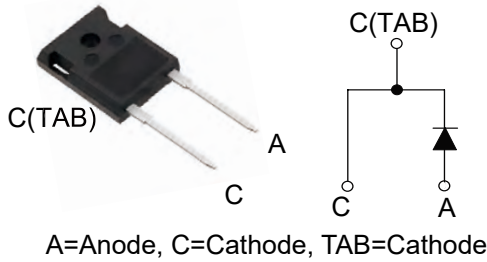


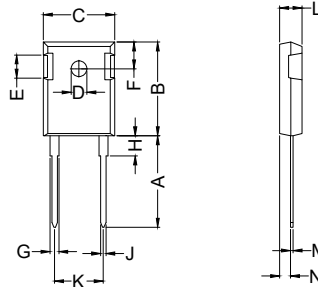
70TD40 thru 70TD160

Discrete Diodes



A=Anode, C=Cathode, TAB=Cathode

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

	V_{RSM} V	V_{RRM} V
70TD40	500	400
70TD60	700	600
70TD80	900	800
70TD100	1100	1000
70TD120	1300	1200
70TD160	1700	1600

Symbol	Test Conditions	Maximum Ratings	Unit
I _{F(AV)M}	T _C =100°C; 180° sine	70	A
I _{FSM}	T _{VJ} =45°C; V _R =0V; t=10ms (50Hz), sine t=8.3ms (60Hz), sine	1500 1650	A
	T _{VJ} =150°C; V _R =0V; t=10ms(50Hz), sine t=8.3ms(60Hz), sine	1230 1360	
I ² _t	T _{VJ} =45°C; V _R =0V; t=10ms (50Hz), sine t=8.3ms (60Hz), sine	14000 15000	A ² s
	T _{VJ} =150°C; V _R =0V; t=10ms(50Hz), sine t=8.3ms(60Hz), sine	10300 12000	
T _{VJ} T _{VJM} T _{stg}		-40...+150 150 -40...+150	°C
M _d	Mounting torque	0.8...1.2	Nm
P _{RSM}	Per diode chip, T _{VJ} = 25°C, t _p = 10s	5.0	KW
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 =70A; T _{VJ} =25°C	≤ 1.17	V
V _{TO}	For power-loss calculations only	0.73	V
r _T	T _{VJ} =T _{VJM}	3.17	mΩ
R _{thJC} R _{thCH}	DC current typical	0.35 0.2	K/W



