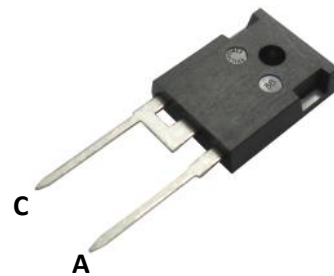


1200V 50A Soft Recovery Diode in TO247 B1 version
APPLICATIONS

- Switch mode power supplies
- Welding applications
- Motor drives


FEATURES

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


MAXIMUM RATINGS

Parameter	Symbol	Value	Units
Repetitive peak reverse voltage	V_{RRM}	1200	V
Continuous forward current $T_C = 100^\circ\text{C}$	I_F	50	A
Surge non-repetitive forward current Limited by T_{Jmax}	I_{FRM}	100	
Operating junction and storage temperature	$T_{J, T_{stg}}$	-40... +150	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Max. Value	Units
Characteristics			
Thermal resistance, junction to case	R_{thJC}	0.48	$^\circ\text{C/W}$

Electrical Characteristics, at $T_j = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Value			Unit
		Min.	Typ.	Max.	
Static Characteristics					
Reverse leakage current V _R = 1200 V, T _j =25°C V _R = 1200 V, T _j =150°C	I _R	- -	- -	100 1.5	μA mA
Forward voltage drop I _F = 50A, T _j =25 °C I _F = 50A, T _j =150 °C	V _F	- -	1.70 1.80	2.2 -	V

Electrical Characteristics, at $T_j = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Value			Unit
		Min.	Typ.	Max.	
Dynamic Characteristics					
Reverse recovery time V _R = 600V, I _F = 50A, di _F /dt = 200A/μs V _R = 600V, I _F = 50A, di _F /dt = 200A/μs, T _J = 150°C	t _{rr}	- -	636 978	- -	ns
Maximum reverse recovery current V _R = 600V, I _F = 50A, di _F /dt = 200A/μs V _R = 600V, I _F = 50A, di _F /dt = 200A/μs, T _J = 150°C	I _{rrm}	- -	13.0 26.5	- -	A
Reverse recovery charge V _R = 600V, I _F = 50A, di _F /dt = 200A/μs V _R = 600V, I _F = 50A, di _F /dt = 200A/μs, T _J = 150°C	Q _{rr}	- -	3.9 13.1	- -	μC

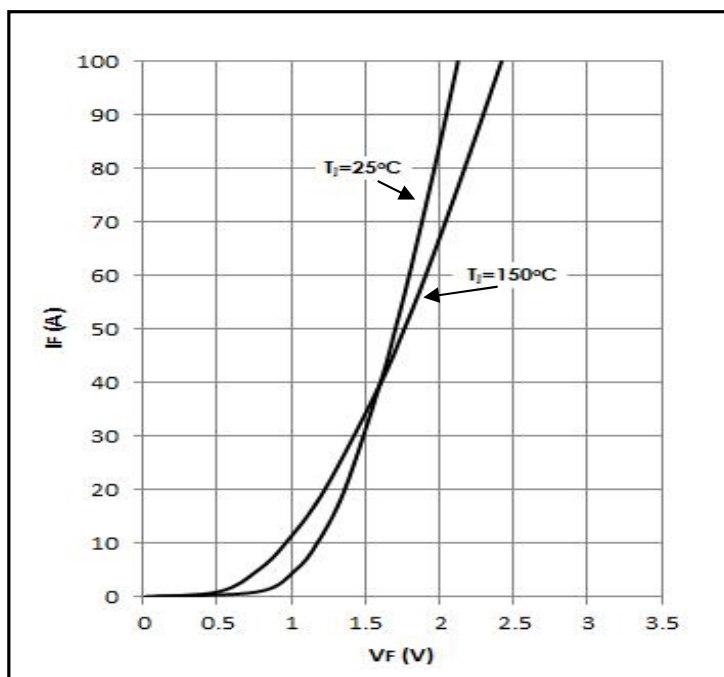
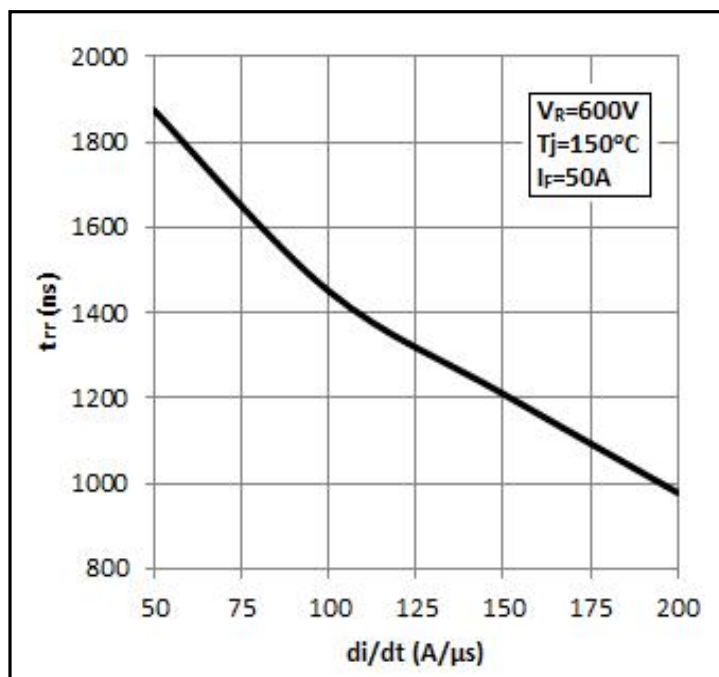
Figure 1 – Typical Diode Forward Characteristics

