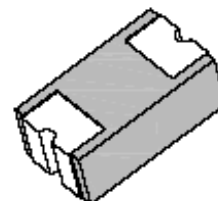


## 1A Sintered Glass Passivated Ultra Fast Rectifier (SGP<sup>®</sup>)

### Features

- Sintered glass passivated (SGP<sup>®</sup>) rectifier chip
- Low Profile with Chip Package for Surface Mount Application
- Low power loss , High efficiency
- High Surge Current Capability
- Built-in strain relief
- No Wire bond & Lead Frame
- RoHS compliant and Halogen Free



C1206



**HALOGEN  
FREE**

### Mechanical Data

<b>Case:</b>	1206 SMD package, Packed with FRP substrate
<b>Epoxy:</b>	Plastic package has UL flammability classification 94V-0
<b>Terminals:</b>	Pure Tin plated, solderable per MIL-STD-750, Method 2026
<b>Polarity</b>	Laser cathode band marking
<b>Soldering Pattern</b>	Same as SOD-80C, SOD-123, SOD-87, MiniMelf
<b>Weight:</b>	0.012 gram

### Maximum Ratings ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	TCDU1WW	Unit	Conditions
<b>VR</b>	Reverse RMS Voltage	1050	V	
<b>VRRM</b>	Repetitive Peak Reverse Voltage	1500	V	
<b>IF(AV)</b>	Average Forward Rectified Current	1.0	A	TL=110° C
<b>IFSM</b>	Non-repetitive Peak Forward Surge Current	15	A	8.3ms single half sine-wave
<b>TJ</b>	Operating Junction temperature range	-65 to +175	° C	
<b>TSTG</b>	Storage Temperature Range	-65 to +175	° C	

# 1A Sintered Glass Passivated Ultra Fast Rectifier (SGP<sup>®</sup>)

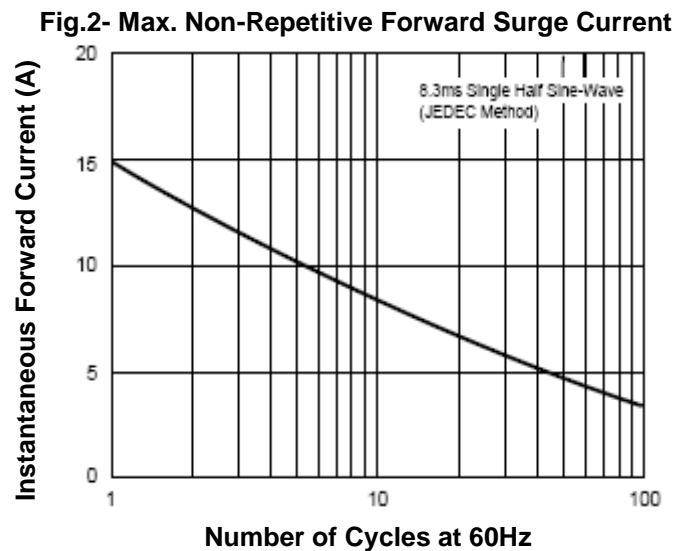
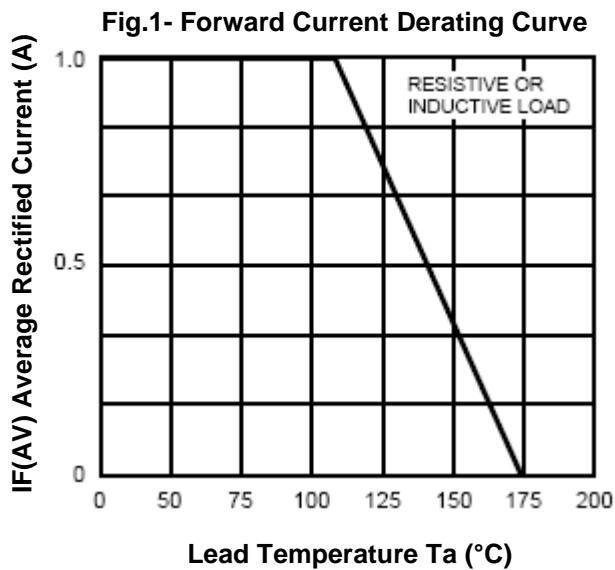
## TCDU1WW

