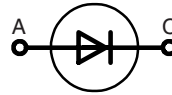


Rectifier Diode

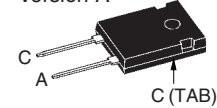
V_{RSM} V	V_{RRM} V	Type
900	800	DSI 45-08A
1300	1200	DSI 45-12A
1700	1600	DSI 45-16A DSI 45-16AR



$$V_{RRM} = 800-1600 \text{ V}$$

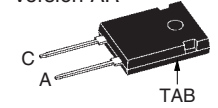
$$I_{F(AV)M} = 48 \text{ A}$$

TO-247 AD
Version A



A = Anode, C = Cathode

ISOPLUS 247™
Version AR



Symbol	Conditions	Maximum Ratings
$I_{F(AV)M}$	$T_C = 105^\circ\text{C}; 180^\circ \text{ sine}$	48 A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}; t = 10 \text{ ms (50 Hz), sine}$	475 A
	$V_R = 0 \text{ V}; t = 8.3 \text{ ms (60 Hz), sine}$	520 A
	$T_{VJ} = 150^\circ\text{C}; t = 10 \text{ ms (50 Hz), sine}$	380 A
	$V_R = 0 \text{ V}; t = 8.3 \text{ ms (60 Hz), sine}$	420 A
I^2t	$T_{VJ} = 45^\circ\text{C}; t = 10 \text{ ms (50 Hz), sine}$	1120 A ² s
	$V_R = 0 \text{ V}; t = 8.3 \text{ ms (60 Hz), sine}$	1120 A ² s
	$T_{VJ} = 150^\circ\text{C}; t = 10 \text{ ms (50 Hz), sine}$	720 A ² s
	$V_R = 0 \text{ V}; t = 8.3 \text{ ms (60 Hz), sine}$	720 A ² s
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, $t = 1 \text{ minute, leads-to-tab}$	2500 V~

Weight typical 6 g

* Version A only; ** Version AR only

Symbol	Conditions	Characteristic Values
I_R	$T_{VJ} = T_{VJM}; V_R = V_{RRM}$	$\leq 3 \text{ mA}$
V_F	$I_F = 40 \text{ A}; T_{VJ} = 25^\circ\text{C}$	$\leq 1.18 \text{ V}$
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

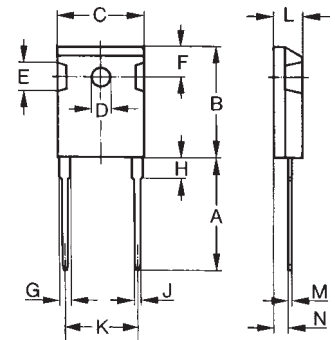
Applications

- 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.

