

Ultra fast Rectifier

STTH1002CB

FEATURES

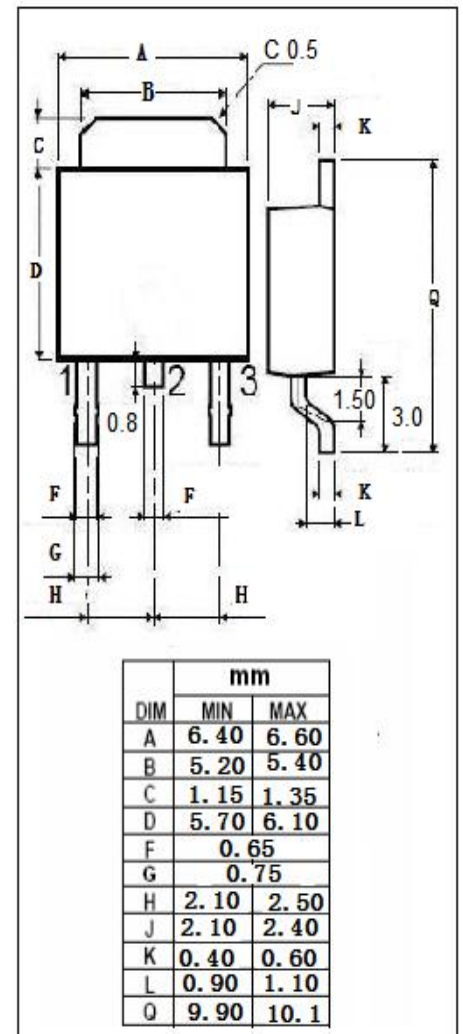
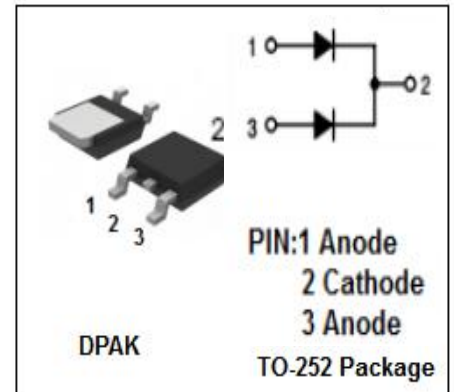
- With TO-252(DPAK) packaging
- High junction temperature capability
- Low forward voltage, high current capability
- High current capability
- Low power loss, high efficiency
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

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

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{RRM} V _{RMS} V _R	Peak Repetitive Reverse Voltage RMS Voltage DC Blocking Voltage	200	V
I _{F(AV)}	Average Rectified Forward Current @T _c =150°C	10	A
I _{FSM}	Nonrepetitive Peak Surge Current (10ms single half sine-wave superimposed on rated load conditions)	50	A
T _J	Junction Temperature	-65~175	°C
T _{stg}	Storage Temperature Range	-65~175	°C



Ultra fast Rectifier

STTH1002CB

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	4.0	$^{\circ}C/W$

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

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_F	Maximum Instantaneous Forward Voltage	$I_F=5A; T_j=25^{\circ}C$	1.1	V
		$I_F=5A; T_j=150^{\circ}C$	0.89	
		$I_F=10A; T_j=25^{\circ}C$	1.25	
		$I_F=10A; T_j=150^{\circ}C$	1.05	
I_R	Maximum Instantaneous Reverse Current	$V_R = \text{rated } V_{RRM}; T_j=25^{\circ}C$ $V_R = \text{rated } V_{RRM}; T_j=125^{\circ}C$	5 40	μA
t_{rr}	Maximum Reverse Recovery Time	$I_F = 1A; V_R=30V; di_F/dt=100A/\mu s$	25	ns