### Electrical Characteristics ( $T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	TCDU1WW	Unit	Conditions
<b>VF</b>	Forward Voltage	6.0	V	Pulse width=300 $\mu$ S, 1% duty cycle, $I_F=1.0$ A
<b>IR</b>	Reverse Current @ $V_R=Max. V_{RRM}$ (Note)	5.0	$\mu$ A	$T_j = 25^{\circ}C$
		50		$T_j = 125^{\circ}C$
<b>trr</b>	Reverse Recovery Time	50	ns	$I_F = 0.5A, I_R = 1.0A,$ $I_{rr} = 0.25A$
<b>CJ</b>	Typical Junction Capacitance	10	pf	$V_R=4V, f=1MHz$

**Note:** Reverse Recovery Test Condition:  $I_F=0.5A, I_R=1A, I_{rr}=0.25A$ .

### Typical Characteristics Curves



# 1A Sintered Glass Passivated Ultra Fast Rectifier (SGP<sup>®</sup>)

TCDU1WW

Fig.3- Typical Forward Characteristics

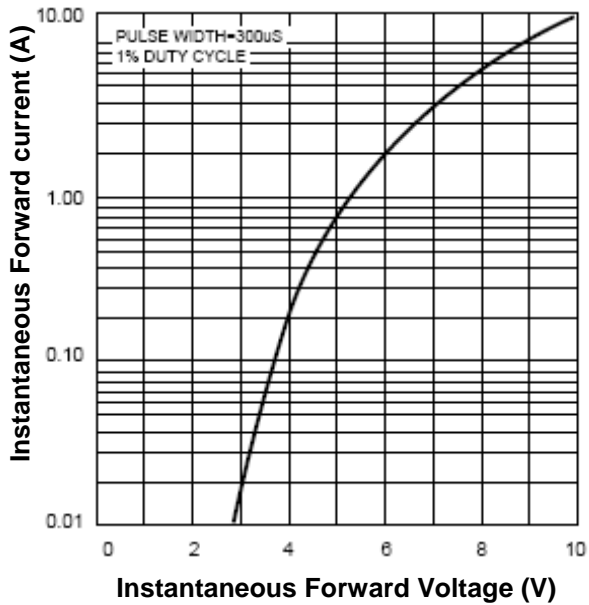


Fig.4- Typical Reverse Characteristics

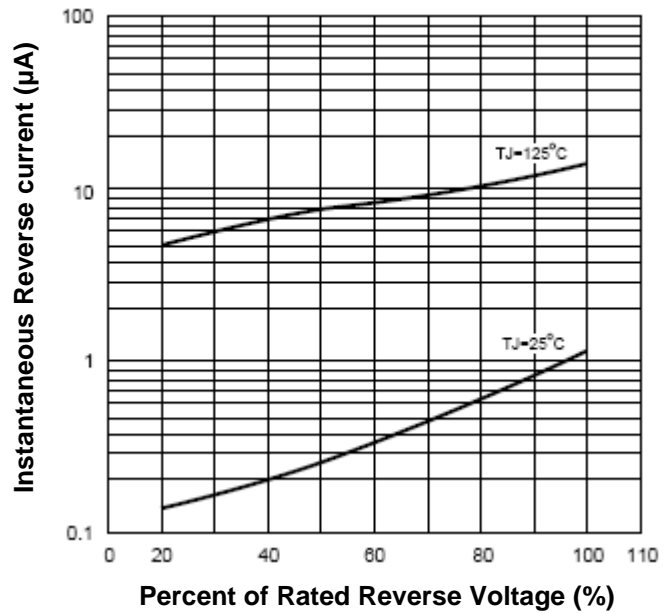
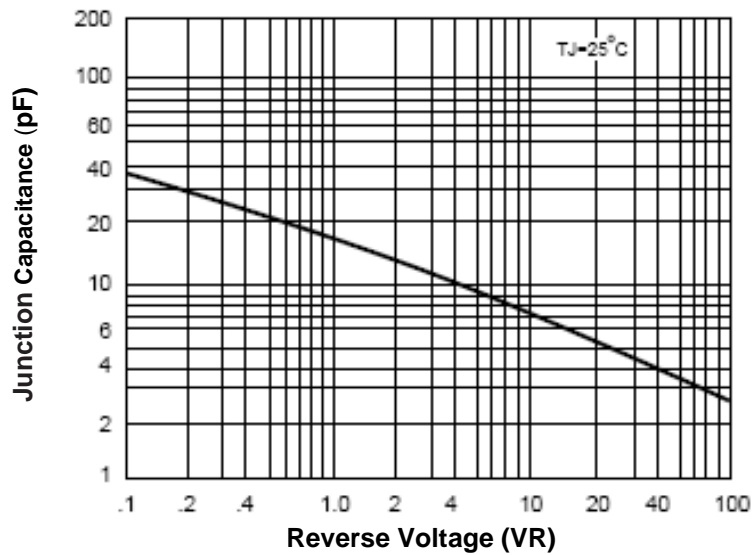


