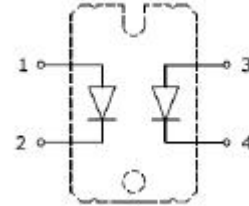


**PRELIMINARY DATASHEET**
**Parallel Fast Recovery 2X30A, 600V Epitaxial Diodes,  
 in Isolated SOT227 Package**
**APPLICATIONS**

- 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 Diode)**

Parameter	Symbol	Value	Units
Repetitive peak reverse voltage	$V_{RRM}$	600	V
Average forward current $T_c = 85^\circ\text{C}$	$I_{F(AV)}$	30	A
Surge non-repetitive forward current $T_j = 45^\circ\text{C}$ , $t_p = 10$ ms, 50Hz, Sine	$I_{FSM}$	300	
Operating junction and storage temperature	$T_j, T_{stg}$	-40... +150	$^\circ\text{C}$

**Thermal and Isolation Characteristics**

Parameter	Symbol	Max. Value	Units
<b>Characteristics</b>			
Thermal resistance, junction to case, per Diode	$R_{thJC}$	1.04	$^\circ\text{C}/\text{W}$
Isolation voltage, RMS (measured between terminals and mounting base, 50-60 Hz, for 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.	
<b>Static Characteristics</b>					
Reverse leakage current $V_R = 600\text{V}$ $V_R = 600\text{V}$ , $T_j = 125^\circ\text{C}$	$I_R$	-	-	15 250	$\mu\text{A}$
Forward voltage drop $I_F = 30\text{A}$ , $T_j = 25^\circ\text{C}$ $I_F = 30\text{A}$ , $T_j = 150^\circ\text{C}$	$V_F$	-	1.4 1.1	2.0 -	V

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

Parameter	Symbol	Value			Unit
		Min.	Typ.	Max.	
<b>Dynamic Characteristics</b>					
Reverse recovery time $V_R = 30\text{V}$ , $I_F = 1\text{A}$ , $di_F/dt = -200\text{A}/\mu\text{s}$ $V_R = 300\text{V}$ , $I_F = 30\text{A}$ , $di_F/dt = -200\text{A}/\mu\text{s}$ , $T_j = 25^\circ\text{C}$ $V_R = 300\text{V}$ , $I_F = 30\text{A}$ , $di_F/dt = -200\text{A}/\mu\text{s}$ , $T_j = 125^\circ\text{C}$	$t_{rr}$	-	25 102 166	-	ns
Reverse recovery charge $V_R = 300\text{V}$ , $I_F = 30\text{A}$ , $di_F/dt = -200\text{A}/\mu\text{s}$ , $T_j = 25^\circ\text{C}$ $V_R = 300\text{V}$ , $I_F = 30\text{A}$ , $di_F/dt = -200\text{A}/\mu\text{s}$ , $T_j = 125^\circ\text{C}$	$Q_{rr}$	-	206 1434	-	nC
Maximum reverse recovery current $V_R = 300\text{V}$ , $I_F = 30\text{A}$ , $di_F/dt = -200\text{A}/\mu\text{s}$ , $T_j = 25^\circ\text{C}$ $V_R = 300\text{V}$ , $I_F = 30\text{A}$ , $di_F/dt = -200\text{A}/\mu\text{s}$ , $T_j = 125^\circ\text{C}$	$I_{rrm}$	-	5.9 13.5	-	A

