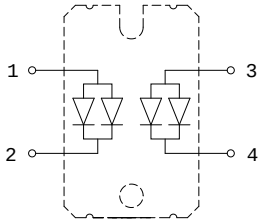
PRELIMINARY DATASHEET

Parallel Fast Recovery, 4x60A, 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
- Pb-free finished; **RoHS compliant**

MAXIMUM RATINGS (per Leg)

Parameter	Symbol	Value	Units
Repetitive peak reverse voltage	V_{RRM}	600	V
Average forward current T_C = 85 °C	$I_{F(AV)}$	120	A
Maximum repetitive forward current T_C=25°C, t_p limited by T_{jmax}, D=0.5	I_{FSM}	1200	
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}	0.325	°C/W
Isolation voltage, RMS (measured between terminals and mounting base, 50-60 Hz, for 1-3 seconds)	V_{iso}	3000	V

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

Parameter	Symbol	Value			Unit
		Min.	Typ.	Max.	
Static Characteristics					
Reverse leakage current V_R = 600V, T_j=25 °C	I_R	-	-	500	µA
Forward voltage drop I_F = 120A, T_j=25°C	V_F	-	1.3	1.8	V

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

Parameter	Symbol	Value			Unit
		Min.	Typ.	Max.	
Dynamic Characteristics					
Reverse recovery time V_R = 30V, I_F = 1A, di_F/dt = -200A/µs, T_j = 25°C V_R = 300V, I_F = 120A, di_F/dt = -200A/µs, T_j = 25°C V_R = 300V, I_F = 120A, di_F/dt = -200A/µs, T_j = 125°C	t_{rr}	- - -	48 103 218	- - -	ns
Reverse recovery charge V_R = 300V, I_F = 120A, di_F/dt = -200A/µs, T_j = 25°C V_R = 300V, I_F = 120A, di_F/dt = -200A/µs, T_j = 125°C	Q_{rr}	- -	467 3184	- -	nC
Maximum reverse recovery current V_R = 300V, I_F = 120A, di_F/dt = -200A/µs, T_j = 25°C V_R = 300V, I_F = 120A, di_F/dt = -200A/µs, T_j = 125°C	Irrm	- -	8.0 24.4	- -	A