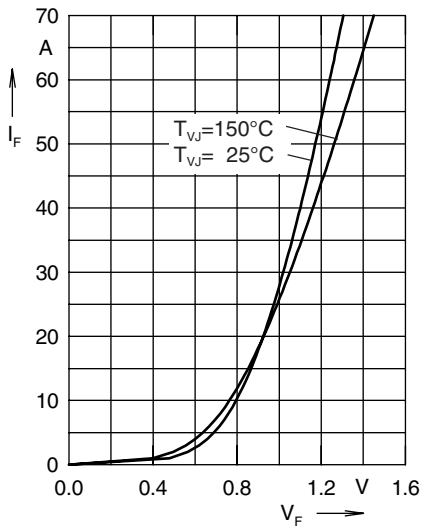


Fig. 1 Forward current versus voltage drop per diode

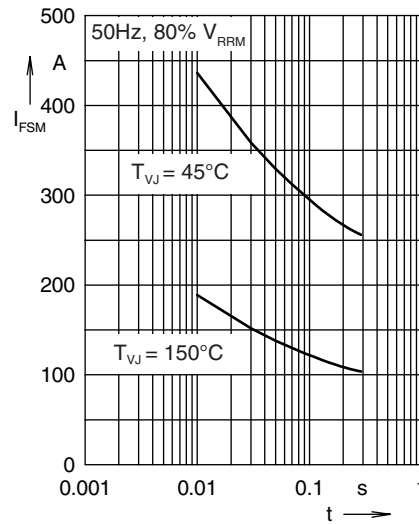


Fig. 2 Surge overload current

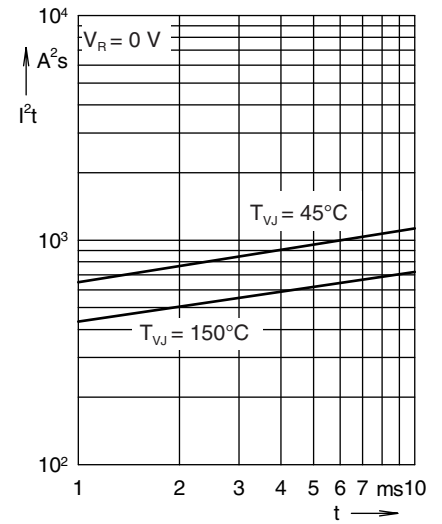


Fig. 3 I^2t versus time per diode

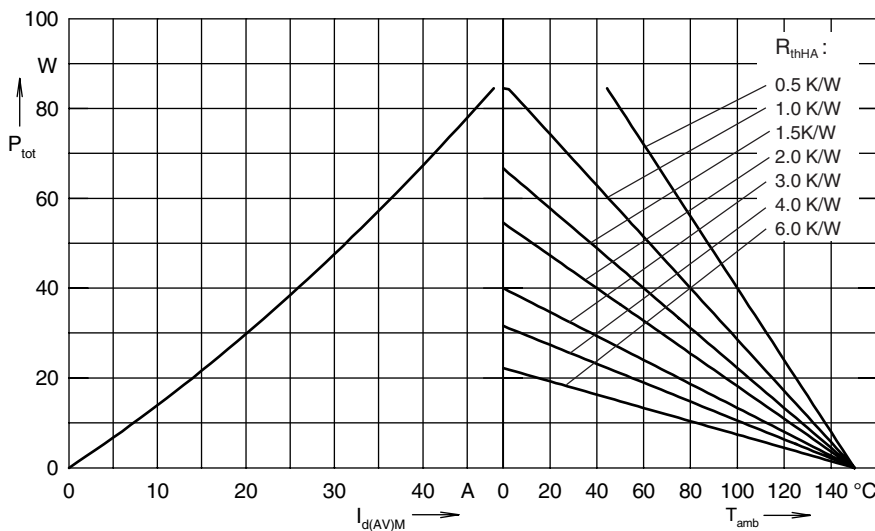


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180°

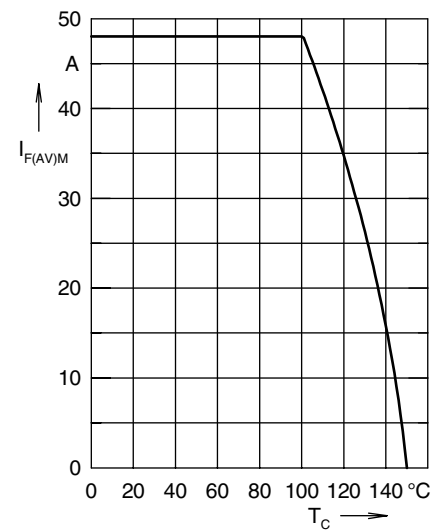


Fig. 5 Max. forward current versus case temperature

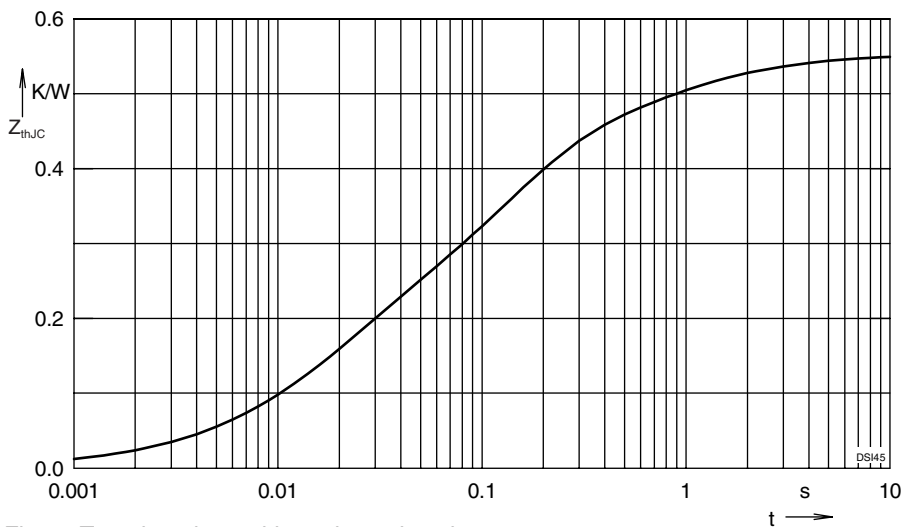


Fig. 6 Transient thermal impedance junction to case

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