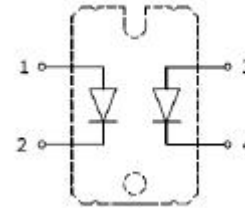


## Parallel Fast Recovery, 2x30A, 600V Diodes In Isolated SOT227 Package

### APPLICATIONS

- Switch mode power supplies (SMPS) rectifiers
- Resonant applications
- Industrial drives



### FEATURES

- Fast recovery
- Soft switching
- Low reverse recovery charge
- Low forward voltage drop
- Low leakage current
- Pb-free finished; **RoHS compliant**



### MAXIMUM RATINGS (per Diode)

| Parameter                                                                                            | Symbol         | Value       | Units            |
|------------------------------------------------------------------------------------------------------|----------------|-------------|------------------|
| Repetitive peak reverse voltage                                                                      | $V_{RRM}$      | 600         | V                |
| Continuous forward current<br>$T_C=25^\circ\text{C}$<br>$T_C=85^\circ\text{C}$                       | $I_F$          | 50<br>30    | A                |
| Surge non-repetitive forward current<br>$T_J=25^\circ\text{C}$ , $t_p=10\text{ms}$ , Sine halfwave   | $I_{FSM}$      | 117         |                  |
| Maximum repetitive forward current<br>$T_C=25^\circ\text{C}$ , $t_p$ limited by $T_{Jmax}$ , $D=0.5$ | $I_{FRM}$      | 81          |                  |
| Soldering temperature<br>Wave soldering, 1.6mm (0.063 in.) from case for 10s                         | $T_S$          | 260         | $^\circ\text{C}$ |
| Operating junction and storage temperature                                                           | $T_J, T_{stg}$ | -55... +150 |                  |

### Thermal and Isolation Characteristics

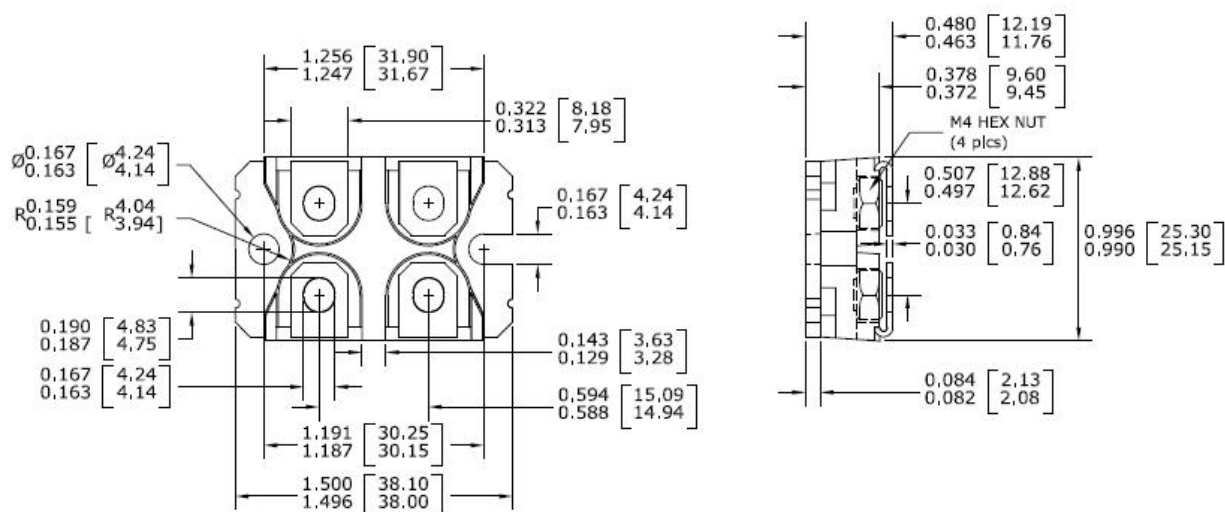
| Parameter                                                                                        | Symbol     | Max. Value | Units                     |
|--------------------------------------------------------------------------------------------------|------------|------------|---------------------------|
| <b>Characteristics</b>                                                                           |            |            |                           |
| Thermal resistance, junction to case, per Diode                                                  | $R_{thJC}$ | 1.365      | $^\circ\text{C}/\text{W}$ |
| Isolation voltage, RMS (measured between terminals and mounting base, 50-60 Hz, for 1-3 seconds) | $V_{iso}$  | 3000       | V                         |

