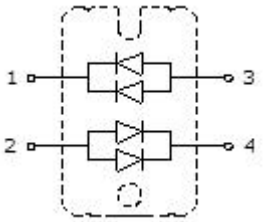
## PRELIMINARY DATASHEET

**Anti-Parallel Fast Recovery, 4X30A, 1200V Diodes**
**In Isolated SOT227 Package**

## APPLICATIONS

- Switch mode power supplies (SMPS) rectifiers
- Uninterruptible power supplies (UPS)
- Ultrasonic cleaners and welders
- Inductive heating and melting
- Ultrasonic cleaners and welders
- Power factor correction (PFC) circuits
- Inversion welder
- Converter and chopper




## FEATURES

- Ultrafast recovery time
- Soft recovery characteristics
- Low recovery loss
- Low forward voltage
- High surge current capability
- Low leakage current
- Pb free finished; **RoHS compliant**


### MAXIMUM RATINGS (per Leg)

| Parameter | Symbol | Value | Units |
|---|---|---|---|
| Repetitive peak reverse voltage | $V_{RRM}$ | 1200 | V |
| Continuous forward current<br>$T_C$= 80°C | $I_F$ | 60 | A |
| Surge non-repetitive forward current<br>$T_J$= 45°C, $t_p$ = 10 ms, 50Hz, Sine | $I_{FSM}$ | 600 | |
| Operating junction and storage temperature | $T_j$, $T_{stg}$ | -40… +150 | °C |

### Thermal and Isolation Characteristics

| Parameter | Symbol | Max. Value | Units |
|---|---|---|---|
| **Characteristics** | | | |
| Thermal resistance, junction to case, per Leg | $R_{thJC}$ | 0.7 | °C/W |
| Isolation voltage, RMS (measured between terminals and mounting base, 50-60 Hz, for 1- 3 seconds) | $V_{iso}$ | 3000 | V |


Team Pacific Building, Electronics Avenue
FTI Complex, Special Economic Zone
Taguig City, Philippines



Website: www.iqxprzpower.com
Telefax +632 837 1538

**Electrical Characteristics (per Leg),** at $T_j$ = 25°C, unless otherwise specified

| Parameter | Symbol | Value | | | Unit |
|---|---|---|---|---|---|
| | | Min. | Typ. | Max. | |
| **Static Characteristics** | | | | | |
| Reverse leakage current<br>$V_R$ = 1200 V, $T_j$=25 °C<br>$V_R$ = 1200 V, $T_j$=150 °C | $I_R$ | -<br>- | -<br>- | 0.2<br>2.0 | mA |
| Forward voltage drop<br>$I_F$ = 60A, Tj =25 °C<br>$I_F$ = 60A, $T_j$ =150 °C | $V_F$ | -<br>- | 2.0<br>1.5 | 2.5<br>- | V |

**Electrical Characteristics (per Leg),** at $T_C$ = 25°C, unless otherwise specified

| Parameter | Symbol | Value | | | Unit |
|---|---|---|---|---|---|
| | | Min. | Typ. | Max. | |
| **Dynamic Characteristics** | | | | | |
| Reverse recovery time<br>$V_R$=30V, $I_F$=1A, $di_F/dt$ = -200A/µs<br>$V_R$ = 600V, $I_F$ = 60A, $di_F/dt$ = -200A/µs, $T_C$ = 25 °C<br>$V_R$ = 600V, $I_F$ = 60A, $di_F/dt$ = -200A/µs, $T_C$ = 150 °C | $t_{rr}$ | -<br>-<br>- | 33<br>258<br>469 | -<br>-<br>- | ns |
| Reverse recovery charge<br>$V_R$ = 600V, $I_F$ = 60A, $di_F/dt$ = -200A/µs, $T_C$ = 25 °C<br>$V_R$ = 600V, $I_F$ = 60A, $di_F/dt$ = -200A/µs, $T_C$ = 150 °C | $Q_{rr}$ | - | 0.65<br>7.51 | - | µC |
| Maximum reverse recovery current<br>$V_R$ = 600V, $I_F$ = 60A, $di_F/dt$ = -200A/µs, $T_C$ = 25 °C<br>$V_R$ = 600V, $I_F$ = 60A, $di_F/dt$ = -200A/µs, $T_C$ = 150 °C | $I_{rrm}$ | - | 7.05<br>23.5 | - | A |