Figure 2 – Reverse recovery time vs. di_F/dt


Figure 3 – Reverse recovery charge vs. di_F/dt

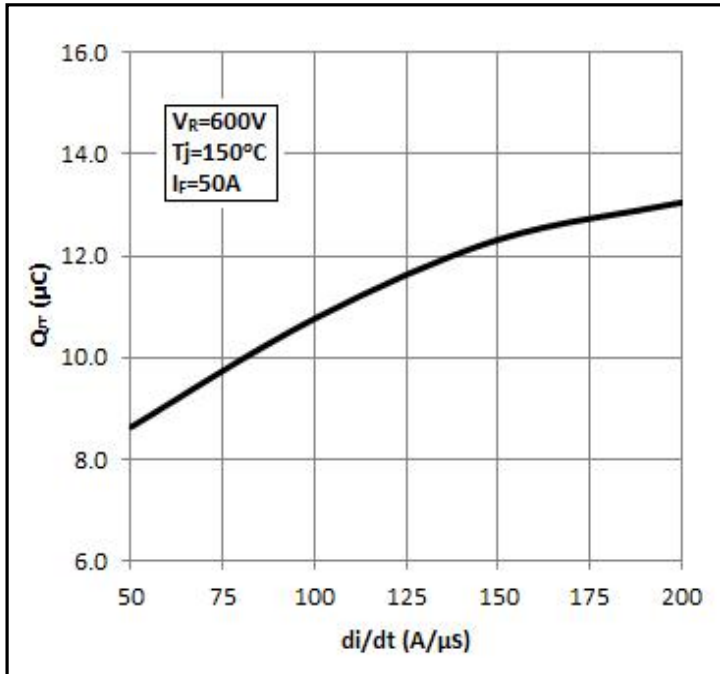


Figure 4 – Maximum reverse recovery current vs. di_F/dt

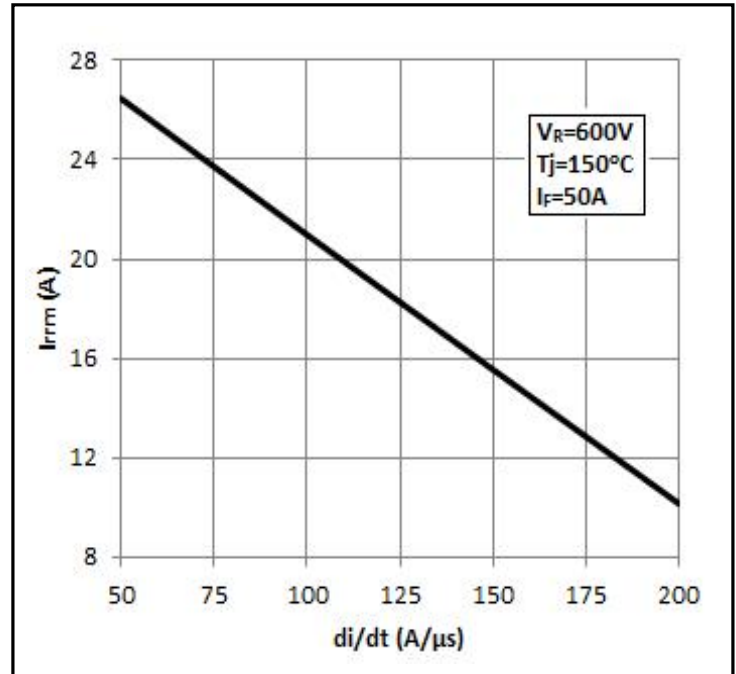
