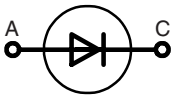
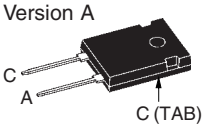
Rectifier Diode

V_{RRM} = 800-1600 V
$I_{F(AV)M}$ = 48 A

V_{RSM} V	V_{RRM} V	Type	
900	800	DSI 45-08A	
1300	1200	DSI 45-12A	
1700	1600	DSI 45-16A	DSI 45-16AR

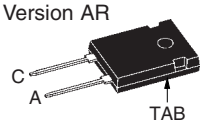


TO-247 AD
Version A



A = Anode, C = Cathode

ISOPLUS 247™
Version AR



Symbol	Conditions		Maximum Ratings	
$I_{F(AV)M}$	T_C = 105°C; 180° sine		48	A
I_{FSM}	T_{VJ} = 45°C;	t = 10 ms (50 Hz), sine	475	A
	V_R = 0 V;	t = 8.3 ms (60 Hz), sine	520	A
	T_{VJ} = 150°C;	t = 10 ms (50 Hz), sine	380	A
	V_R = 0 V;	t = 8.3 ms (60 Hz), sine	420	A
I^2t	T_{VJ} = 45°C;	t = 10 ms (50 Hz), sine	1120	A^2s
	V_R = 0 V;	t = 8.3 ms (60 Hz), sine	1120	A^2s
	T_{VJ} = 150°C;	t = 10 ms (50 Hz), sine	720	A^2s
	V_R = 0 V;	t = 8.3 ms (60 Hz), sine	720	A^2s
T_{VJ}			-40...+150	°C
T_{VJM}			150	°C
T_{stg}			-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	typical		6	g

* Verson A only; ** Version AR only

Symbol	Conditions	Characteristic Values		
I_R	$T_{VJ} = T_{VJM}$; $V_R = V_{RRM}$	≤	3	mA
V_F	I_F = 40 A; T_{VJ} = 25°C	≤	1.18	V
V_{T0}	For power-loss calculations only		0.8	V
r_T	$T_{VJ} = T_{VJM}$		8	mΩ
R_{thJC}	DC current		0.55	K/W
R_{thCH}	typical		0.2	K/W

Data according to IEC 60747

Features

- International standard package
- Planar glassivated chips
- Version AR isolated and UL registered E153432
- Epoxy meets UL 94V-0

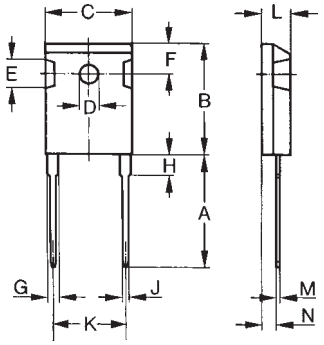
Applications

- Supplies for DC power equipment
- DC supply for PWM inverter
- Field supply for DC motors
- Battery DC power supplies

Advantages

- Space and weight savings
- Simple mounting
- Improved temperature and power cycling
- Reduced protection circuits

Dimensions in mm (1 mm = 0.0394")



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	2.2	2.59	0.087	0.102

* ISOPLUS 247 ™ without hole

IXYS reserves the right to change limits, test conditions and dimensions.