**Figure 1 – Forward voltage drop vs forward current**

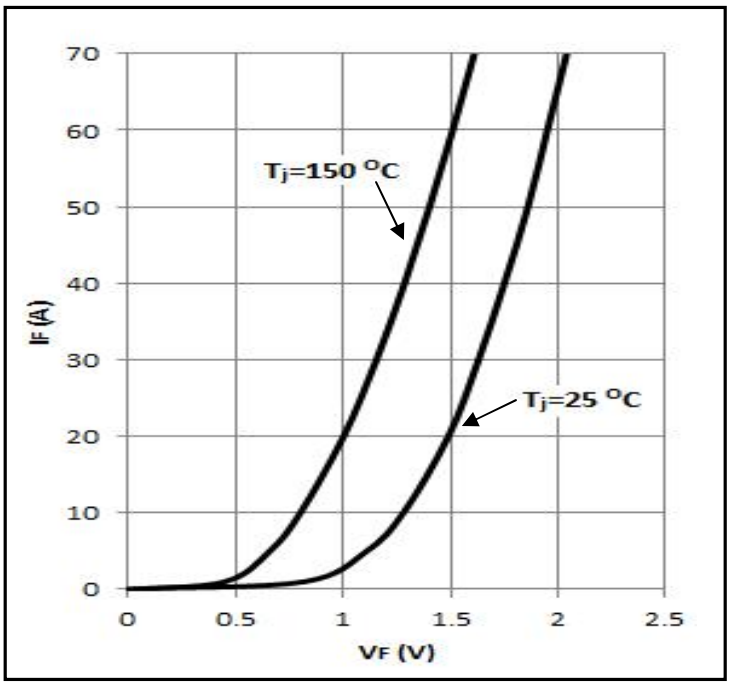



**Figure 2 – Reverse recovery time vs $di_F/dt$**

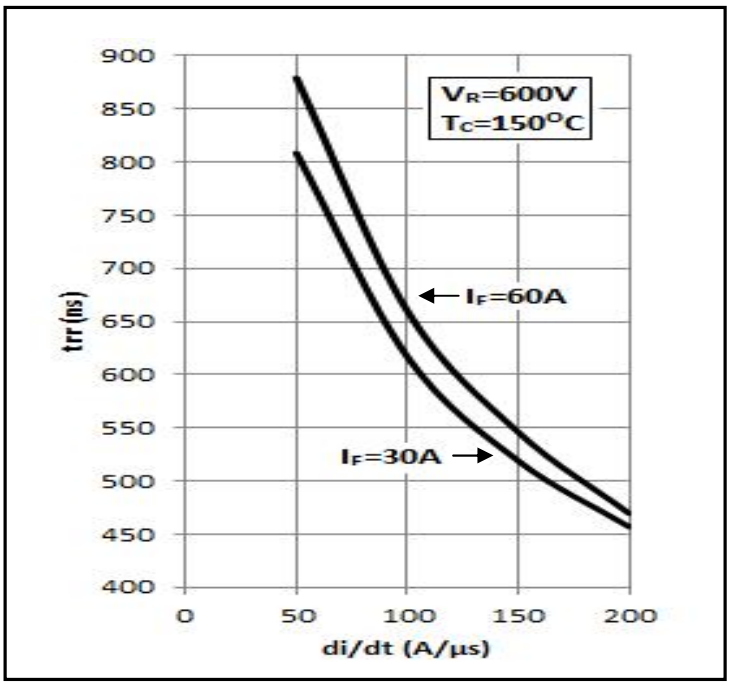


