



E540886

## Features

- Halogen Free. "Green" Device (Note 1)
- Glass Passivated Chip Junction
- Fast Reverse Recovery Time
- Moisture Sensitivity Level 1
- Ideal for Automated Placement
- High Surge Forward Current Capability
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note 2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RRM}$	1000	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{RMS}$	700	V
Average Rectified Forward Current $T_C=95^\circ\text{C}$	$I_{F(AV)}$	3	A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	$I_{FSM}$	90	A
Non-Repetitive Peak Surge Current @ 1ms Square Wave		180	
$I^2t$ Rating for Fusing @ $1\text{ms} \leq t \leq 8.3\text{ms}$	$I^2t$	33.6	$\text{A}^2\text{s}$

## Internal Structure

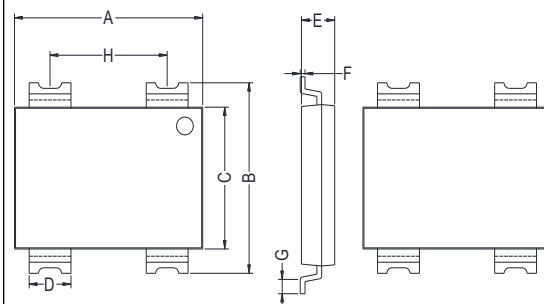
Simplified Outline	Graphic Symbol

Note:

1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High temperature solder exemption applied, see EU directive annex 7a.

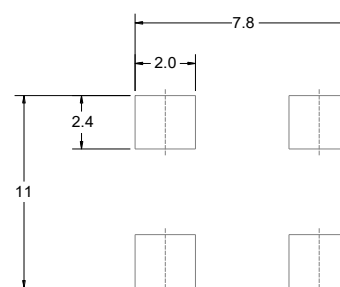
# 3 Amp Fast Recovery Bridge Rectifiers 1000 Volts

## TBSG



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.339	0.362	8.60	9.20	
B	0.327	0.350	8.30	8.90	
C	0.244	0.260	6.20	6.60	
D	0.073	0.085	1.85	2.15	
E	0.053	0.069	1.35	1.75	
F	0.004	0.012	0.10	0.30	
G	0.016	0.031	0.40	0.80	
H	0.213	0.228	5.40	5.80	

## Suggested Pad Layout(mm)



## Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$T_J$	Operating Junction Temperature Range		-55		150	°C
$T_{stg}$	Storage Temperature Range		-55		150	°C
$R_{th(J-C)}$	Thermal Resistance from Junction to Case	Note 1		7		°C/W
$R_{th(J-L)}$	Thermal Resistance from Junction to Lead	Note 1		11		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		50		°C/W

Note:

1.Device mounted on P.C.B with 35mm\*25mm\*1.7mm.

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	$V_F$	$I_F=1.5A; T_J=25^{\circ}C$		0.98	1.3	V
Reverse Current	$I_R$	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=125^{\circ}C$			5 200	$\mu A$
Junction Capacitance	$C_J$	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		28		pF
Reverse Recovery Time	$t_{rr}$	$I_F=0.5A; I_R=1.0A; I_{RR}=0.25A; T_J=25^{\circ}C$			500	nS

