

Ultrafast Rectifier

STTH2002CT

FEATURES

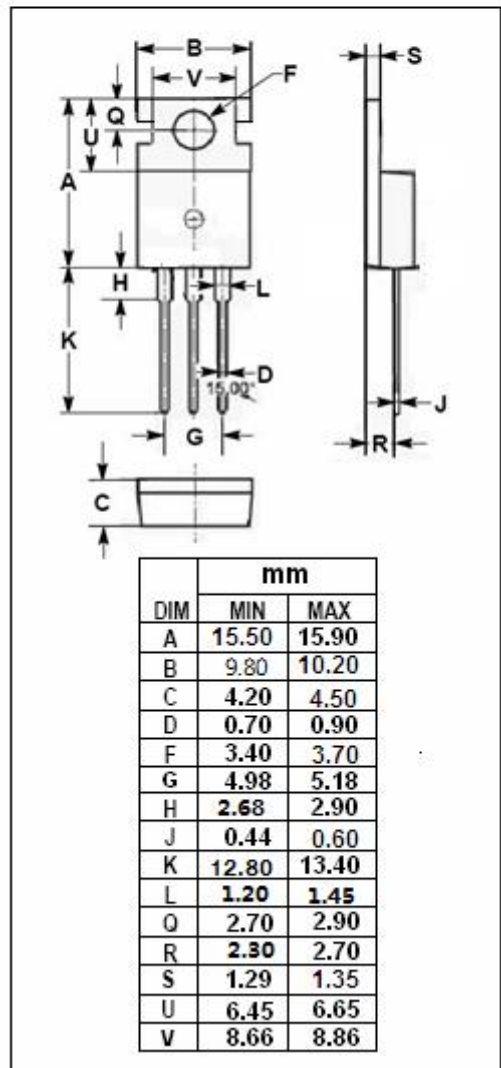
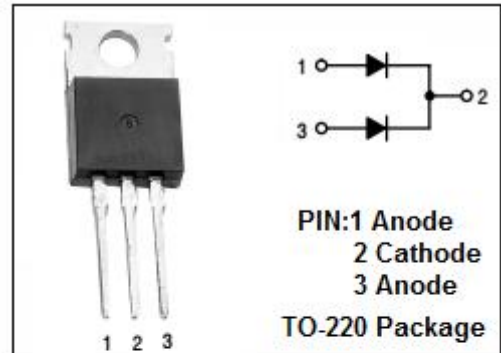
- Ultrafast recovery time
- 175°C Operating temperature
- Popular TO-220 package
- Low forward voltage drop
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Switching power supply
- Power switching circuits
- General purpose

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

SYMBOL	PARAMETER	VALUE	UNIT
V_{RRM} V_{RWM} V_R	Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	200	V
$I_{F(AV)}$	Average Rectified Forward Current Per Leg Total device	10 20	A
I_{FSM}	Nonrepetitive Peak Surge Current (Surge applied at rated load conditions half-wave, single phase, 60Hz)	90	A
P_D	Maximum power dissipation	75	W
T_J	Junction Temperature	-65~175	°C
T_{stg}	Storage Temperature Range	-65~175	°C



Fast Recovery Rectifier

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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	2.5	°C/W

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$) (Pulse Test: Pulse Width=300 μ s, Duty Cycle $\leq 2\%$)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_F	Maximum Instantaneous Forward Voltage	$I_F = 10\text{A}; T_j = 25^{\circ}\text{C}$ $I_F = 20\text{A}; T_j = 25^{\circ}\text{C}$ $I_F = 10\text{A}; T_j = 150^{\circ}\text{C}$ $I_F = 20\text{A}; T_j = 150^{\circ}\text{C}$	1.1 1.25 0.89 1.05	V
I_R	Maximum Instantaneous Reverse Current	$V_R = V_{RWM}; T_j = 125^{\circ}\text{C}$ $V_R = V_{RWM}$	100 10	μA
t_{rr}	Maximum Reverse Recovery Time	$I_F = 1\text{A}; di/dt = 50\text{A}/\mu\text{s}$	27	ns

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