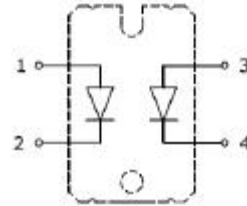


## Parallel 1200 2X30A Fast Recovery Epitaxial Diode in Isolated SOT227 package

### 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	$V_{RRM}$	1200	V
Continuous forward current $T_C = 85^\circ\text{C}$	$I_F$	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	$R_{thJC}$	1.43	$^\circ\text{C}/\text{W}$
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.	
<b>Static Characteristics</b>					
Reverse leakage current $V_R = 1200\text{ V}, T_j = 25^\circ\text{C}$	$I_R$	-	-	100	$\mu\text{A}$
Forward voltage drop $I_F = 30\text{ A}, T_j = 25^\circ\text{C}$ $I_F = 30\text{ A}, T_j = 125^\circ\text{C}$	$V_F$	- -	2.0 1.6	2.5 -	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 $V_R = 30\text{ V}, I_F = 1\text{ A}, di_F/dt = -200\text{ A}/\mu\text{s}$ $V_R = 600\text{ V}, I_F = 30\text{ A}, di_F/dt = -200\text{ A}/\mu\text{s}, T_j = 25^\circ\text{C}$ $V_R = 600\text{ V}, I_F = 30\text{ A}, di_F/dt = -200\text{ A}/\mu\text{s}, T_j = 125^\circ\text{C}$	$t_{rr}$	- - -	33 244 444	- - -	ns
Maximum reverse recovery current $V_R = 600\text{ V}, I_F = 30\text{ A}, di_F/dt = -200\text{ A}/\mu\text{s}, T_j = 25^\circ\text{C}$ $V_R = 600\text{ V}, I_F = 30\text{ A}, di_F/dt = -200\text{ A}/\mu\text{s}, T_j = 125^\circ\text{C}$	$I_{rrm}$	- -	9.1 16.6	- -	A
Reverse recovery charge $V_R = 600\text{ V}, I_F = 30\text{ A}, di_F/dt = -200\text{ A}/\mu\text{s}, T_j = 25^\circ\text{C}$ $V_R = 600\text{ V}, I_F = 30\text{ A}, di_F/dt = -200\text{ A}/\mu\text{s}, T_j = 125^\circ\text{C}$	$Q_{rr}$	- -	758 4065	- -	nC

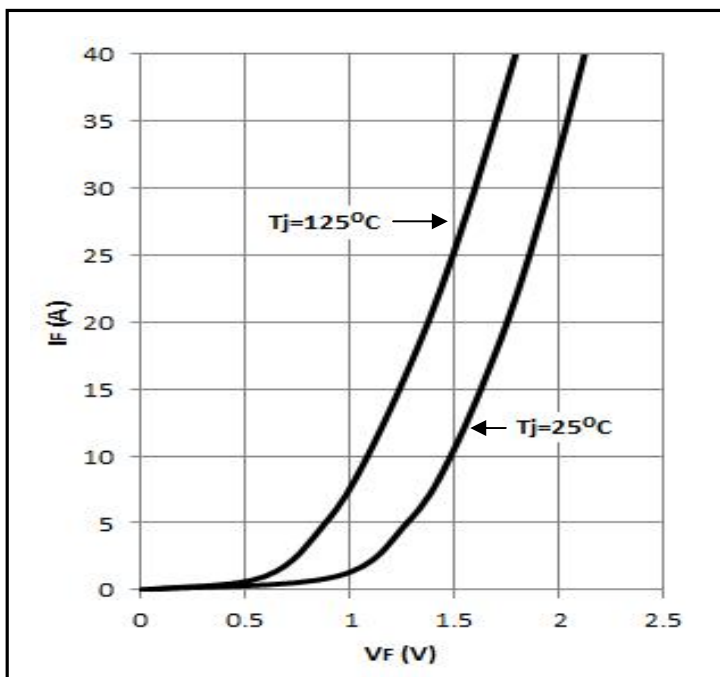
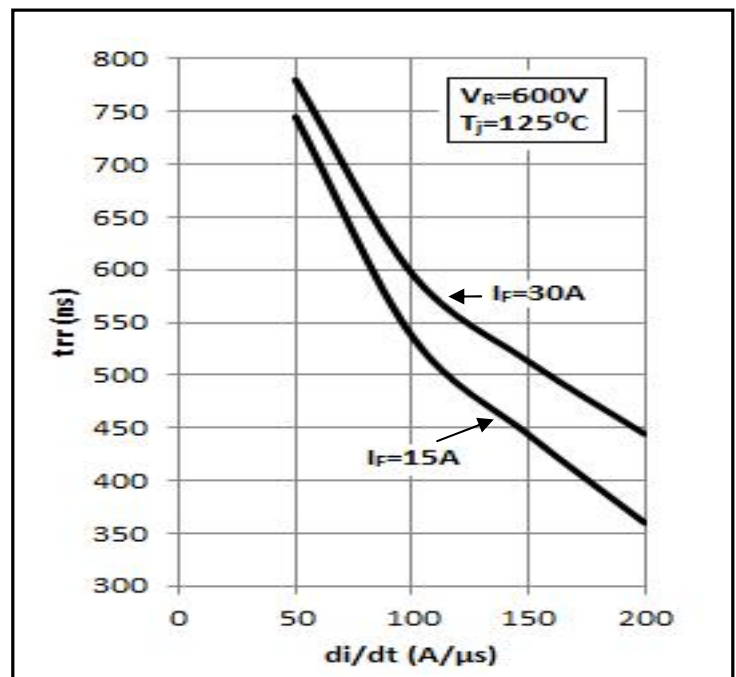
**Figure 1 – Forward voltage drop vs forward current**