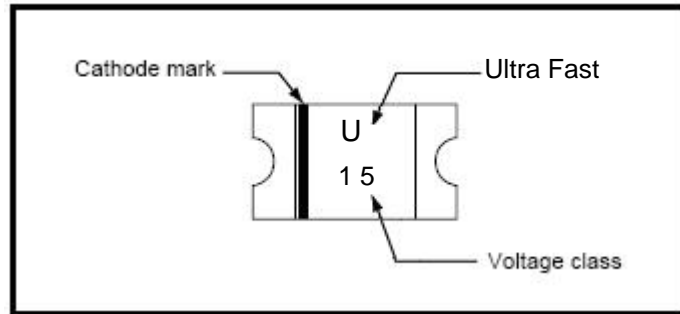
Fig.5- Typical Junction Capacitance



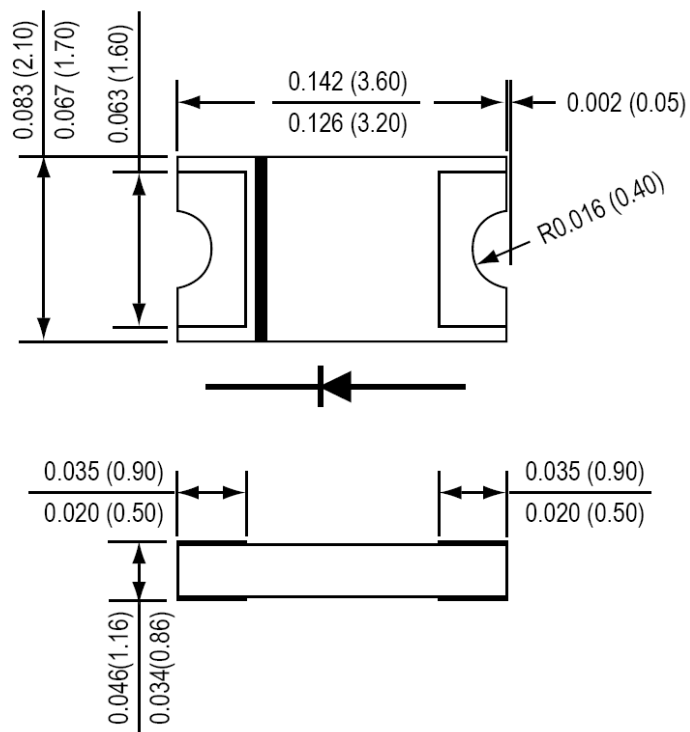
# 1A Sintered Glass Passivated Ultra Fast Rectifier (SGP<sup>®</sup>)

