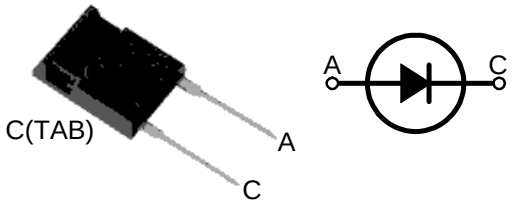
SD45

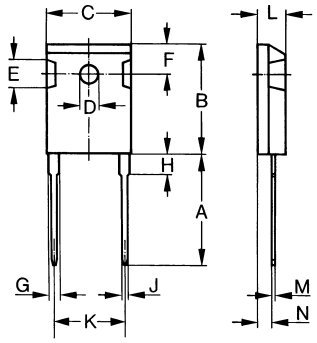
Discrete Diodes



A=Anode, C=Cathode, TAB=Cathode

	V_{RSM} V	V_{RRM} V
SD4501	50	50
SD4502	100	100
SD4503	200	200
SD4504	400	400
SD4505	600	600
SD4506	800	800
SD4507	1000	1000

Dimensions TO-247AC



Dim.	Millimeter Min.	Max.	Inches 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	0.610	0.640
D	3.55	3.65	0.140	0.144
E	4.32	5.49	0.170	0.216
F	5.4	6.2	0.212	0.244
G	1.65	2.13	0.065	0.084
H	-	4.5	-	0.177
J	1.0	1.4	0.040	0.055
K	10.8	11.0	0.426	0.433
L	4.7	5.3	0.185	0.209
M	0.4	0.8	0.016	0.031
N	1.5	2.49	0.087	0.102

Symbol	Test Conditions		Maximum Ratings	Unit
$I_{F(AV)M}$	T_C=105°C; 180° sine		45	A
I_{FSM}	T_{VJ}=45°C;	t=10ms (50Hz), sine	475	A
	V_R =0V;	t=8.3ms (60Hz), sine	520	
	T_{VJ}=150°C;	t=10ms(50Hz), sine	380	
	V_R =0V;	t=8.3ms(60Hz), sine	420	
I^2t	T_{VJ}=45°C;	t=10ms (50Hz), sine	1120	A^2s
	V_R =0V;	t=8.3ms (60Hz), sine	1120	
	T_{VJ}=150°C;	t=10ms(50Hz), sine	720	
	V_R =0V;	t=8.3ms(60Hz), sine	720	
T_{VJ} T_{VJM} T_{stg}			-40...+150 150 -40...+150	°C
M_d	Mounting torque		0.8...1.2	Nm
V_{ISOL}	50/60 Hz, RMS, t=1 minute, leads-to-tab		2500	V~
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	≤ 1.18	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

