# 阅读申明

1.本站收集的数据手册和产品资料都来自互联网，版权归原作者所有。如读者和版权方有任何异议请及时告之，我们将妥善解决。
2.本站提供的中文数据手册是英文数据手册的中文翻译，其目的是协助用户阅读，该译文无法自动跟随原稿更新，同时也可能存在翻译上的不当。建议读者以英文原稿为参考以便获得更精准的信息。
3.本站提供的产品资料，来自厂商的技术支持或者使用者的心得体会等，其内容可能存在描叙上的差异，建议读者做出适当判断。
4.如需与我们联系，请发邮件到marketing@iczoom.com，主题请标有“数据手册”字样。

# Read Statement

1. The datasheets and other product information on the site are all from network reference or other public materials, and the copyright belongs to the original author and original published source. If readers and copyright owners have any objections, please contact us and we will deal with it in a timely manner.

2. The Chinese datasheets provided on the website is a Chinese translation of the English datasheets. Its purpose is for reader’ s learning exchange only and do not involve commercial purposes. The translation cannot be automatically updated with the original manuscript, and there may also be improper translations. Readers are advised to use the English manuscript as a reference for more accurate information.

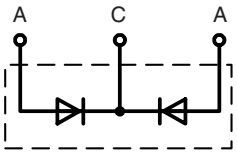
3. All product information provided on the website refer to solutions from manufacturers’ technical support or users the contents may have differences in description, and readers are advised to take the original article as the standard.

4. If you have any questions, please contact us at marketing@iczoom.com and mark the subject with “Datasheets”.

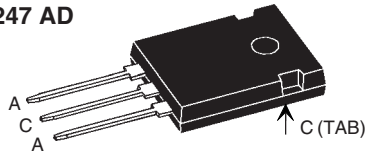
# HiPerFRED™ Epitaxial Diode
## with common cathode and soft recovery

$I_{FAV}$ = 2x30 A
$V_{RRM}$ = 200 V
$t_{rr}$ = 25 ns

| $V_{RSM}$ V | $V_{RRM}$ V | Type |
|---|---|---|
| 200 | 200 | DSEC 60-02A |




TO-247 AD




A = Anode, C = Cathode, TAB = Cathode

| Symbol | Conditions | Maximum Ratings | |
|---|---|---|---|
| $I_{FRMS}$ | | 70 | A |
| $I_{FAVM}$ | $T_C$ = 145°C; rectangular, d = 0.5 | 30 | A |
| $I_{FSM}$ | $T_{VJ}$ = 45°C; $t_p$ = 10 ms (50 Hz), sine | 325 | A |
| $E_{AS}$ | $T_{VJ}$ = 25°C; non-repetitive<br>$I_{AS}$ = 3 A; L = 180 µH | 1.2 | mJ |
| $I_{AR}$ | $V_A = 1.5 \cdot V_R$ typ.; f = 10 kHz; repetitive | 0.3 | A |
| $T_{VJ}$ | | -55...+175 | °C |
| $T_{VJM}$ | | 175 | °C |
| $T_{stg}$ | | -55...+150 | °C |
| $P_{tot}$ | $T_C$ = 25°C | 165 | W |
| $M_d$ | mounting torque | 0.8...1.2 | Nm |
| $F_C$ | mounting force with clip | 20...120 | N |
| Weight | typical | 6 | g |

| Symbol | Conditions | Characteristic Values typ. | max. | |
|---|---|---|---|---|
| $I_R$ ① | $V_R = V_{RRM}$; $T_{VJ}$ = 25°C | | 10 | µA |
| | $V_R = V_{RRM}$; $T_{VJ}$ = 150°C | | 200 | µA |
| $V_F$ ② | $I_F$ = 30 A; $T_{VJ}$ = 150°C | | 0.95 | V |
| | $T_{VJ}$ = 25°C | | 1.20 | V |
| $R_{thJC}$ | | | 0.9 | K/W |
| $R_{thCH}$ | | 0.25 | | K/W |
| $t_{rr}$ | $I_F$ = 1 A; -di/dt = 200 A/µs;<br>$V_R$ = 30 V; $T_{VJ}$ = 25°C | 25 | | ns |
| $I_{RM}$ | $V_R$ = 100 V; $I_F$ = 50 A;<br>$-di_F/dt$ = 100 A/µs; $T_{VJ}$ = 100°C | | 4 | A |

Pulse test: ① Pulse Width = 5 ms, Duty Cycle < 2.0 %
② Pulse Width = 300 µs, Duty Cycle < 2.0 %

Data according to IEC 60747 and per diode unless otherwise specified.