Figure 1 – Typical Forward Voltage Drop vs Forward Current

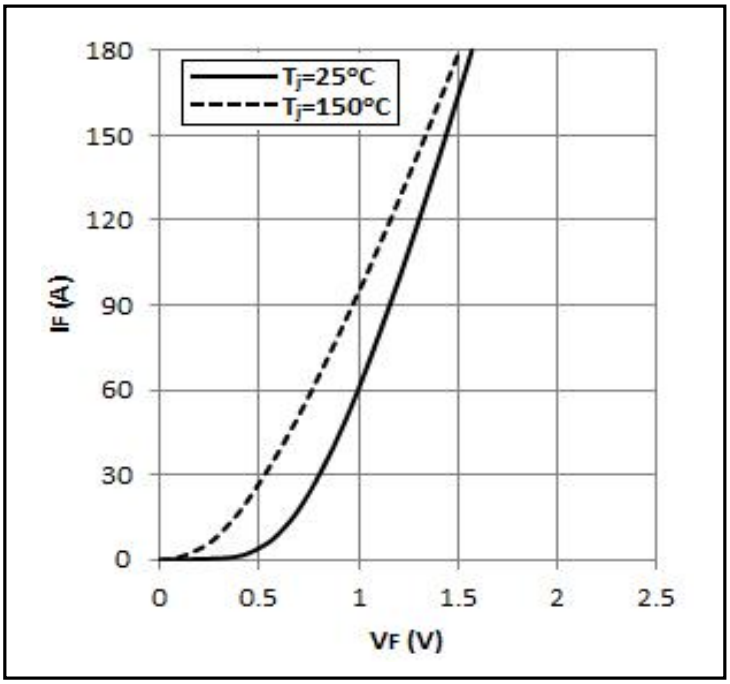

Figure 2 – Reverse recovery time vs. di_F/dt

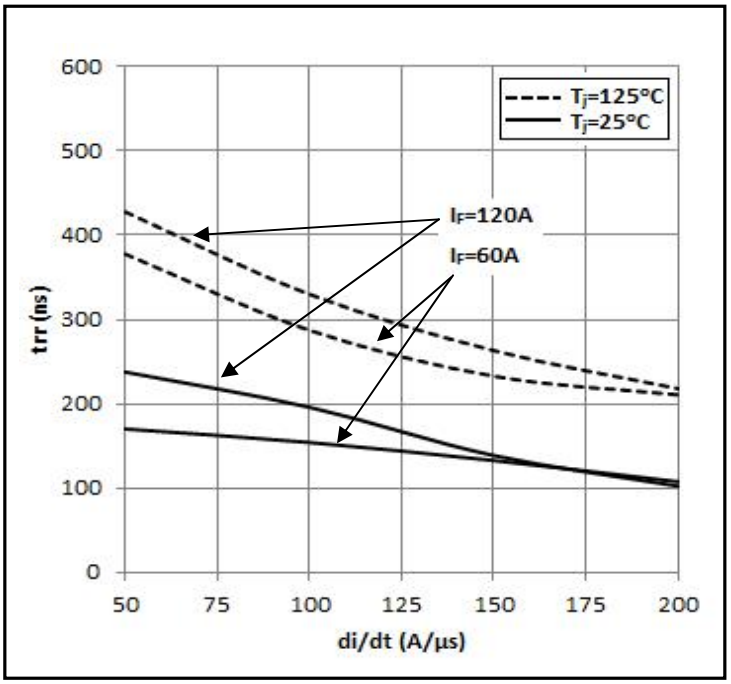

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Figure 2 – Reverse recovery charge vs. di_F/dt