TCDU1WW

## Marking



## Dimensions in inch (mm)

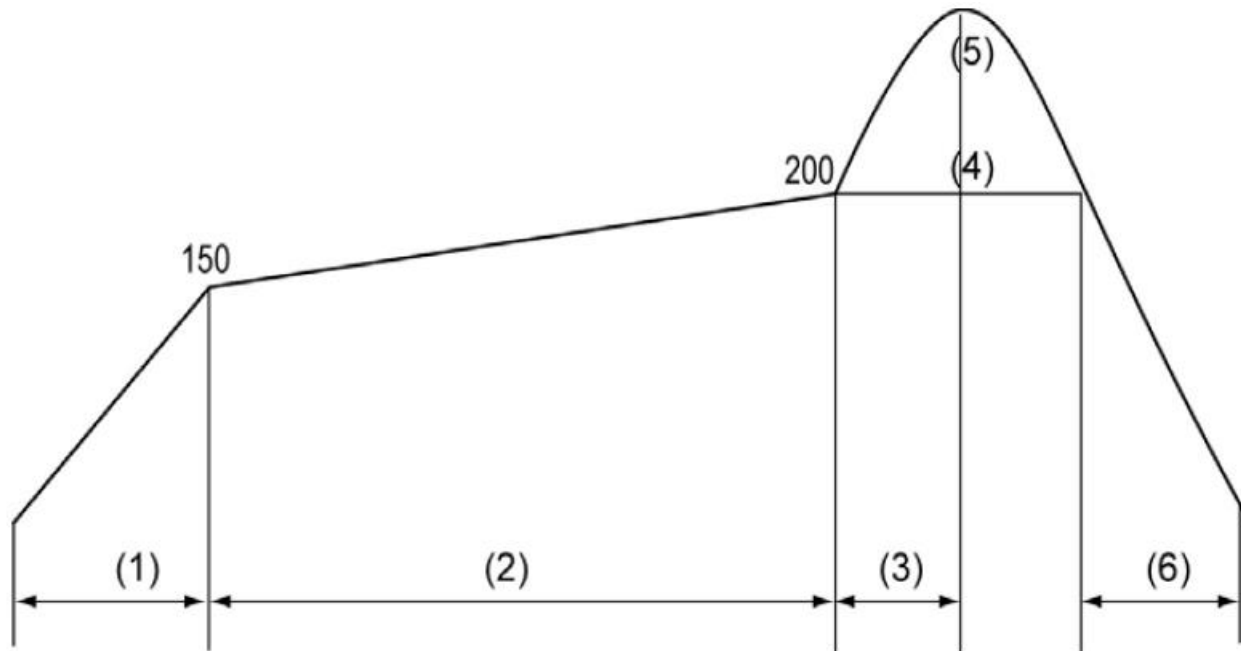


C1206

# 1A Sintered Glass Passivated Ultra Fast Rectifier (SGP<sup>®</sup>)

TCDU1WW

## Recommendations For SMD Soldering Conditions



	(1) Ramp up	(2) Pre-heating zone	(3)	(4) Soldering zone	(5) Peak	(6) Ramp down
Temp.	Room temp to 150°C	150~200	200°C to peak	≥220°C	≤260°C	
Time	≤3°C/sec	Max. 120sec	1~4°C/sec	Max. 60sec	Max. 10 sec	1~4°C/sec

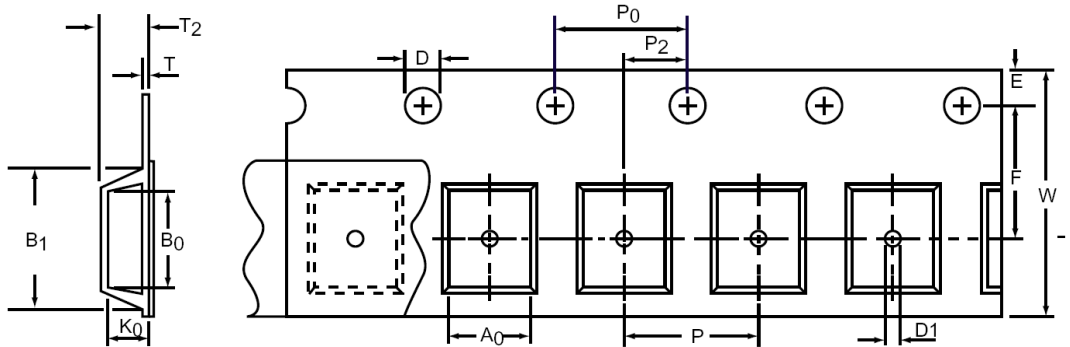
1. The duration and peak temperature as shown in the above table could conform to the concerned profile condition,  $T_p$ : 255C~260C and Duration Time: 30sec, as required in JEDEC J-STD-020 Rev. D. It would takes 25~30sec to raise the soldering zone temperature, kept at 260C ( 5. Peak ) for about 35~40sec before ramping down, from 220C to 260C.

2. In high humidity environment - We recommend baking these products at 60°C for 2 hrs for wave soldering, but not necessary for reflow.