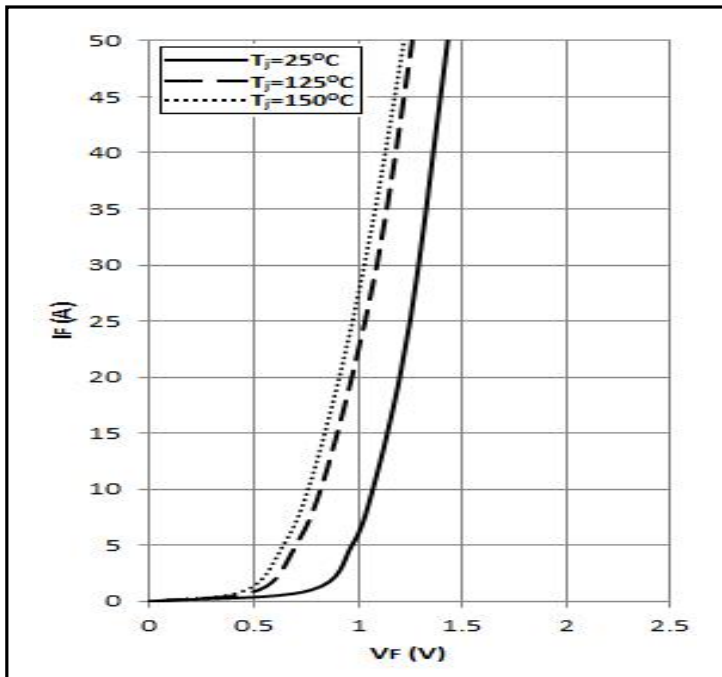
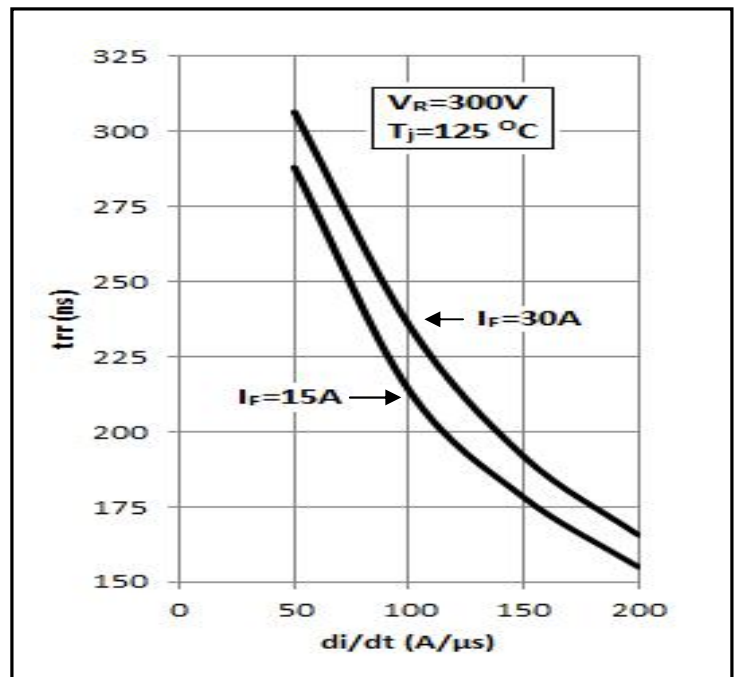
**Figure 1 – Typical Forward voltage drop vs forward current**

