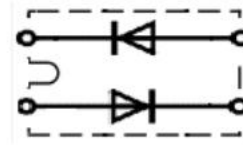


## Ultrafast High Voltage Diode

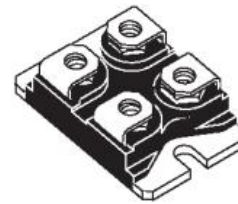
### FEATURES

- High surge current capability
- Wide current range
- High voltage ratings up to 1200V
- Minimum Lot-to-Lot variations for robust device performance and reliable operation



### APPLICATIONS

- Be suitable in motor control circuitries, or in the primary of SMPS as snubber, clamping or demagnetizing diodes. They are also suitable for secondary of SMPS as high voltage rectifier diodes.



### ABSOLUTE MAXIMUM RATINGS

SYMBOL	PARAMETER	CONDITIONS		VALUE	UNIT
$V_{RRM}$	Repetitive Peak Reverse Voltage			1200	V
$I_{F(AV)}$	Average Forward Current			2*45	A
$I_{FRMS}$	RMS Forward Current	$T_{VJ} = T_{VJM}$		70	A
$I_{FSM}$	Surge Forward Current	$t=10ms(50Hz),sine$	$T_{VJ}=45^{\circ}C$	200	A
		$t=8.3ms(60Hz),sine$		210	
		$t=10ms(50Hz),sine$	$T_{VJ}=150^{\circ}C$	185	
		$t=8.3ms(60Hz),sine$		195	
$I^2t$	$I^2t$ for fusing	$t=10ms(50Hz),sine$	$T_{VJ}=45^{\circ}C$	200	KA <sub>2</sub> S
		$t=8.3ms(60Hz),sine$		180	
		$t=10ms(50Hz),sine$	$T_{VJ}=150^{\circ}C$	170	
		$t=8.3ms(60Hz),sine$		160	
$T_J$	Junction Temperature			-40~150	°C
$T_{stg}$	Storage Temperature Range			-40~150	°C

### THERMAL CHARACTERISTICS

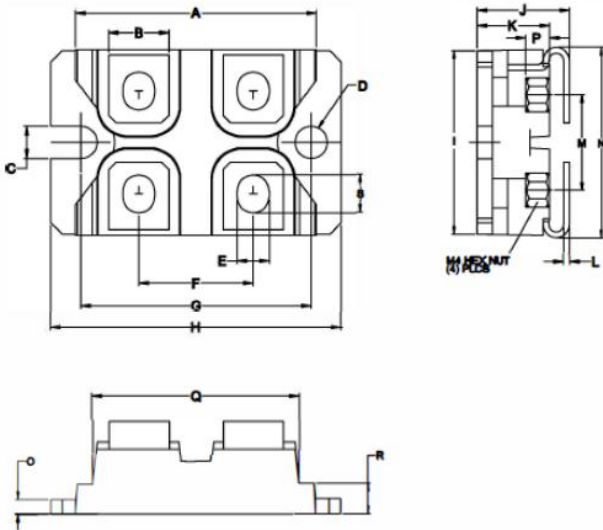
SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	1.25	$^{\circ}C/W$

### ELECTRICAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	MAX	UNIT
$I_R$	Reverse Recovery current	$V_R = V_{RRM}$	0.75	mA
$V_{FM}$	Forward Voltage drop	$I_F = 30A, T_J = 150^{\circ}C$	2.2	V
$t_{rr}$	Reverse Recovery time	$I_F = 1A; -di/dt = 100A/\mu s; V_R = 30V; T_{VJ} = 25^{\circ}C$	60	ns

### PACKAGE OUTLINE

Dimensions in mm (1mm = 0.0394")



### SOT-227 Package Outline

DIM	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	31.40	31.60	1.236	1.244
B	7.70	8.10	0.303	0.319
C	4.20	4.40	0.165	0.173
D	4.20	4.40	0.165	0.173
E	4.10	4.30	0.161	0.169
F	14.90	15.10	0.587	0.594
G	30.10	30.20	1.185	1.189
H	38.00	38.30	1.496	1.507
I	23.80	24.20	0.937	0.953
J	12.20	12.70	0.480	0.500
K	9.40	9.60	0.370	0.378
L	0.75	0.85	0.030	0.033
M	12.40	12.60	0.488	0.496
N	24.50	25.40	0.964	1.000
O	1.90	2.10	0.075	0.083
P	3.10	3.20	0.122	0.126
Q	26.60	27.00	1.063	1.079
R	3.80	4.20	0.150	0.165
S	5.10	5.40	0.205	0.213



# STTA9012TV2

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## Ultrafast High Voltage Diode

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