# 1A Sintered Glass Passivated Ultra Fast Rectifier (SGP®)

## TCDU1WW

### Taping Information (in mm)



Product Type	D	P0	P	W	E	A0	B0
	1.50±0.1	4.00±0.1	4.00±0.1	12.00±0.3	1.75±0.1	2.20±0.1	3.65±0.1
TCDU1WW	B1	T	T2	D1	F	K0	P2
	8.20max.	0.40max.	1.75±0.1	1.50min.	5.50±0.05	1.28±0.1	2.0±0.1

### Packing Quantity Information:

Quantity	PCS per Reel	PCS per Inner Box	PCS per Carton
Tape & Reel	3000/7" Reel	12000	72000

### Packing Size Information:

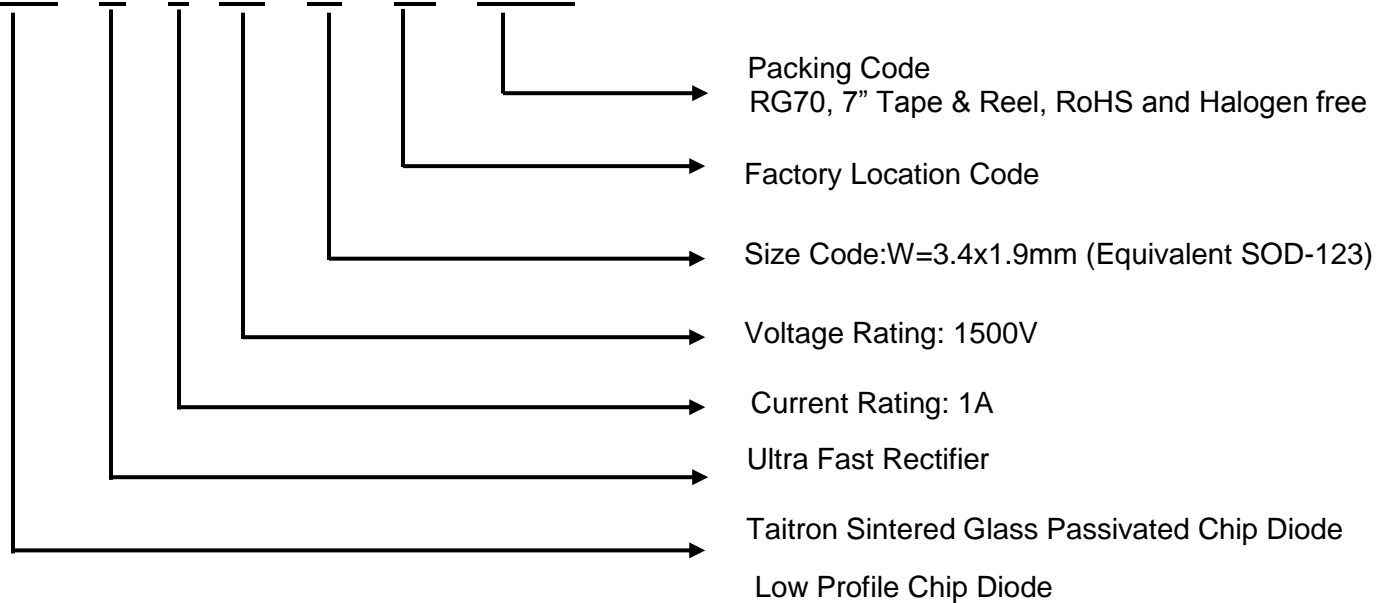
Inner Box Size (mm)	Carton Size (mm)
182x182x67	400X207X240

# 1A Sintered Glass Passivated Ultra Fast Rectifier (SGP<sup>®</sup>)

## TCDU1WW

### How to Order

TCD U 1 W W - xx - RG70



### How to contact us

#### USA HEADQUARTERS

28040 WEST HARRISON PARKWAY, VALENCIA, CA 91355-4162

Tel: (800)-TAITRON (800)-824-8766 (661)-257-6060

Fax: (800)-TAITFAX (800)-824-8329 (661)-257-6415

Email: [taitron@taitroncomponents.com](mailto:taitron@taitroncomponents.com)

Http://[www.taitroncomponents.com](http://www.taitroncomponents.com)

#### TAITRON COMPONENTS INCORPORATED TAIWAN BRANCH

6F., NO.190, SEC. 2, ZHONGXING RD., XINDIAN DIST., NEW TAIPEI CITY 23146, TAIWAN R.O.C.

Tel: 886-2-2913-6238

Fax: 886-2-2913-6239

#### TAITRON COMPONENT TECHNOLOG SHANGHAI CORPORATION

SUITE 1503, METROBANK PLAZA, 1160 WEST YAN'AN ROAD, SHANGHAI, 200052, CHINA

Tel: +86-21-5424-9942

Fax: +86-21-2302-5027