

Ultra fast Rectifier
APT30DQ120BCT
FEATURES

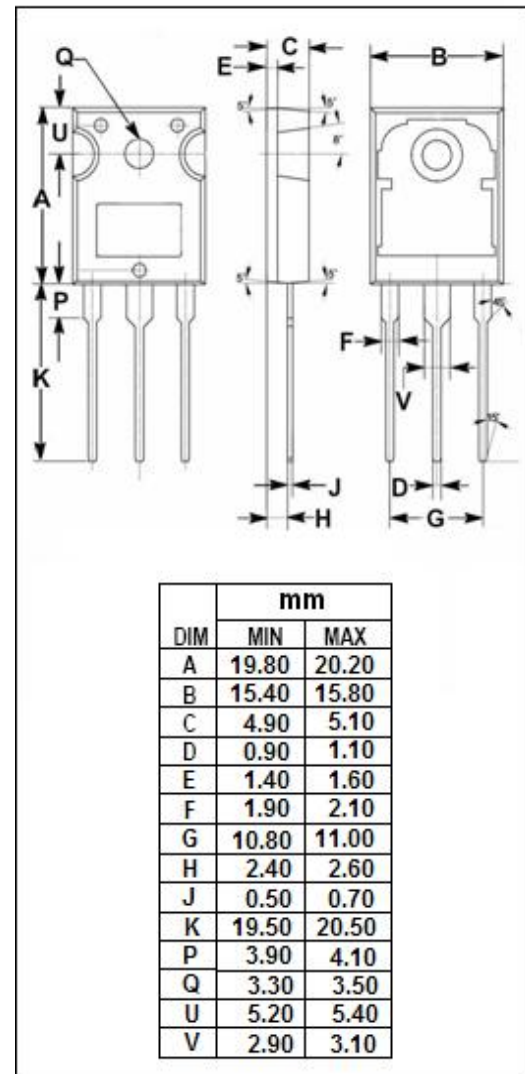
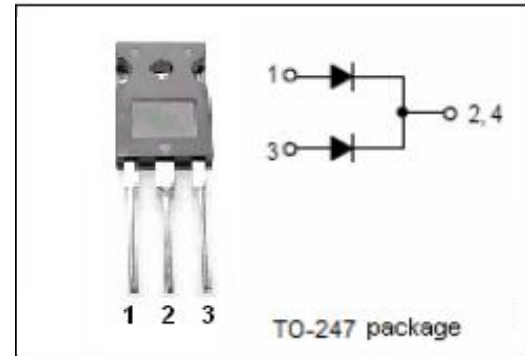
- With TO-247 packaging
- High junction temperature capability
- Low forward voltage
- High current capability
- Low power loss, high efficiency
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Switching power supply
- Free-Wheeling diodes
- Reverse battery protection
- Center tap configuration

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{RRM} V_{RMS} V_R	Peak Repetitive Reverse Voltage RMS Voltage DC Blocking Voltage	1200	V
$I_{F(AV)}$	Average Rectified Forward Current @ $T_c=110^\circ\text{C}$	30	A
I_{FSM}	RMS Forward Current	55	A
I_{FSM}	Nonrepetitive Peak Surge Current (10ms single half sine-wave superimposed on rated load conditions)	210	A
T_J	Junction Temperature	-55~175	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-55~175	$^\circ\text{C}$



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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.0	$^{\circ}\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS (Pulse Test: Pulse Width=300 μ s, Duty Cycle \leq 1%)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_F	Maximum Instantaneous Forward Voltage	$I_F = 30\text{A}; T_j = 25^{\circ}\text{C}$ $I_F = 30\text{A}; T_j = 125^{\circ}\text{C}$ $I_F = 60\text{A}; T_j = 25^{\circ}\text{C}$	3.3 3.4 2.1	V
I_R	Maximum Instantaneous Reverse Current	$V_R = \text{rated } V_{RRM}; T_j = 25^{\circ}\text{C}$ $V_R = \text{rated } V_{RRM}; T_j = 100^{\circ}\text{C}$	100 500	μA
t_{rr}	Maximum Reverse Recovery Time	$I_F = 15\text{A}; di_F/dt = -200\text{A}/\mu\text{s}, V_R = 30\text{V}$	50	ns

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