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


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

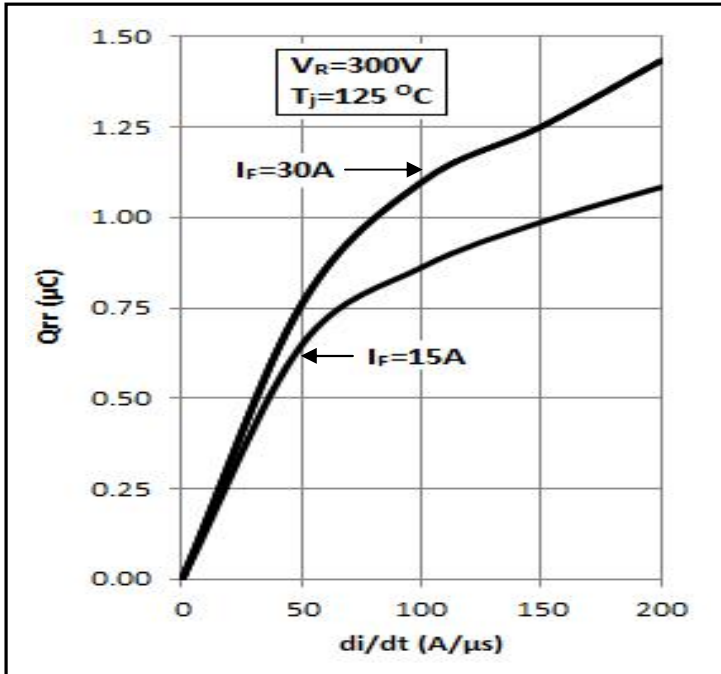


Figure 4 – Reverse recovery current vs  $di_F/dt$

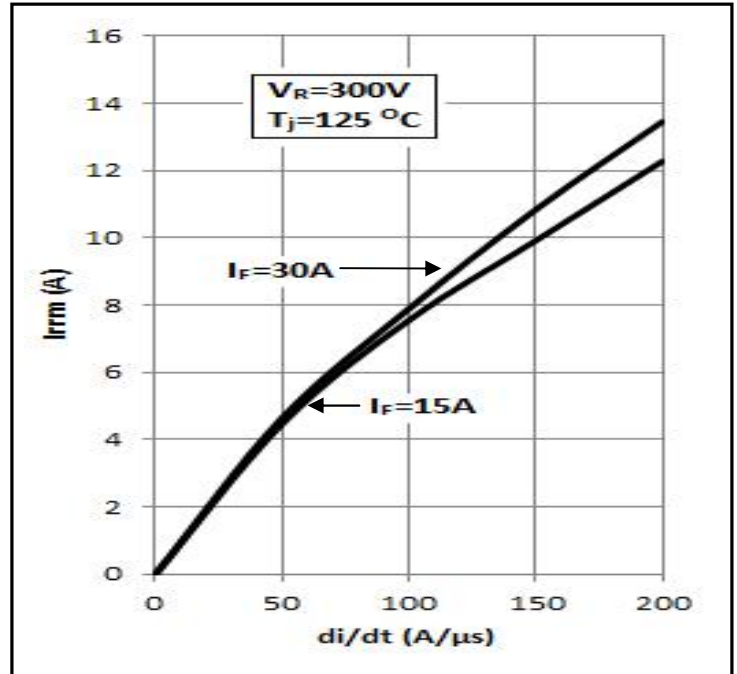
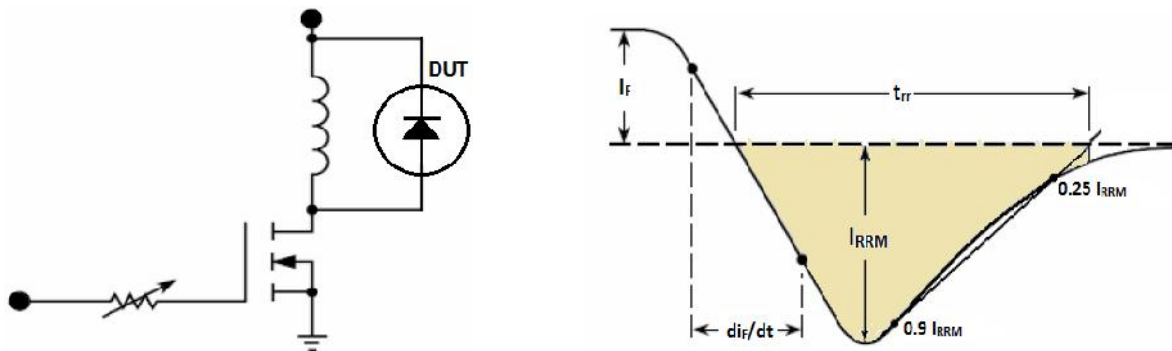
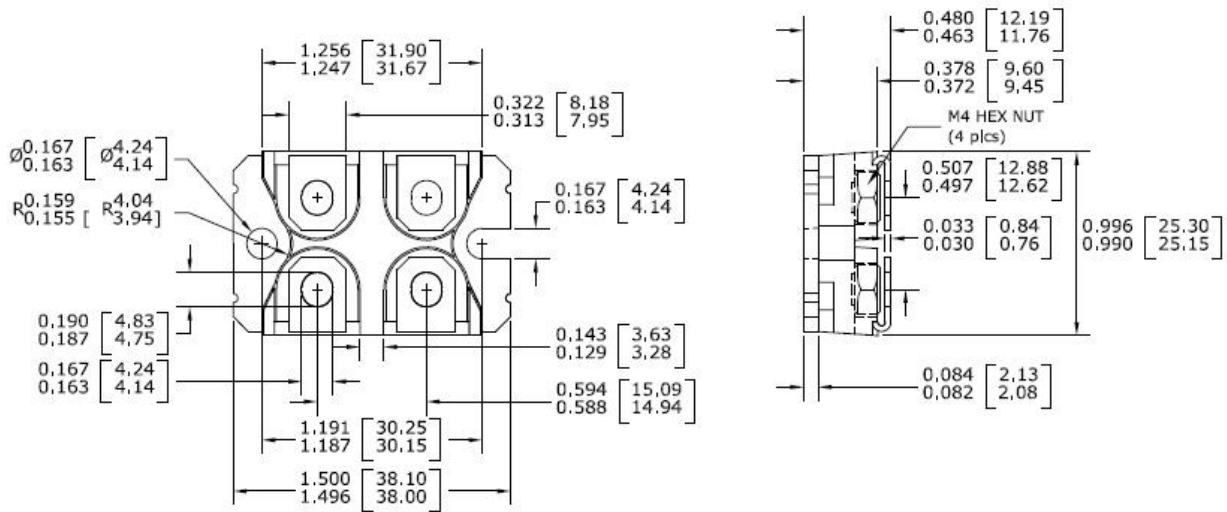


Figure 5 – Diode Reverse Recovery Test Circuit and Waveform



**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.**