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


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

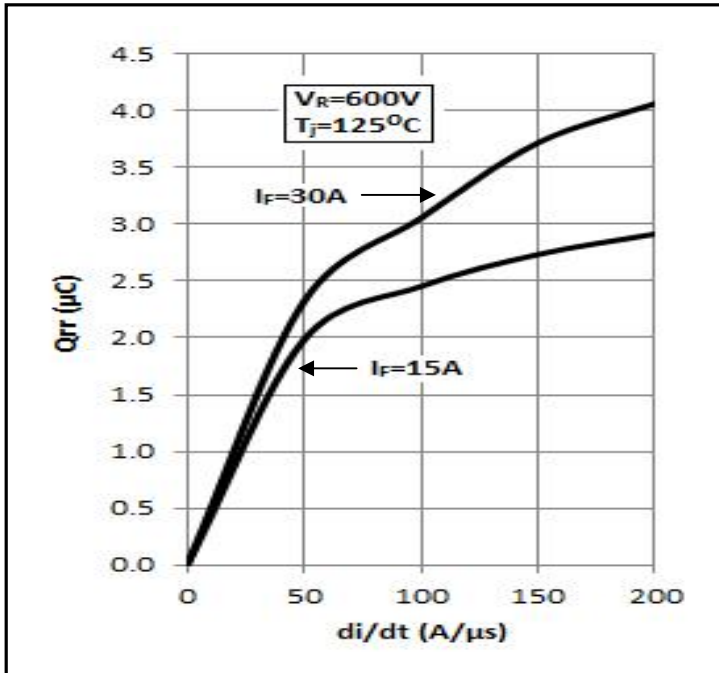


Figure 4 – Reverse recovery current vs  $di_F/dt$

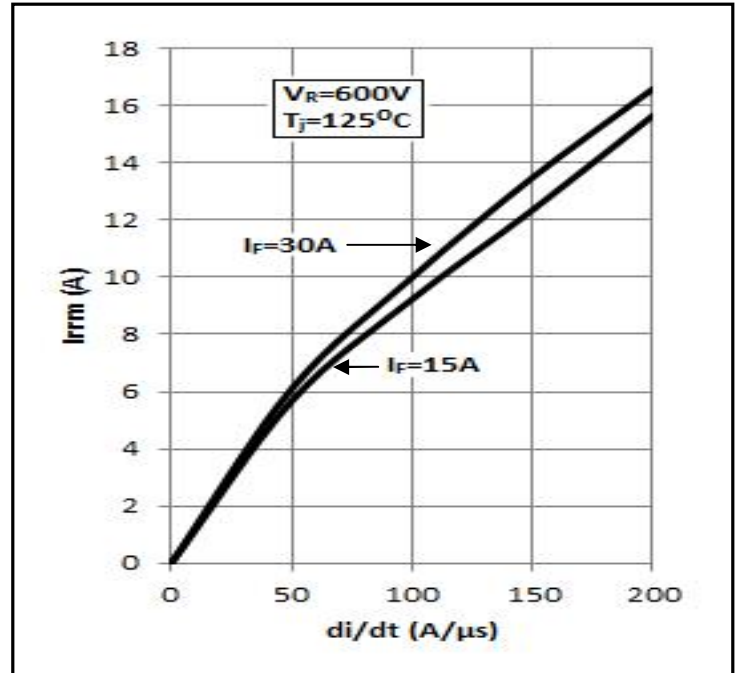