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

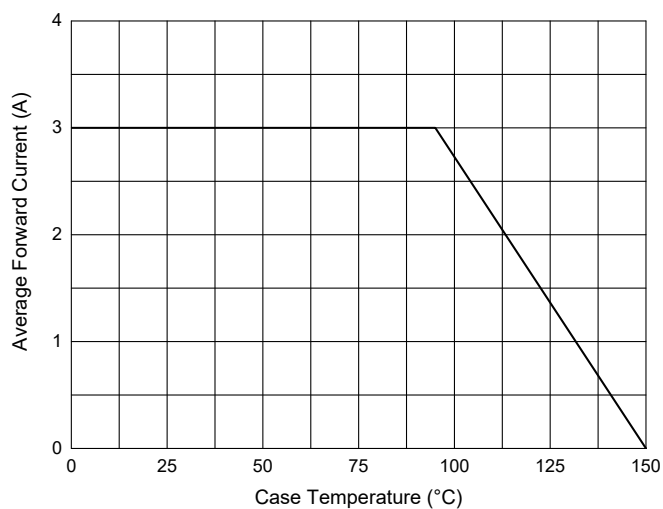


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

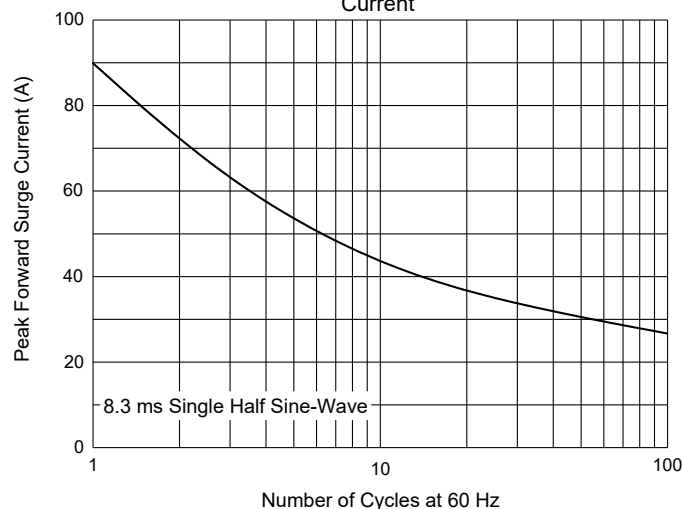


Fig. 3 - Typical Forward Characteristics

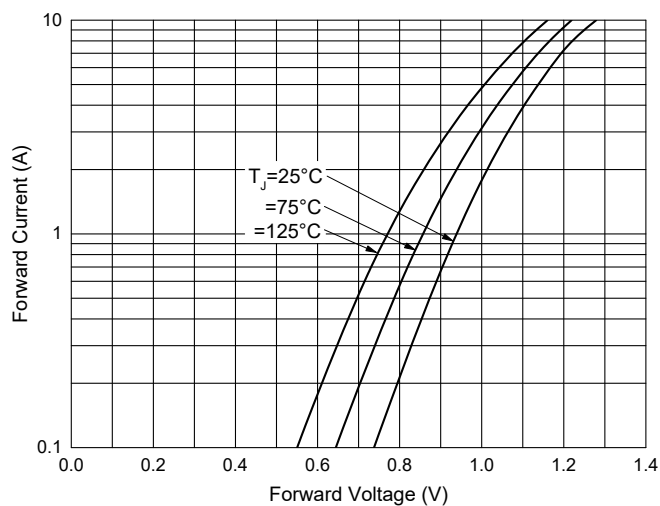


Fig. 4 - Typical Reverse Leakage Characteristics

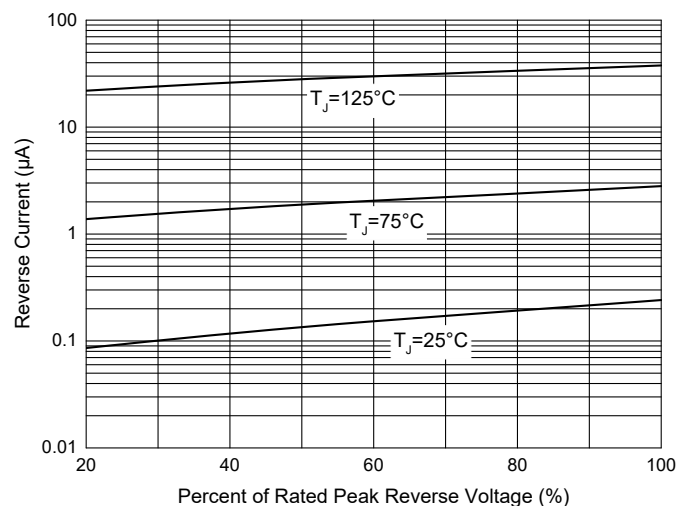
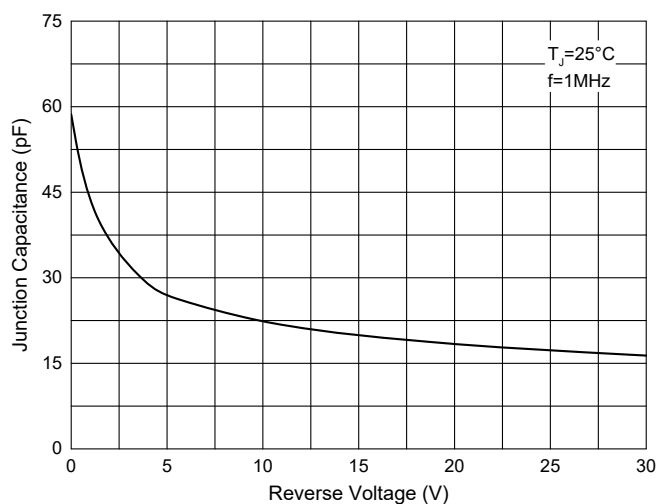


Fig. 5 - Typical Capacitance Characteristics



## Ordering Information

Device	Packing
RTBSA30M-TP	Tape&Reel:2.5Kpcs/Reel

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