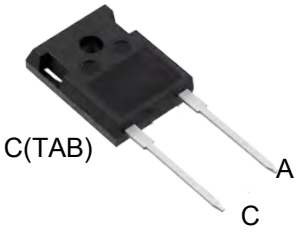
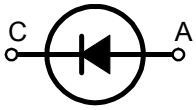
SD4502 thru SD4516

Discrete Diodes

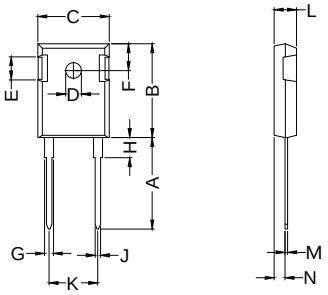




A=Anode, C=Cathode, TAB=Cathode

	V_{RSM} V	V_{RRM} V
SD4502	300	200
SD4504	500	400
SD4506	500	600
SD4508	900	800
SD4510	1100	1000
SD4512	1300	1200
SD4516	1700	1600

Dimensions TO-247AC



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.620	0.640
ØD	3.15	3.65	0.124	0.144
E	4.32	5.49	0.170	0.216
F	5.40	6.30	0.213	0.248
G	1.65	2.13	0.065	0.084
H	3.80	4.50	0.150	0.177
J	1.00	1.40	0.039	0.055
K	10.80	11.10	0.425	0.437
L	4.70	5.30	0.185	0.209
M	0.40	0.80	0.016	0.031
N	1.50	2.49	0.059	0.098

Symbol	Test Conditions		Maximum Ratings	Unit
$I_{F(AV)M}$	T_C=115°C; 180° sine		45	A
I_{FSM}	T_{VJ}=45°C; V_R =0V;	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	475 520	A
	T_{VJ}=150°C; V_R =0V;	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	380 420	
I^2t	T_{VJ}=45°C; V_R =0V;	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	1120 1120	A^2s
	T_{VJ}=150°C; V_R =0V;	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	720 720	
T_{VJ} T_{VJM} T_{stg}			-40...+150 150 -40...+150	°C
M_d	Mounting torque		0.8...1.2	Nm
	Non-Isolated			
Weight			6	g

Symbol	Test Conditions	Characteristic Values	Unit
I_R	T_{VJ}=T_{VJM}; V_R=V_{RRM}	≤ 3	mA
V_F	I_F=45A; T_{VJ}=25°C	≤ 1.10	V
V_{TO}	For power-loss calculations only	0.8	V
r_T	T_{VJ}=T_{VJM}	8	mΩ
R_{thJC} R_{thCH}	DC current typical	0.55 0.2	K/W