### Features
- International standard package
- Planar passivated chips
- Very short recovery time
- Extremely low switching losses
- Low $I_{RM}$-values
- Soft recovery behaviour
- Epoxy meets UL 94V-0

### Applications
- Antiparallel diode for high frequency switching devices
- Antisaturation diode
- Snubber diode
- Free wheeling diode in converters and motor control circuits
- Rectifiers in switch mode power supplies (SMPS)
- Inductive heating
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders

### Advantages
- Avalanche voltage rated for reliable operation
- Soft reverse recovery for low EMI/RFI
- Low $I_{RM}$ reduces:
  - Power dissipation within the diode
  - Turn-on loss in the commutating switch

Recommended replacement:
DPF60C200HB
DPF80C200HB



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

502

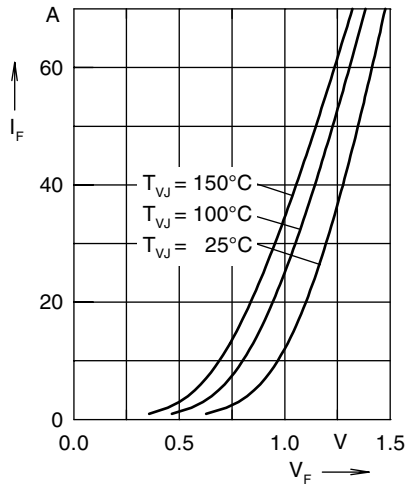



Fig.1 Forward current $I_F$ vs. forward voltage drop $V_F$

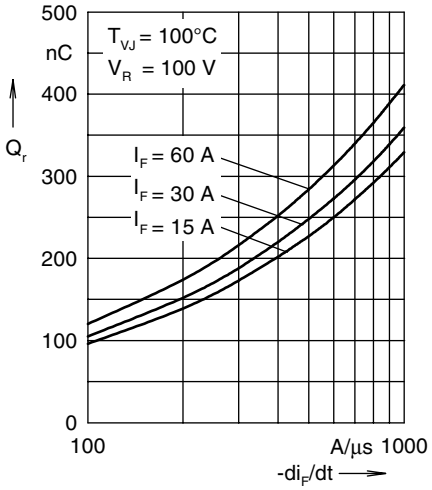



Fig.2 Reverse recovery charge $Q_{rr}$ versus $-di_F/dt$

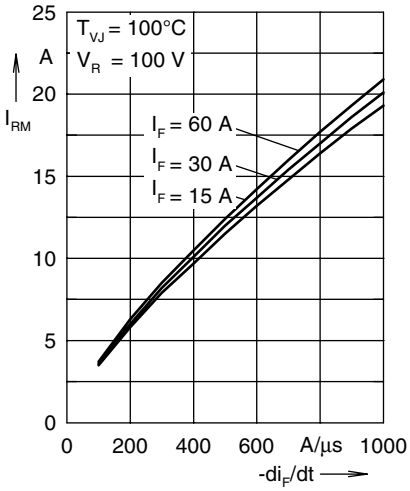



Fig.3 Peak reverse current $I_{RM}$ versus $-di_F/d$

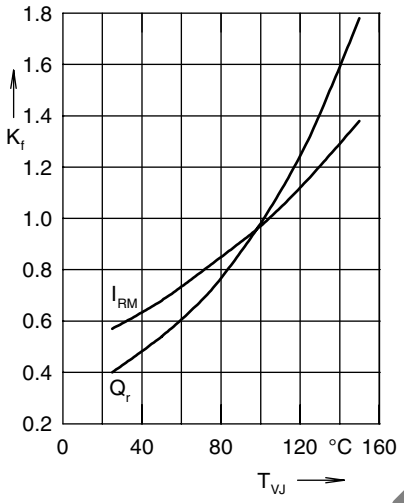



Fig.4 Dynamic parameters $Q_{rr}$; $I_{RM}$ versus $T_{vj}$

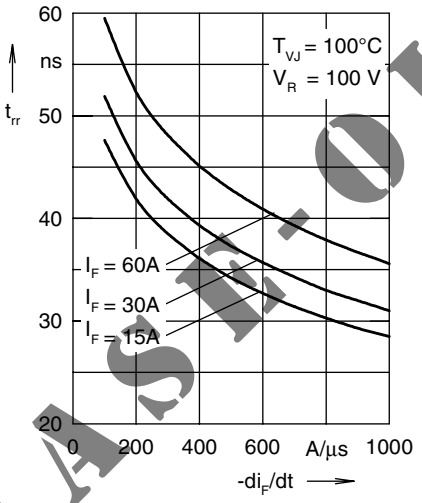



Fig.5 Reverse recovery time $t_{rr}$ versus $-di_F/dt$

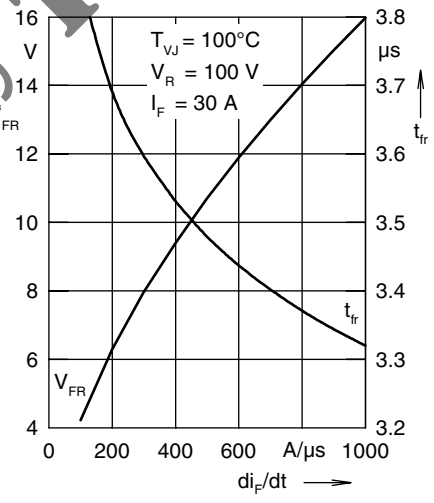



Fig.6 Peak forward voltage $V_{FR}$ & forw. recov. time $t_{fr}$ vs. $-di_F/dt$

NOTE: Fig. 2 to Fig. 6 shows typical values

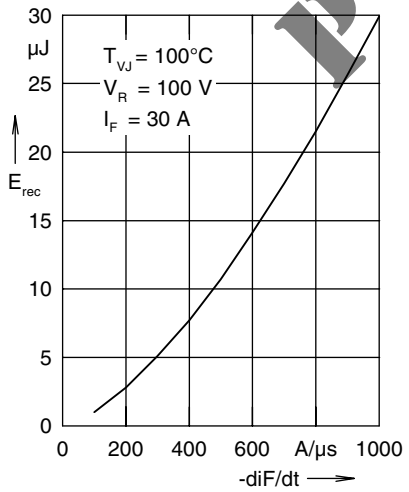



Fig. 7 Recovery energy $E_{rec}$ versus $-di_F/dt$

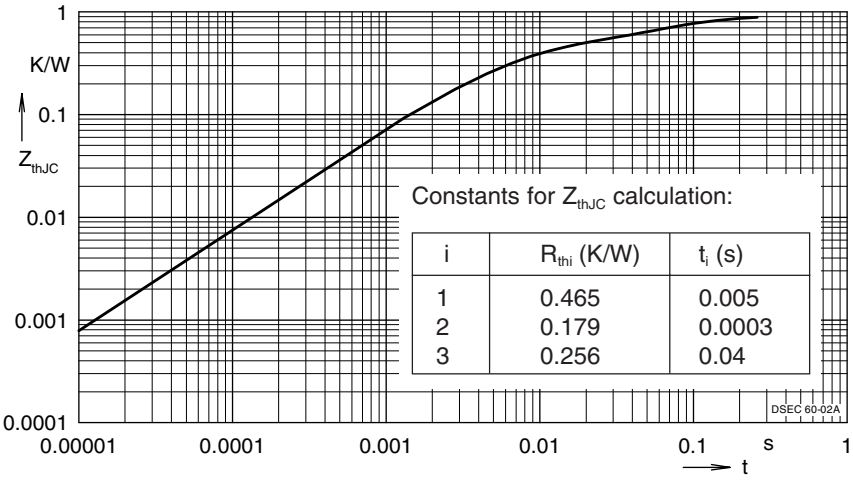



Fig.8 Transient thermal resistance junction to case