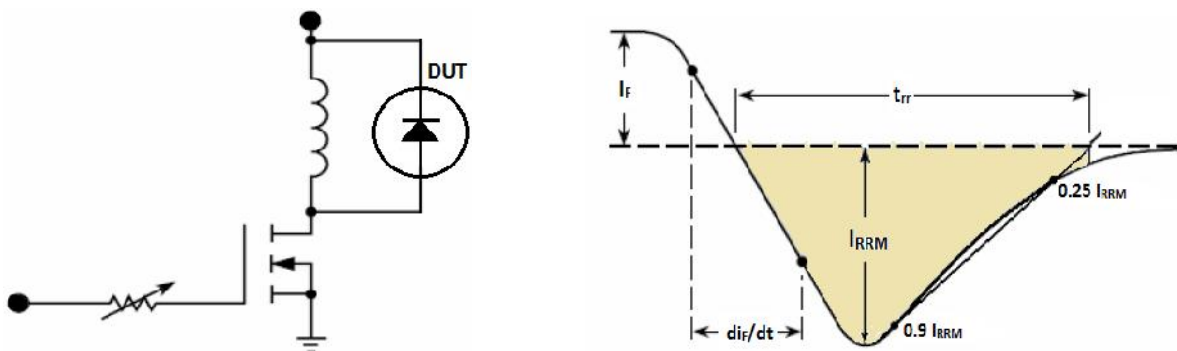
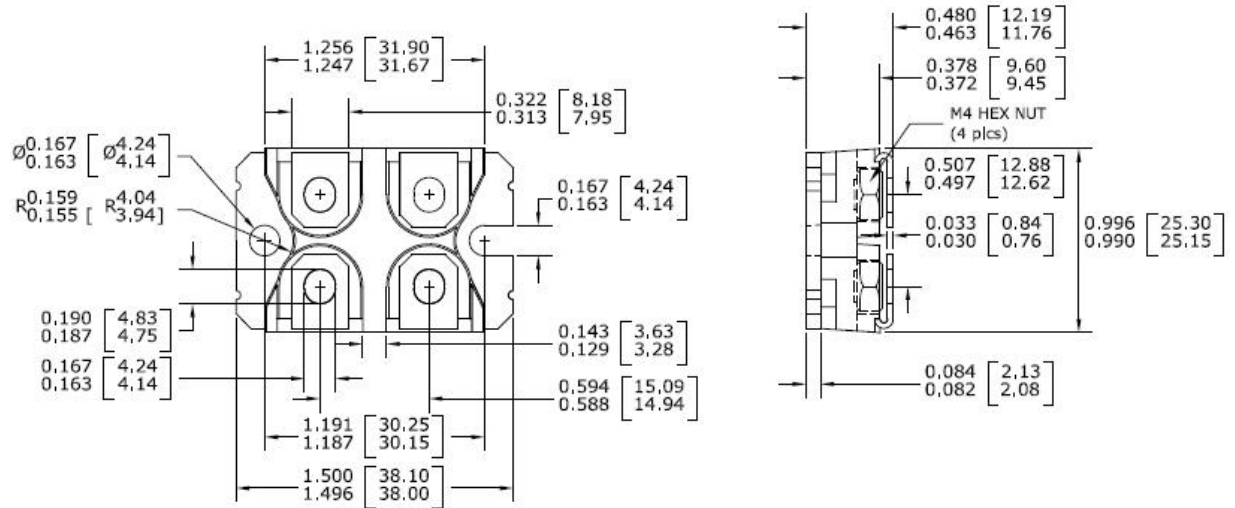


Figure 5 – Diode Reverse Recovery Test Circuit and Waveform



### 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.**