	0.250	-	6.35
J	0.025	0.035	0.64	0.89
K	0.190	0.210	4.83	5.33
L	0.140	0.190	3.56	4.82
M	0.015	0.022	0.38	0.56
N	0.080	0.115	2.04	2.49
Q	0.025	0.055	0.64	1.39

Symbol	Test Conditions		Maximum Ratings	Unit
$I_{F(AV)M}$	T_C=95°C; 180° sine		10	A
I_{FSM}	T_{VJ}=45°C;	t=10ms (50Hz), sine	150	A
	V_R =0V;	t=8.3ms (60Hz), sine	175	
	T_{VJ}=150°C;	t=10ms(50Hz), sine	125	
	V_R =0V;	t=8.3ms(60Hz), sine	170	
I^2t	T_{VJ}=45°C;	t=10ms (50Hz), sine	230	A^2s
	V_R =0V;	t=8.3ms (60Hz), sine	260	
	T_{VJ}=150°C;	t=10ms(50Hz), sine	200	
	V_R =0V;	t=8.3ms(60Hz), sine	220	
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=10A; T_{VJ}=25°C	≤ 1.25	V
V_{TO}	For power-loss calculations only	0.85	V
r_T	T_{VJ}=T_{VJM}	16	mΩ
R_{thJC}	DC current	1.29	K/W

Sirectifier®

©2008 SIRECTIFIER All rights reserved,
www.sirectifier.com
Tel: +86-519-86800000 Fax: +86-519-88019019 E-mail: sales@sirectifier.com

SD10

Discrete Diodes

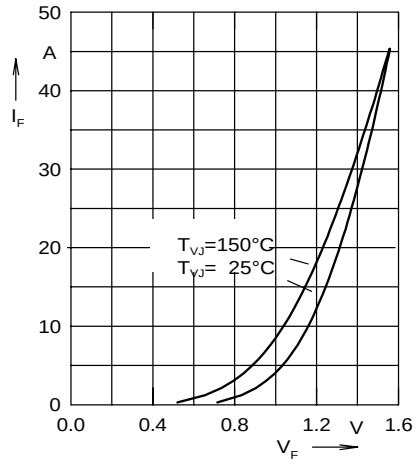


Fig. 1 Forward current versus voltage drop per diode

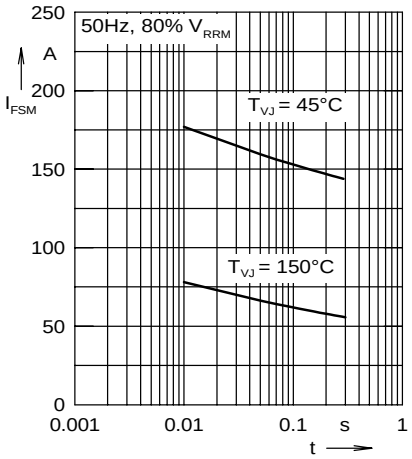


Fig. 2 Surge overload current

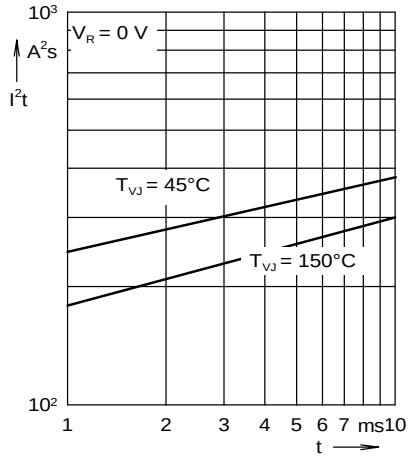


Fig. 3 I^2t versus time per diode

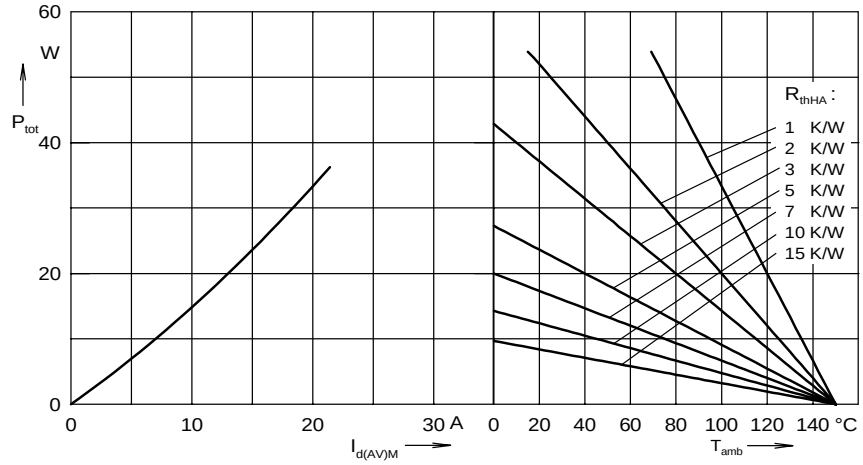


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180 °

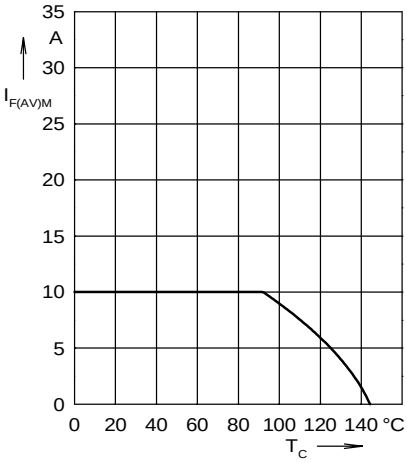


Fig. 5 Max. forward current versus case temperature

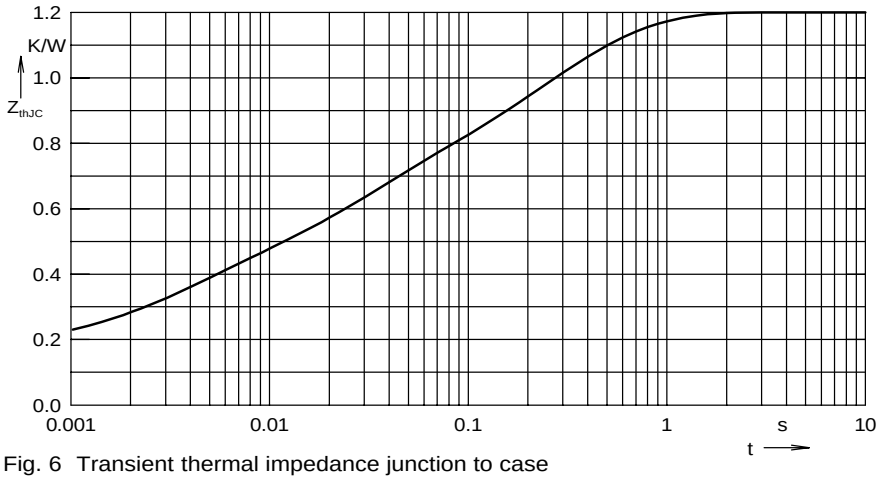


Fig. 6 Transient thermal impedance junction to case

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

©2008 SIRECTIFIER All rights reserved,
www.sirectifier.com
Tel: +86-519-86800000 Fax: +86-519-88019019 E-mail: sales@sirectifier.com