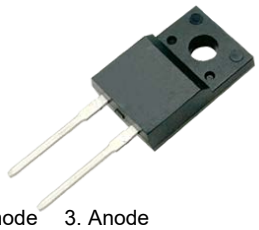
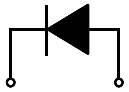
SD2001P thru 2016P

Discrete Diodes

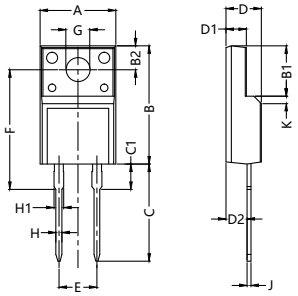


1.Cathode 3. Anode



1 Cathode 3 Anode

Dimensions TO-220F-2L



Dim.	Millimeter		Dim.	Millimeter	
	Min.	Max.		Min.	Max.
A	9.80	10.60	D2	2.30	3.30
B	15.40	16.40	E	5.08BSC	
B1	6.00	7.40	F	14.50	16.00
B2	3.20	3.80	ØG	2.90	3.40
C	12.80	13.50	H	0.60	1.00
C1	3.20	4.00	H1	1.15	1.55
D	4.35	4.95	J	0.35	0.65
D1	2.24	2.84	K	0.00	1.60

	V_{RSM} V	V_{RRM} V
SD2001P	200	100
SD2002P	300	200
SD2004P	500	400
SD2008P	900	800
SD2010P	1100	1000
SD2012P	1300	1200
SD2016P	1700	1600

Symbol	Test Conditions		Maximum Ratings	Unit
$I_{F(AV)M}$	T_C=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

www.sirectifier.com Tel: +86-519-86800000 Fax: +86-519-88019019 E-mail: sales@sirectifier.com

SD2001P thru 2016P

Discrete Diodes

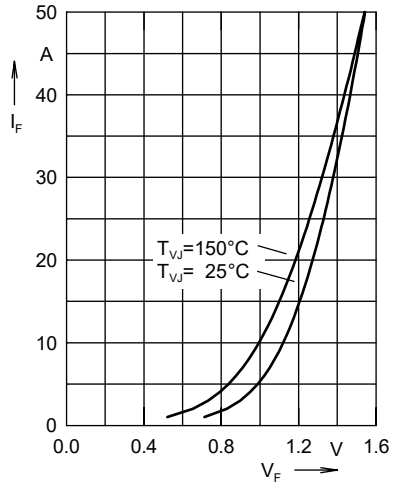


Fig. 1 Forward current versus voltage drop per diode

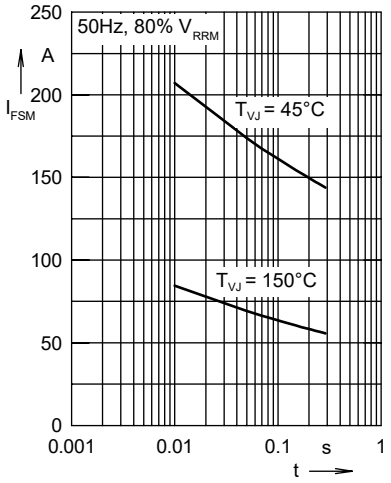


Fig. 2 Surge overload current

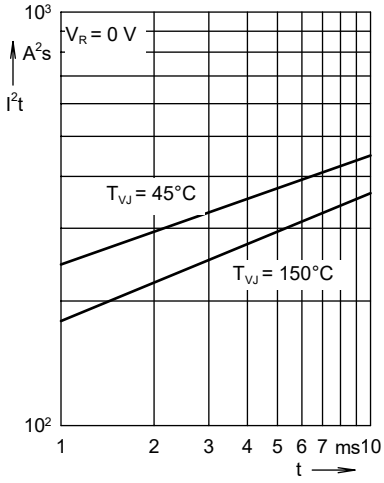


Fig. 3 I^2t versus time per diode

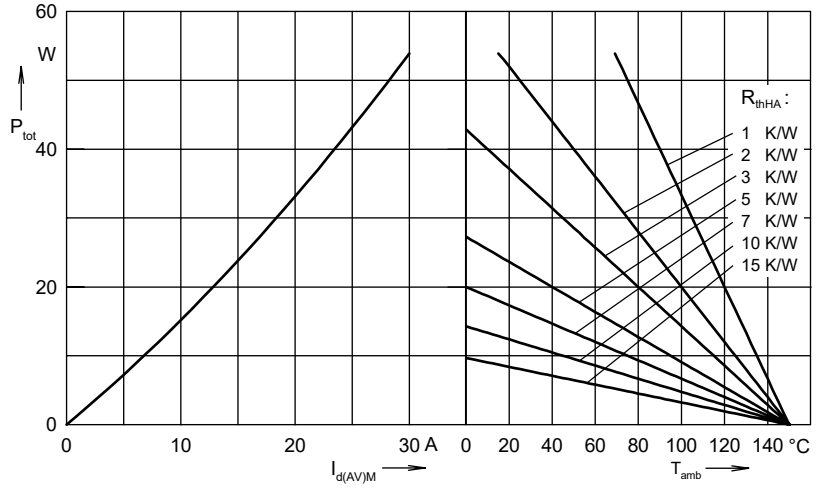


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180°

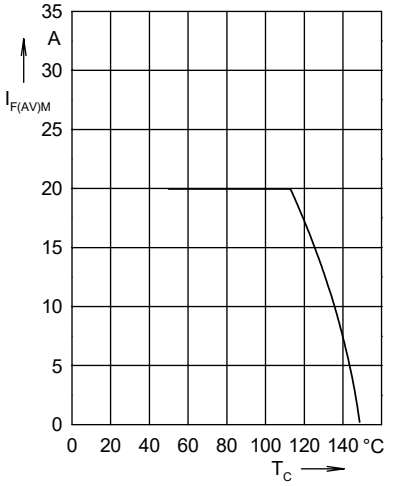


Fig. 5 Max. forward current versus case temperature

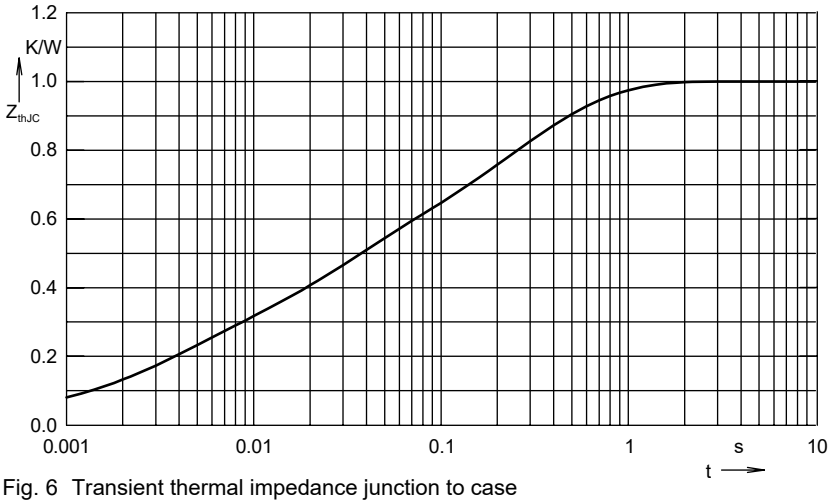


Fig. 6 Transient thermal impedance junction to case

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

www.sirectifier.com Tel: +86-519-86800000 Fax: +86-519-88019019 E-mail: sales@sirectifier.com