420

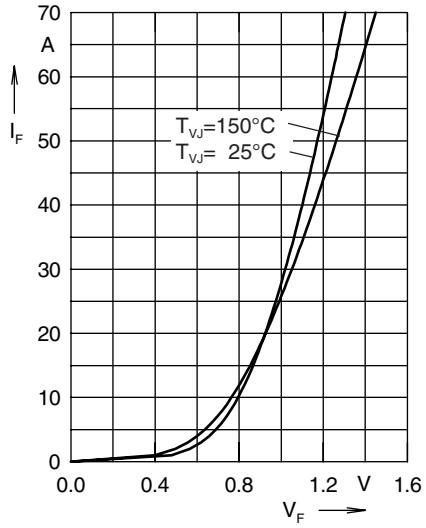


Fig. 1 Forward current versus voltage drop per diode

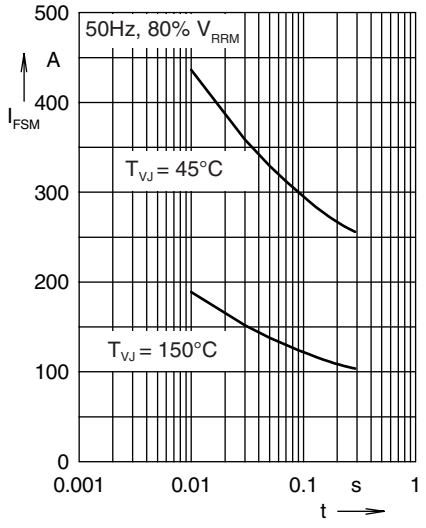


Fig. 2 Surge overload current

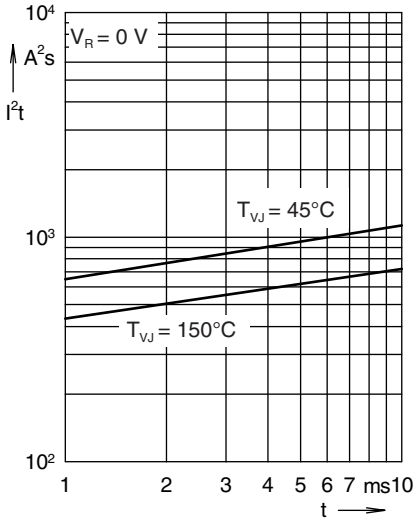


Fig. 3 I^2t versus time per diode

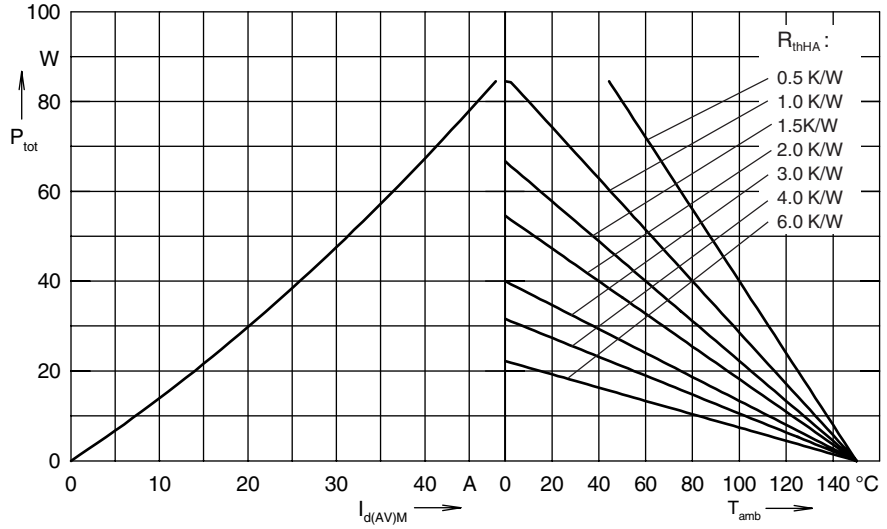


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180°

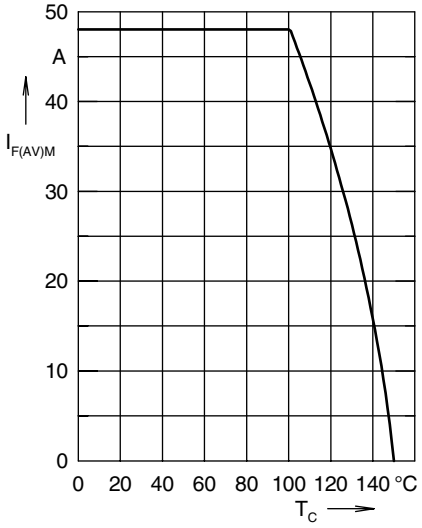


Fig. 5 Max. forward current versus case temperature

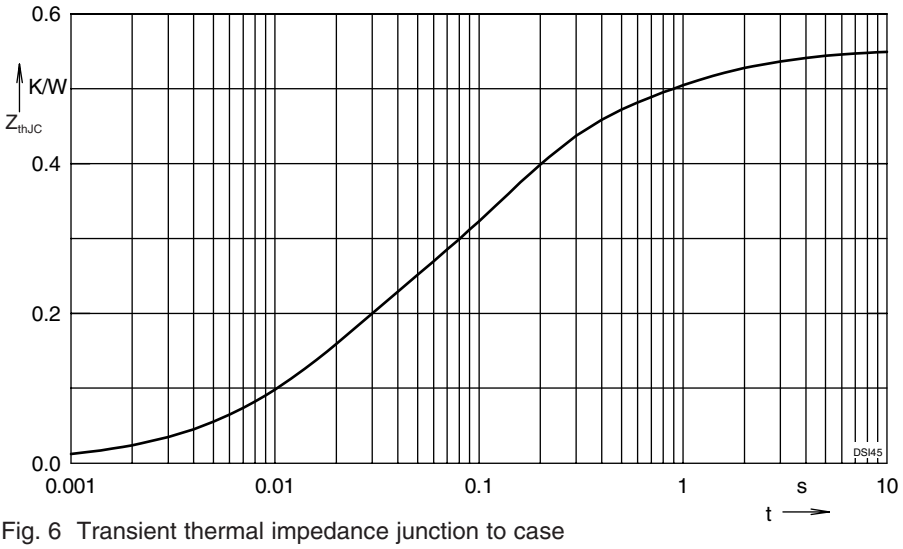


Fig. 6 Transient thermal impedance junction to case

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

420

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