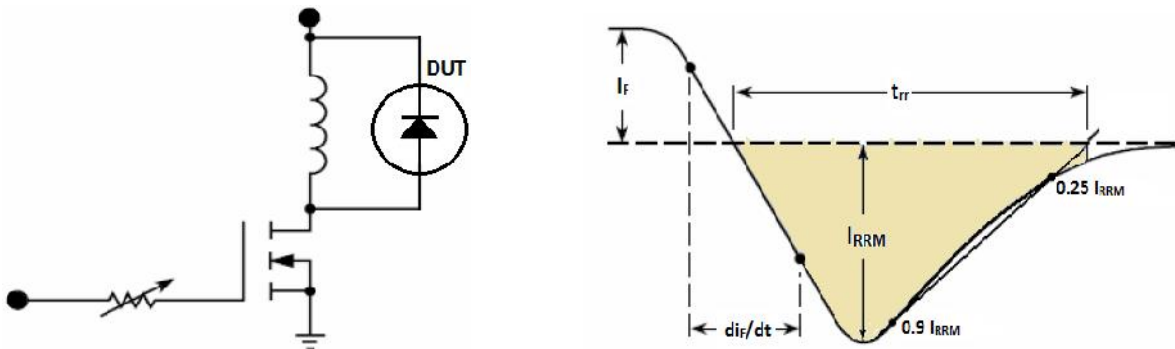
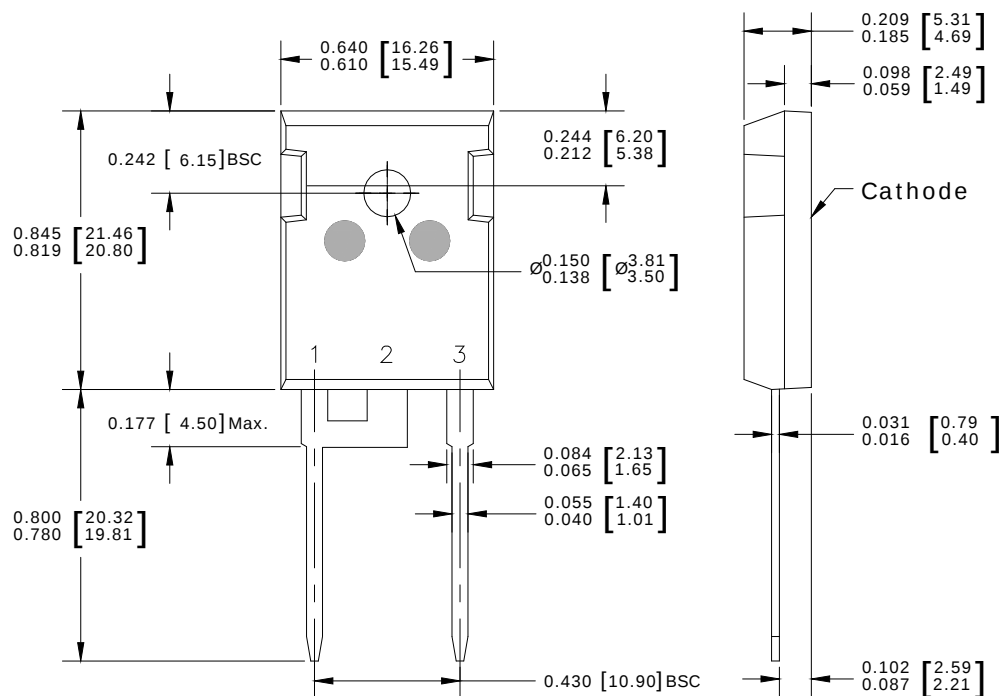


Figure 5 – Diode Reverse Recovery Test Circuit and Waveform



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.**