### Electrical Characteristics (per Diode), at $T_J=25^\circ\text{C}$ , unless otherwise specified

| Parameter                                                                                         | Symbol         | Value  |            |           | Unit |
|---------------------------------------------------------------------------------------------------|----------------|--------|------------|-----------|------|
|                                                                                                   |                | Min.   | Typ.       | Max.      |      |
| Static Characteristics                                                                            |                |        |            |           |      |
| Reverse leakage current<br>V <sub>R</sub> = 600V<br>V <sub>R</sub> = 600V, T <sub>j</sub> = 150°C | I <sub>R</sub> | -<br>- | -<br>-     | 50<br>250 | μA   |
| Forward voltage drop<br>I <sub>F</sub> = 30A<br>I <sub>F</sub> = 30A, T <sub>j</sub> = 150°C      | V <sub>F</sub> | -<br>- | 1.5<br>1.5 | 2.0<br>-  | V    |

**Electrical Characteristics (per Diode), at  $T_j = 25^\circ\text{C}$ , unless otherwise specified**

| Parameter                                                                                                                                                                                                                                                                                                                                            | Symbol           | Value       |                      |             | Unit |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------|----------------------|-------------|------|
|                                                                                                                                                                                                                                                                                                                                                      |                  | Min.        | Typ.                 | Max.        |      |
| Dynamic Characteristics                                                                                                                                                                                                                                                                                                                              |                  |             |                      |             |      |
| Reverse recovery time<br>V <sub>R</sub> = 400V, I <sub>F</sub> = 30A, di <sub>F</sub> /dt = 1000A/μs, T <sub>j</sub> = 25°C<br>V <sub>R</sub> = 400V, I <sub>F</sub> = 30A, di <sub>F</sub> /dt = 1000A/μs, T <sub>j</sub> = 125°C<br>V <sub>R</sub> = 400V, I <sub>F</sub> = 30A, di <sub>F</sub> /dt = 1000A/μs, T <sub>j</sub> = 150°C            | t <sub>rr</sub>  | -<br>-<br>- | 126<br>171<br>178    | -<br>-<br>- | ns   |
| Maximum reverse recovery current<br>V <sub>R</sub> = 400V, I <sub>F</sub> = 30A, di <sub>F</sub> /dt = 1000A/μs, T <sub>j</sub> = 25°C<br>V <sub>R</sub> = 400V, I <sub>F</sub> = 30A, di <sub>F</sub> /dt = 1000A/μs, T <sub>j</sub> = 125°C<br>V <sub>R</sub> = 400V, I <sub>F</sub> = 30A, di <sub>F</sub> /dt = 1000A/μs, T <sub>j</sub> = 150°C | I <sub>rrm</sub> | -<br>-<br>- | 19<br>22<br>24       | -<br>-<br>- | A    |
| Reverse recovery charge<br>V <sub>R</sub> = 400V, I <sub>F</sub> = 30A, di <sub>F</sub> /dt = 1000A/μs, T <sub>j</sub> = 25°C<br>V <sub>R</sub> = 400V, I <sub>F</sub> = 30A, di <sub>F</sub> /dt = 1000A/μs, T <sub>j</sub> = 125°C<br>V <sub>R</sub> = 400V, I <sub>F</sub> = 30A, di <sub>F</sub> /dt = 1000A/μs, T <sub>j</sub> = 150°C          | Q <sub>rr</sub>  | -<br>-<br>- | 1100<br>1950<br>2150 | -<br>-<br>- | nC   |

**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.**