Sirectifier®

SD45

Discrete Diodes

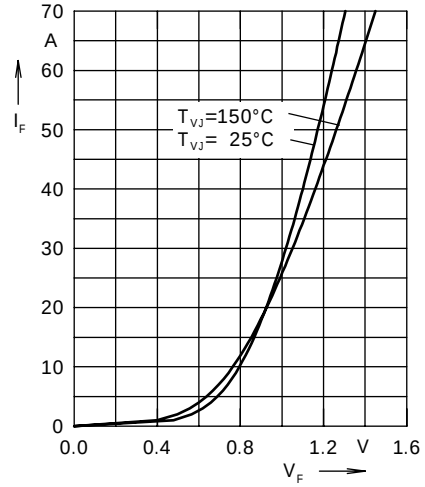


Fig. 1 Forward current versus voltage drop per diode

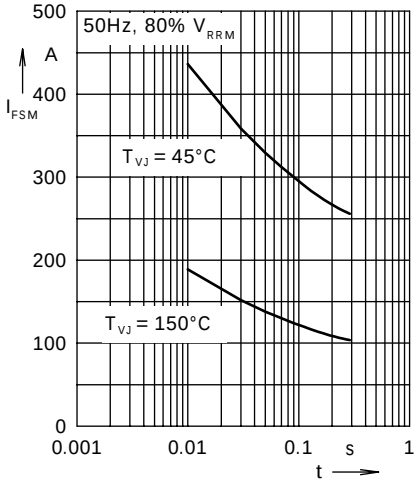


Fig. 2 Surge overload current

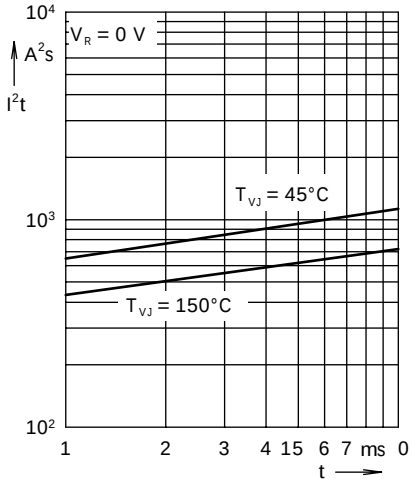


Fig. 3 I^2t versus time per diode

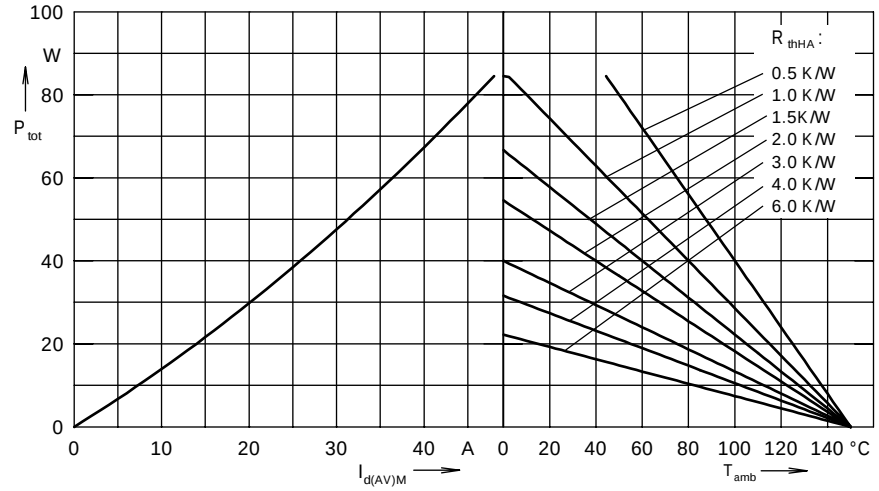


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180°

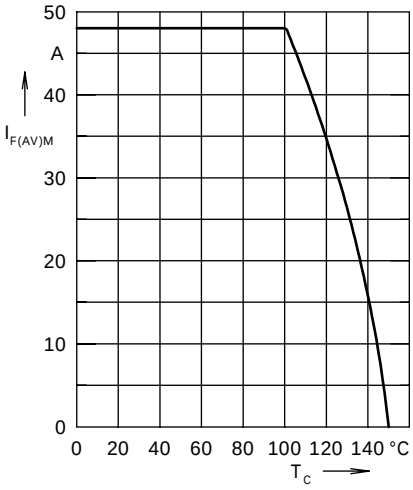


Fig. 5 Max. forward current versus case temperature

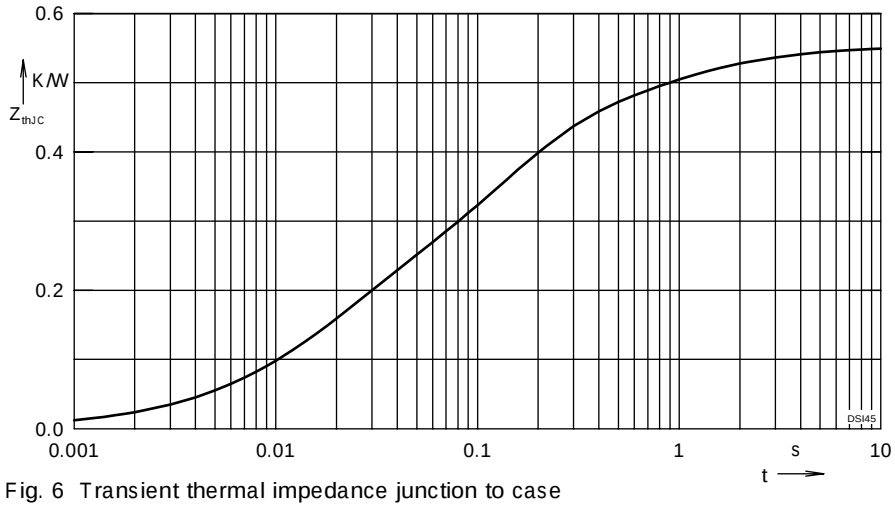


Fig. 6 Transient thermal impedance junction to case

Constants for Z_{thJC} calculation:

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