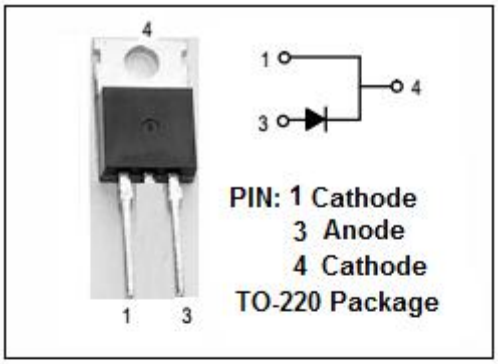
Ultrafast Rectifier

STTH3012D

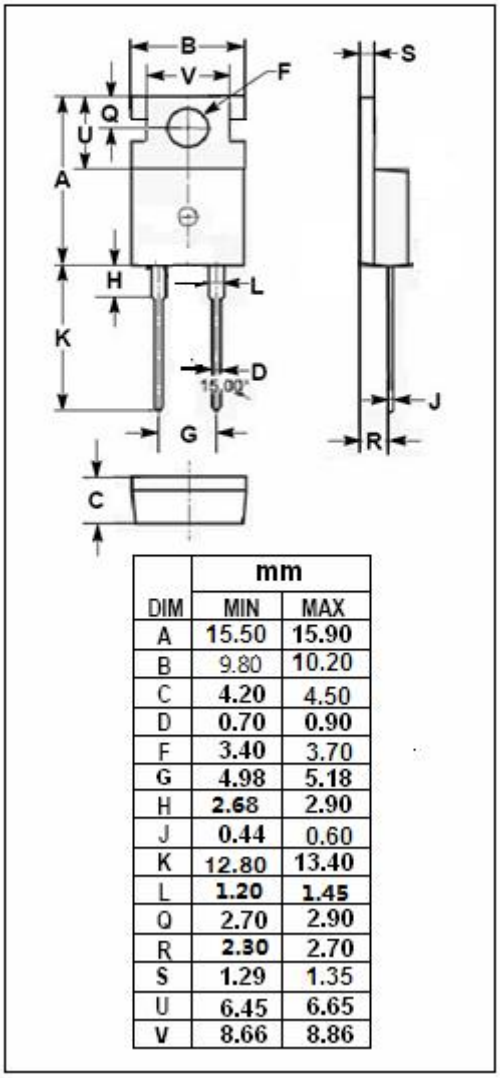
FEATURES

- Ultrafast recovery time
- Popular TO-220 package
- Soft recovery characteristics
- Low forward voltage
- Low leakage current
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



APPLICATIONS

- PFC
- Uitrasonic cleaner and welder
- Converter & chopper
- UPS



DIM	mm MIN	mm MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{RRM} V_{RWM} V_R	Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	1200	V
$I_{F(AV)}$	Average Rectified Forward Current	30	A
I_{FRM}	Peak Rectified forward current	50	A
I_{FSM}	Nonrepetitive Peak Surge Current (Surge applied at rated load conditions half-wave, single phase, 60Hz)	210	A
T_J	Junction Temperature	-65~150	℃
T_{stg}	Storage Temperature Range	-65~150	℃

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	0.95	℃/W

ELECTRICAL CHARACTERISTICS(T_a=25℃) (Pulse Test: Pulse Width=300 μ s,Duty Cycle≤2%)

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
V_{F*}	Maximum Instantaneous Forward Voltage	I_F=25A ;Tj=25℃	2.1	V
V_{F*}	Maximum Instantaneous Forward Voltage	I_F=30A ;Tj=25℃	2.25	V
I_{R*}	Maximum Instantaneous Reverse Current	V_R= $V_{RWM;}$Tj= 25℃ V_R= $V_{RWM;}$Tj= 150℃	20 150	μ A
t_{rr}	Maximum Reverse Recovery Time	IF = 1 A, dIF/dt = -50 A/μs, VR = 30 V, Tj = 25° C	115	ns
		IF = 1 A, dIF/dt = -100 A/μs, VR = 30 V, Tj = 25° C	80	ns

*:Pulse test ,Pulse width=300us,duty cycle≤2%

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