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SD4502 thru SD4516

Discrete Diodes

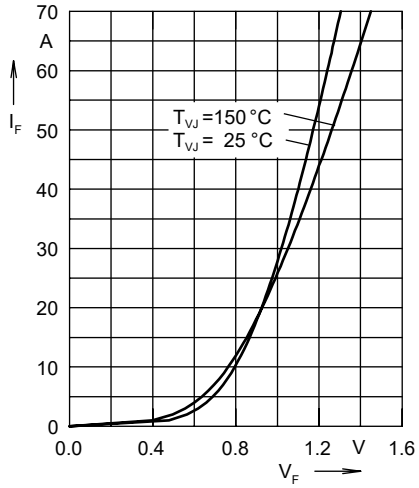

Fig. 1 Forward current versus voltage drop per diode

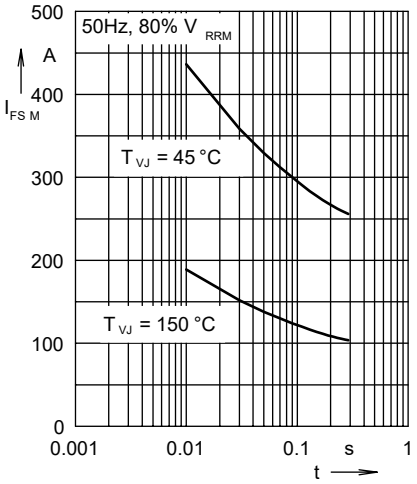

Fig. 2 Surge overload current

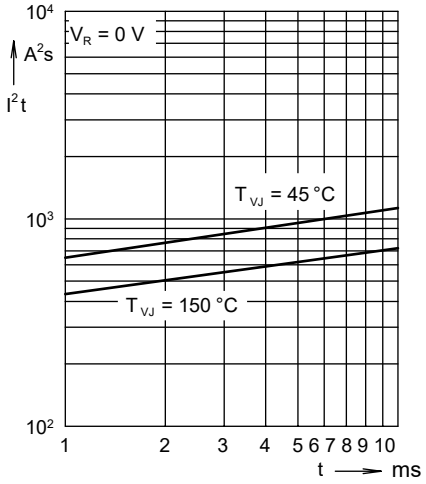

Fig. 3 I²t versustime per diode

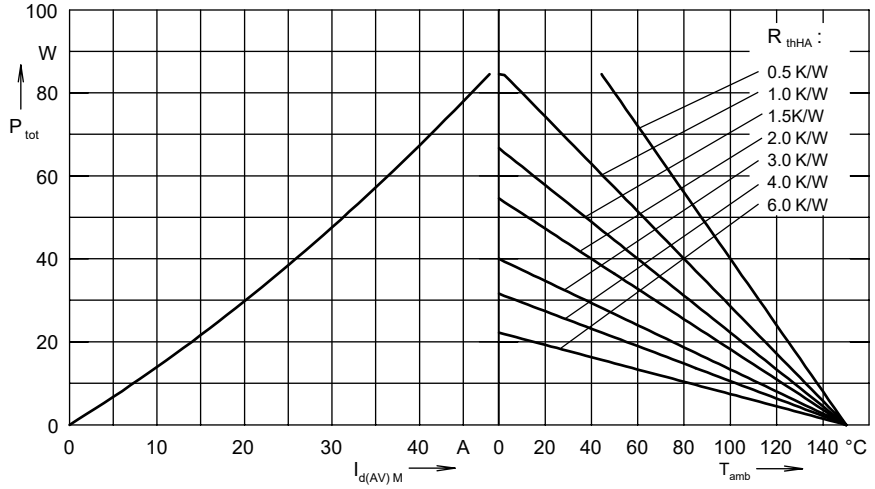

Fig. 4 Power dissipation versusdirect output current and ambient temperature, sine 180 °

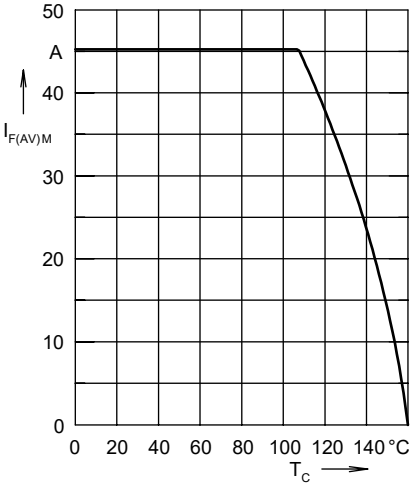

Fig. 5 Max. forward current versus case temperature

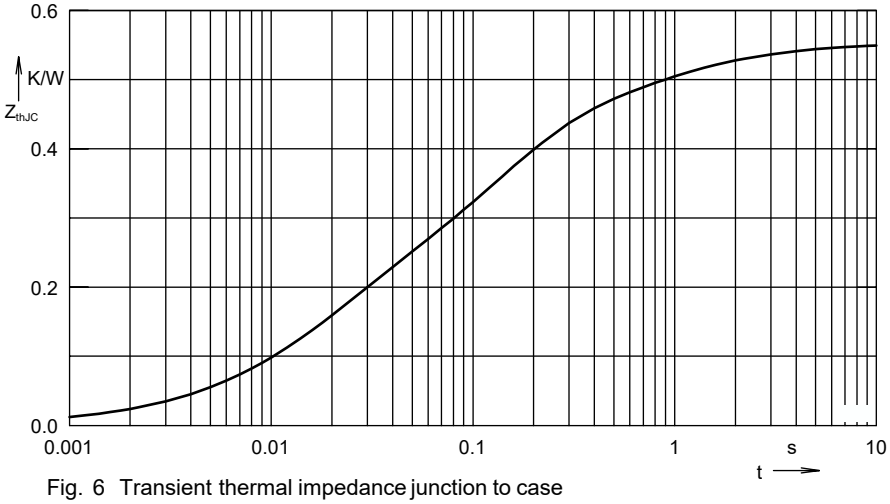

Fig. 6 Transient thermal impedance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.1633	0.016
2	0.2517	0.118
3	0.0933	0.588
4	0.04167	2.6

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