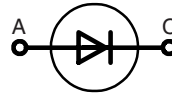


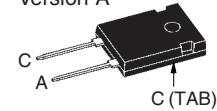
Rectifier Diode

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

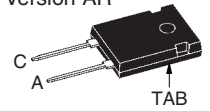
V_{RSM} V	V_{RRM} V	Type
900	800	DSI 45-08A
1300	1200	DSI 45-12A
1700	1600	DSI 45-16A DSI 45-16AR



TO-247 AD
Version A



ISOPLUS 247™
Version AR



A = Anode, C = Cathode

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

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

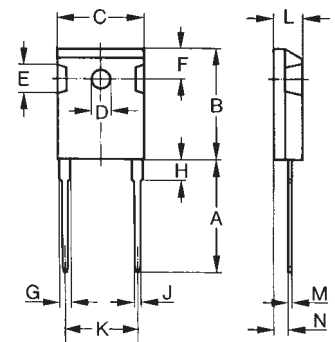
Weight typical 6 g

* Verson A only; ** Verson AR only

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

Dimensions in mm (1 mm = 0.0394")



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	0.610	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

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

* ISOPLUS 247™ without hole

420

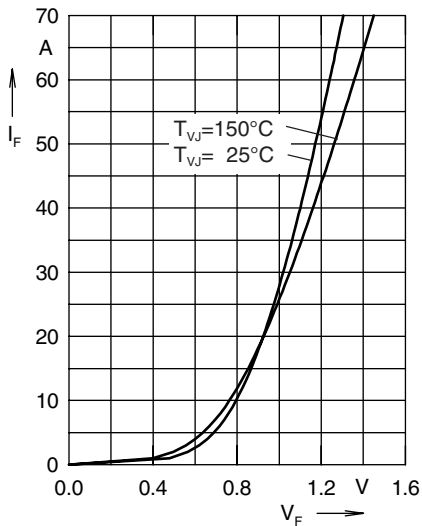


Fig. 1 Forward current versus voltage drop per diode

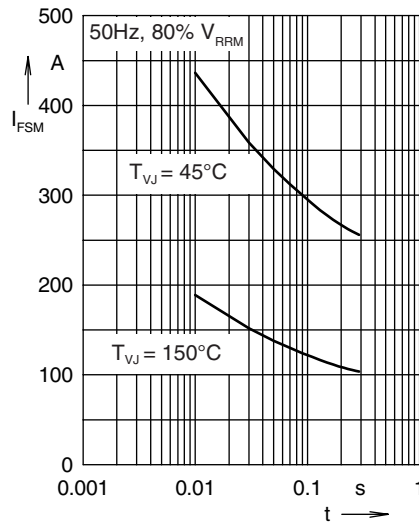


Fig. 2 Surge overload current

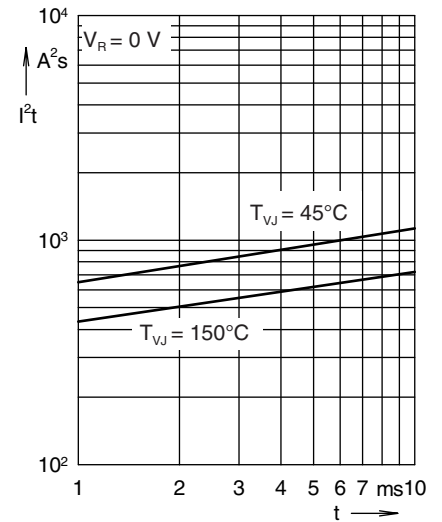


Fig. 3 I^2t versus time per diode

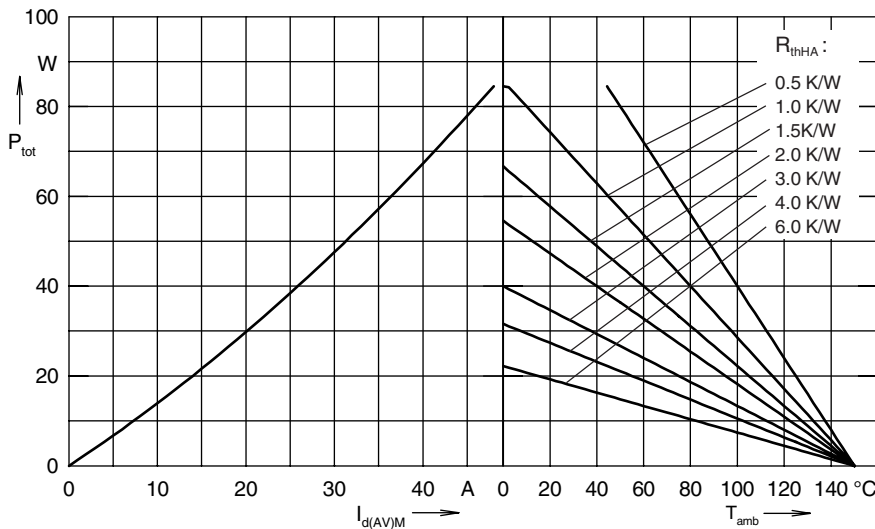


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180°

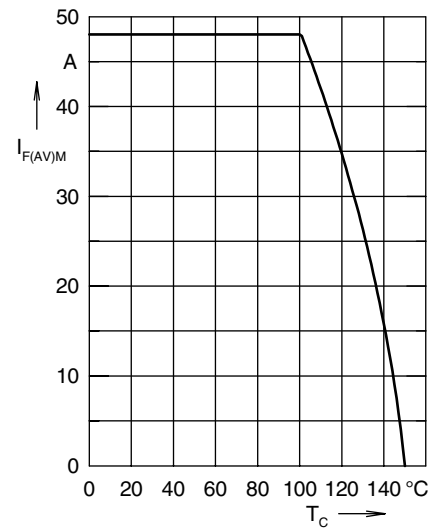


Fig. 5 Max. forward current versus case temperature

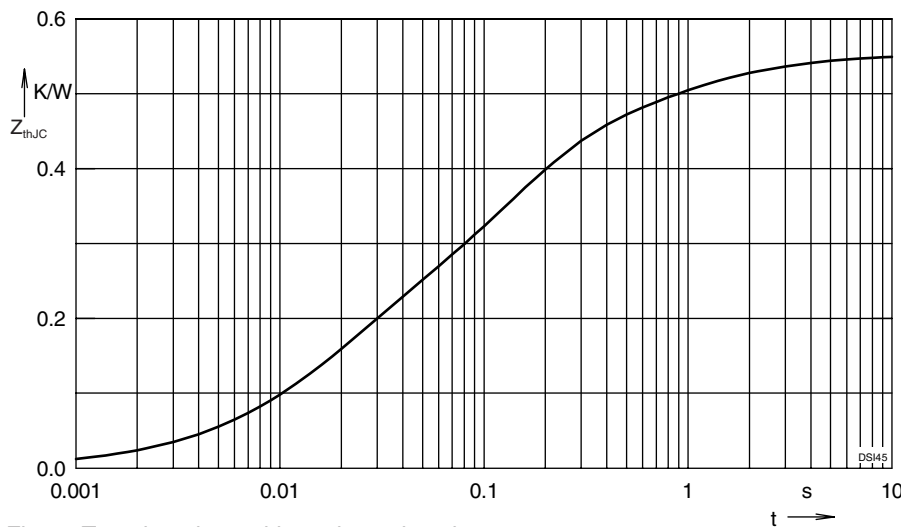


Fig. 6 Transient thermal impedance junction to case

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