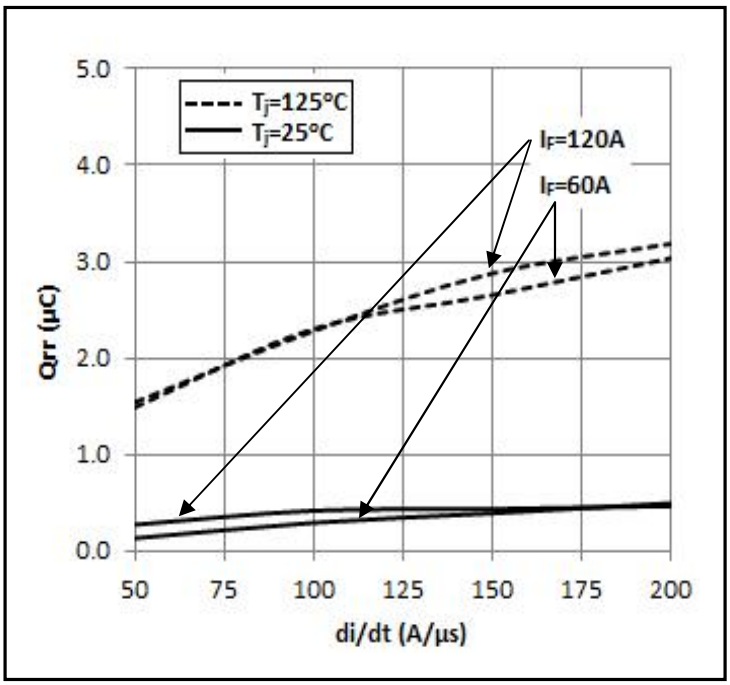


Figure 3 – Maximum reverse recovery current vs. di_F/dt

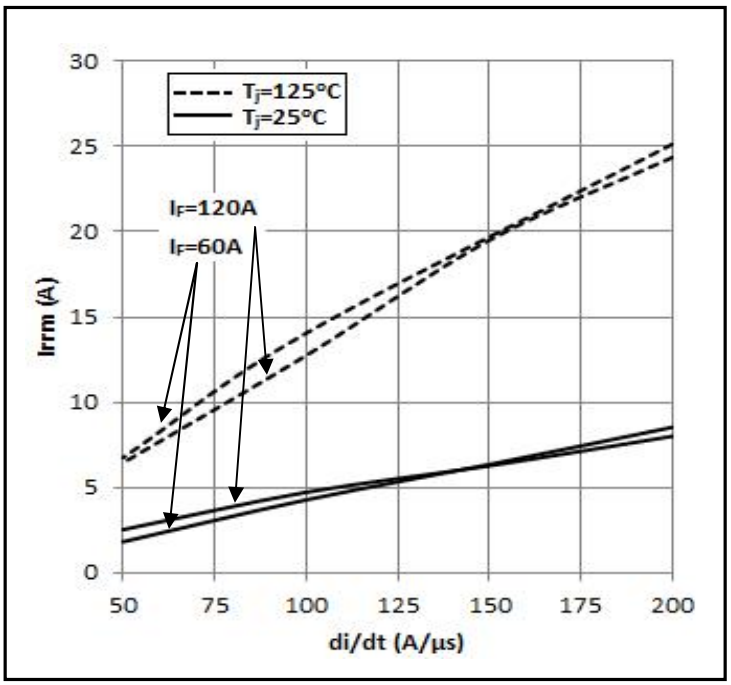
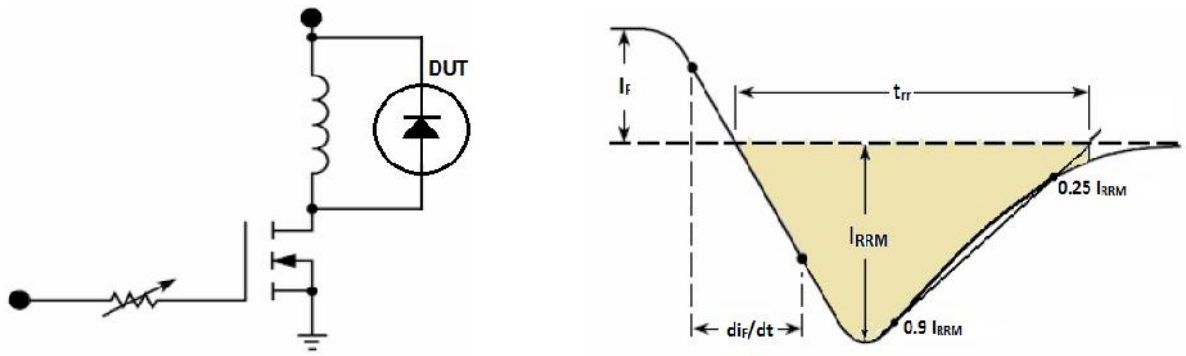


Figure 4 – Diode Reverse Recovery Test Circuit and Waveform



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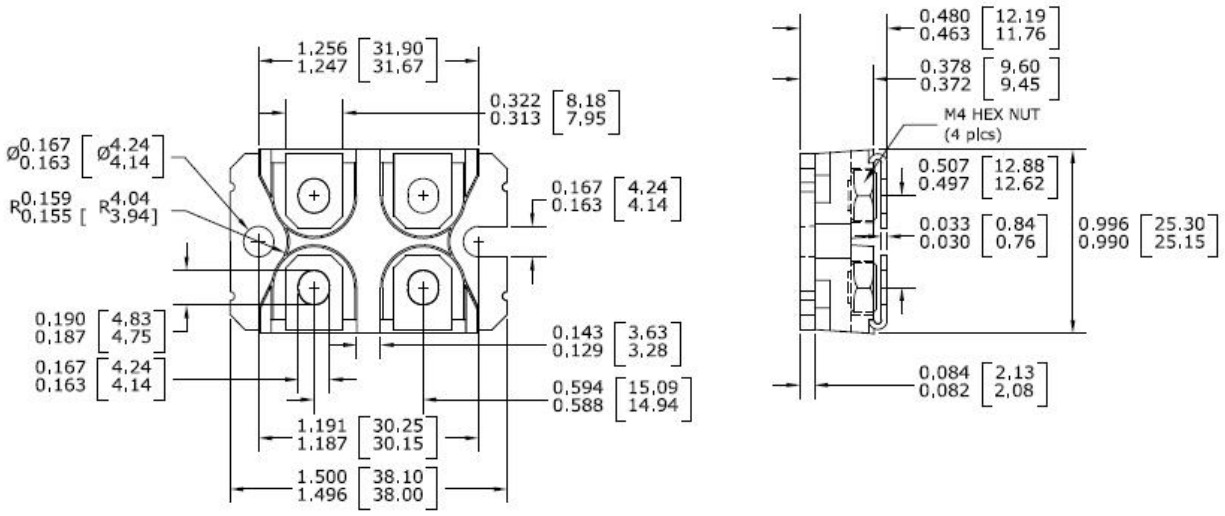
Package Outline Drawing



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.**

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