**Figure 3 – Reverse recovery charge vs $di_F/dt$**

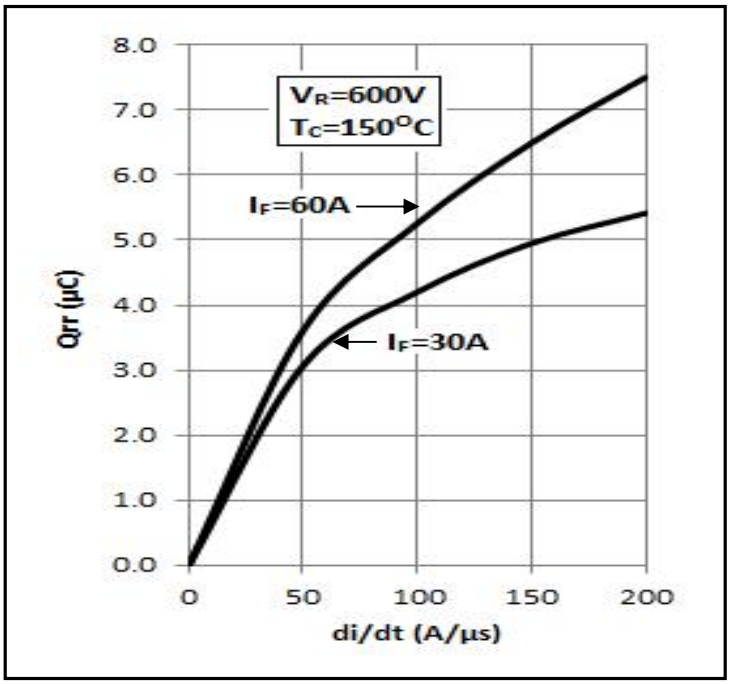



**Figure 4 – Reverse recovery current vs $di_F/dt$**

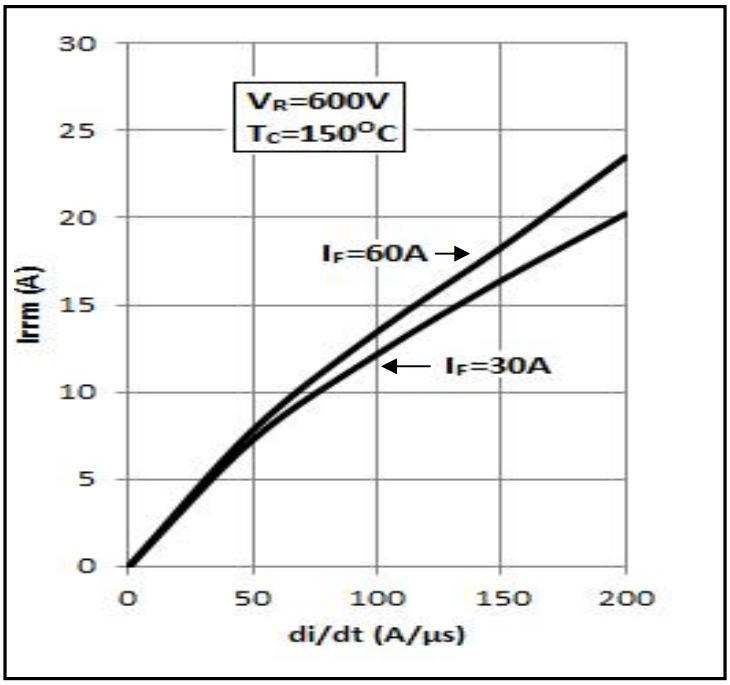
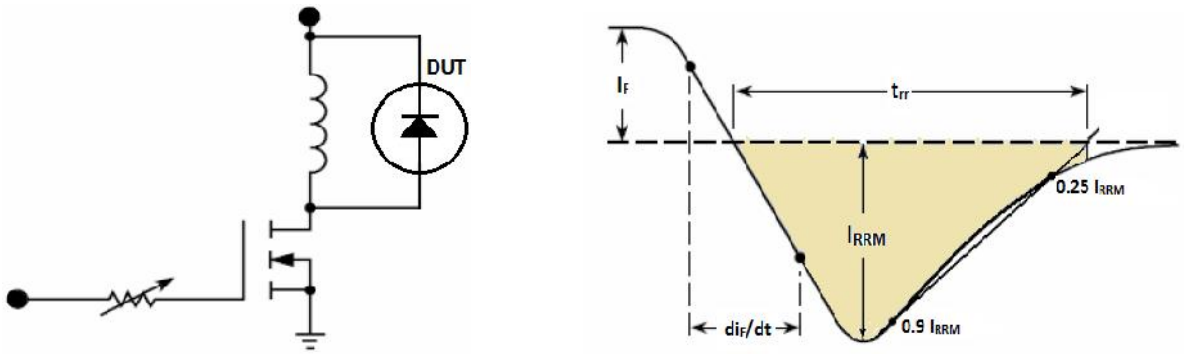