70TD40 thru 70TD160

Discrete Diodes

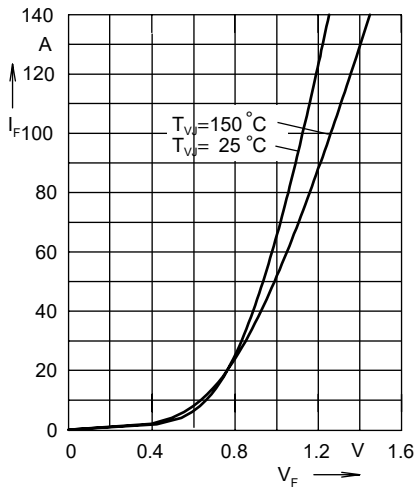


Fig. 1 Forward current versus voltage drop per diode

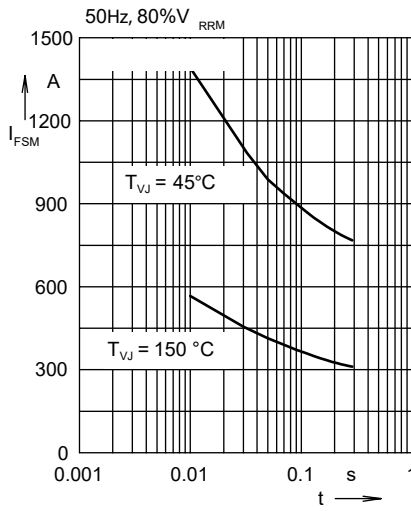


Fig. 2 Surge overload current

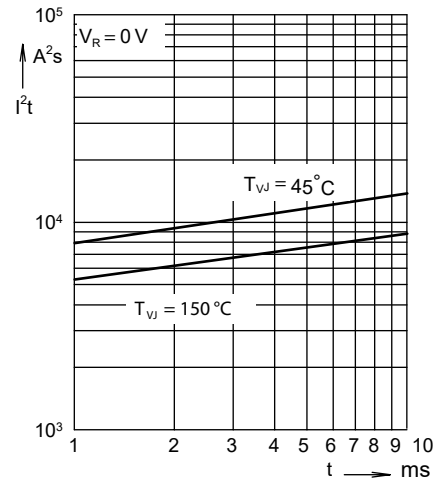


Fig. 3 I^2t versus time per diode

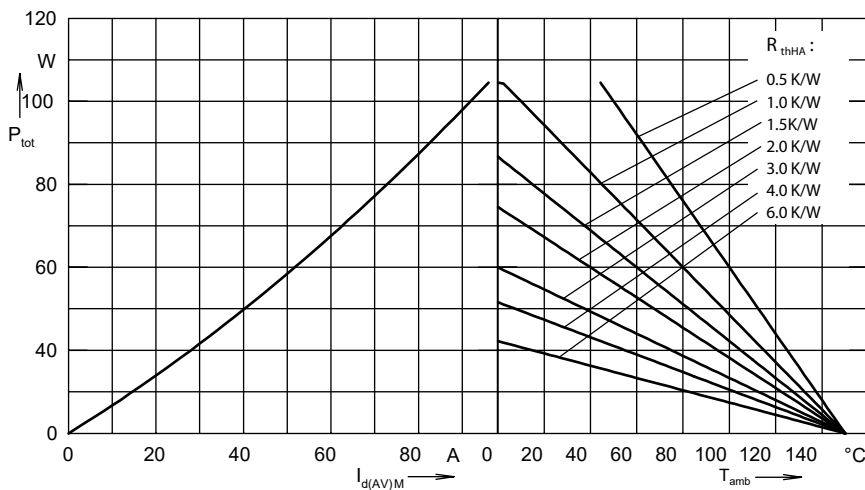


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180°

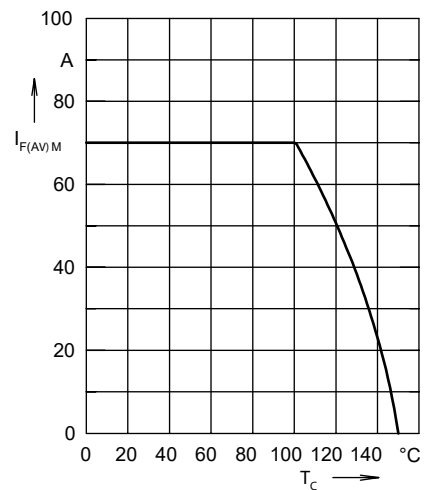


Fig. 5 Max. forward current versus case temperature

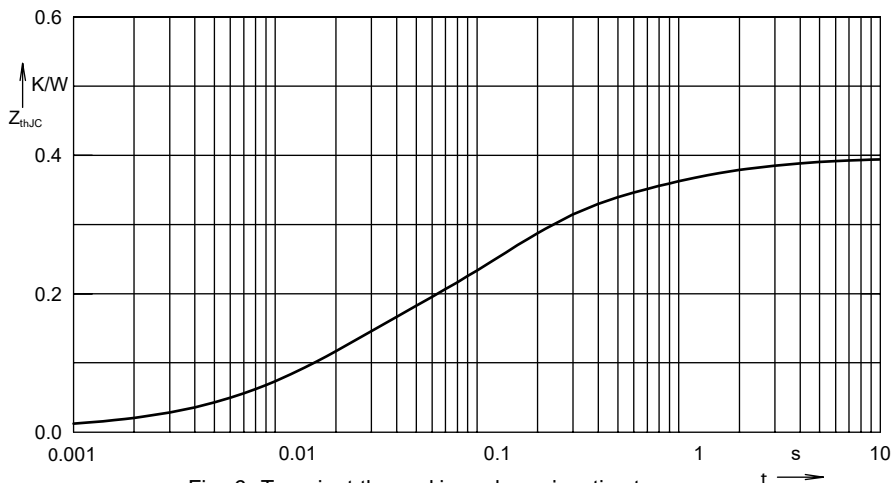


Fig. 6 Transient thermal impedance junction to case



Constants for Z_{thJC} calculation:

i	R_{thi} (K/W)	t_i (s)
1	0.1433	0.016
2	0.2217	0.118
3	0.3733	0.588
4	0.39167	2.6