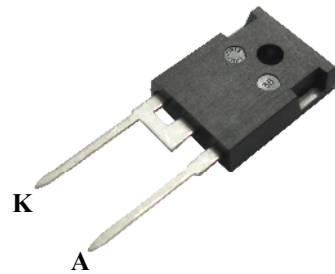
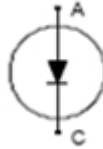


PRELIMINARY DATASHEET
Fast Recovery 30A, 600V Diodes in TO247 B1 version

- Fast recovery
- Soft switching
- Low reverse recovery charge
- Low forward voltage
- Easy paralleling
- Pb-free lead finish; RoHS compliant


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

Parameter	Symbol	Value	Units
Repetitive peak reverse voltage	V_{RRM}	600	V
Continuous forward current	I_F	50	A
$T_C = 25^\circ\text{C}$		30	
$T_C = 90^\circ\text{C}$			
Surge non-repetitive forward current	I_{FSM}	117	A
$T_C = 25^\circ\text{C}$, $t_p = 10$ ms, sine halfwave			
Maximum repetitive forward current	I_{FRM}	81	A
$T_C = 25^\circ\text{C}$, t_p limited by T_{jmax} , $D = 0.5$			
Soldering temperature	T_S	260	$^\circ\text{C}$
Wave soldering, 1.6 mm (0.063 in.) from case for 10s			
Operating junction and storage temperature	T_j, T_{stg}	-55... +150	$^\circ\text{C}$

Thermal Characteristics

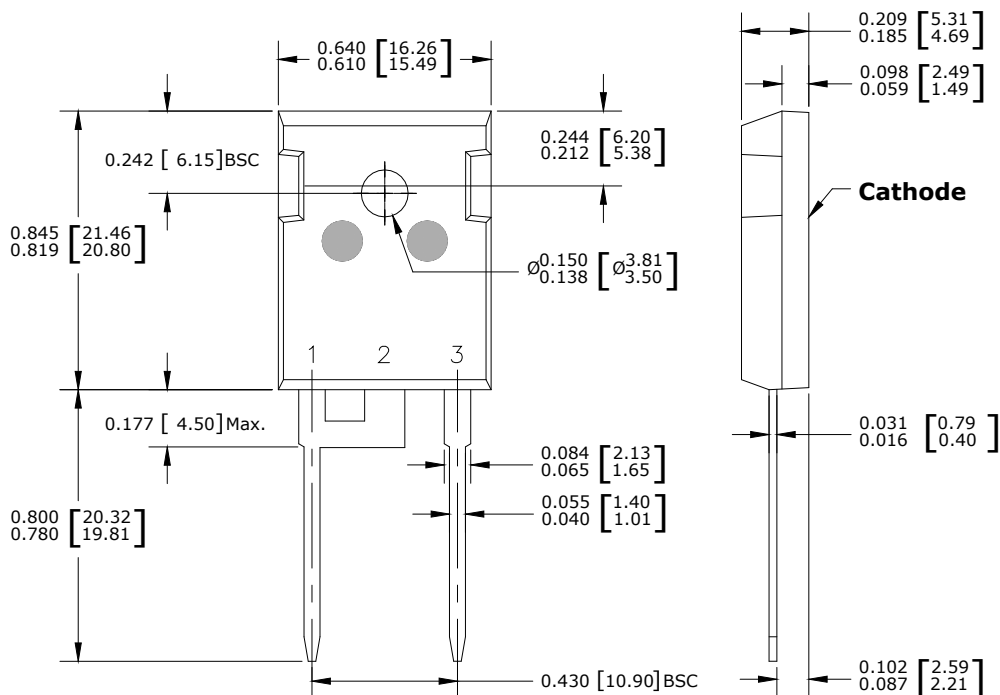
Parameter	Symbol	Max. Value	Units
Characteristics			
Thermal resistance, junction to case	R_{thJC}	1.05	$^\circ\text{C}/\text{W}$

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

Parameter	Symbol	Value			Unit
		Min.	Typ.	Max.	
Static Characteristics					
Reverse leakage current	I_R	-	-	50	μA
$V_R = 600\text{V}$, $T_j = 25^\circ\text{C}$		-	-	2500	
$V_R = 600\text{V}$, $T_j = 175^\circ\text{C}$					
Forward voltage drop	V_F	-	1.5	2.0	V
$I_F = 30\text{A}$, $T_j = 25^\circ\text{C}$		-	1.5	-	
$I_F = 30\text{A}$, $T_j = 175^\circ\text{C}$					

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

Parameter	Symbol	Value			Unit
		Min.	Typ.	Max.	
Dynamic Characteristics					
Reverse recovery time $V_R = 400\text{V}$, $I_F = 30\text{A}$, $di_F/dt = 1000\text{A}/\mu\text{s}$, $T_j = 25^\circ\text{C}$ $V_R = 400\text{V}$, $I_F = 30\text{A}$, $di_F/dt = 1000\text{A}/\mu\text{s}$, $T_j = 125^\circ\text{C}$ $V_R = 400\text{V}$, $I_F = 30\text{A}$, $di_F/dt = 1000\text{A}/\mu\text{s}$, $T_j = 175^\circ\text{C}$	t_{rr}	-	126	-	ns
Peak reverse current $V_R = 400\text{V}$, $I_F = 30\text{A}$, $di_F/dt = 1000\text{A}/\mu\text{s}$, $T_j = 25^\circ\text{C}$ $V_R = 400\text{V}$, $I_F = 30\text{A}$, $di_F/dt = 1000\text{A}/\mu\text{s}$, $T_j = 125^\circ\text{C}$ $V_R = 400\text{V}$, $I_F = 30\text{A}$, $di_F/dt = 1000\text{A}/\mu\text{s}$, $T_j = 175^\circ\text{C}$	I_{rrm}	-	19	-	A
Reverse recovery charge $V_R = 400\text{V}$, $I_F = 30\text{A}$, $di_F/dt = 1000\text{A}/\mu\text{s}$, $T_j = 25^\circ\text{C}$ $V_R = 400\text{V}$, $I_F = 30\text{A}$, $di_F/dt = 1000\text{A}/\mu\text{s}$, $T_j = 125^\circ\text{C}$ $V_R = 400\text{V}$, $I_F = 30\text{A}$, $di_F/dt = 1000\text{A}/\mu\text{s}$, $T_j = 175^\circ\text{C}$	Q_{rr}	-	1100	-	nC
Peak rate of fall of reverse recovery current during t_b $V_R = 400\text{V}$, $I_F = 30\text{A}$, $di_F/dt = 1000\text{A}/\mu\text{s}$, $T_j = 25^\circ\text{C}$ $V_R = 400\text{V}$, $I_F = 30\text{A}$, $di_F/dt = 1000\text{A}/\mu\text{s}$, $T_j = 125^\circ\text{C}$ $V_R = 400\text{V}$, $I_F = 30\text{A}$, $di_F/dt = 1000\text{A}/\mu\text{s}$, $T_j = 175^\circ\text{C}$	di_{rr}/dt	-	4.0	-	A/ μs

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.**