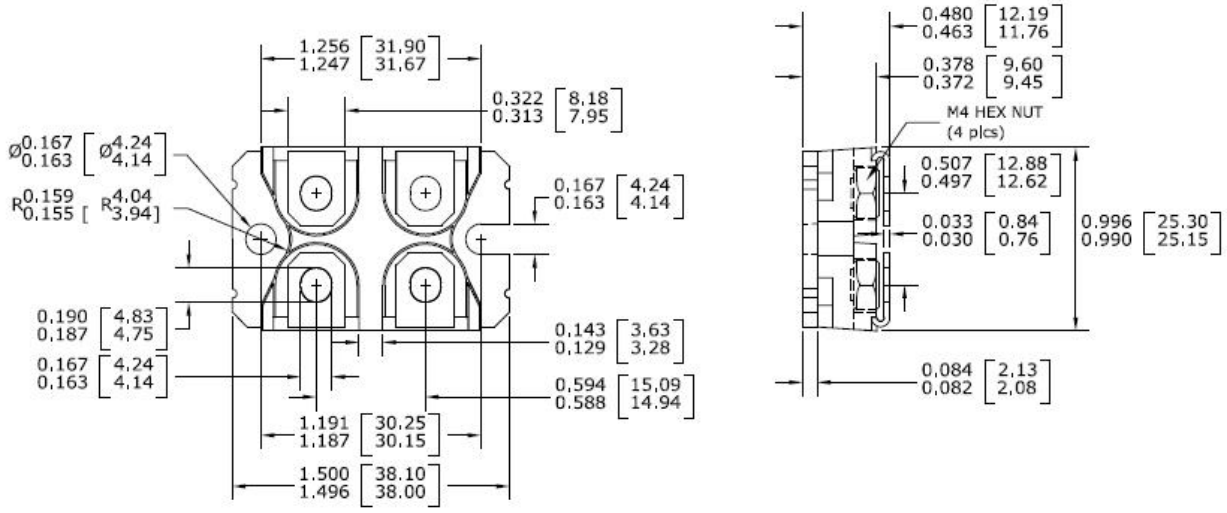

**Figure 5 – Diode Reverse Recovery Test Circuit and Waveform**






Website: www.iqxprzpower.com
Telefax +632 837 1538

## Package Outline Drawing




## Disclaimer

These specifications may not be considered as a guarantee of components characteristics. Components have to be tested depending on intended application as adjustments may be necessary. The use of **iQXPRZ Power Inc.** components in life support appliances and systems are subject to written approval of **iQXPRZ Power Inc.**



Website: www.iqxprzpower.com
Telefax +632 837 1538