

## 1. Scope

The present specifications shall apply to an RN4Z.

## 2. Outline

Type	Silicon Diode
Structure	Resin Molded
Applications	High Frequency Rectification

## 3. Flammability

UL94V-0(Equivalent)

*Not Recommended for New Designs*

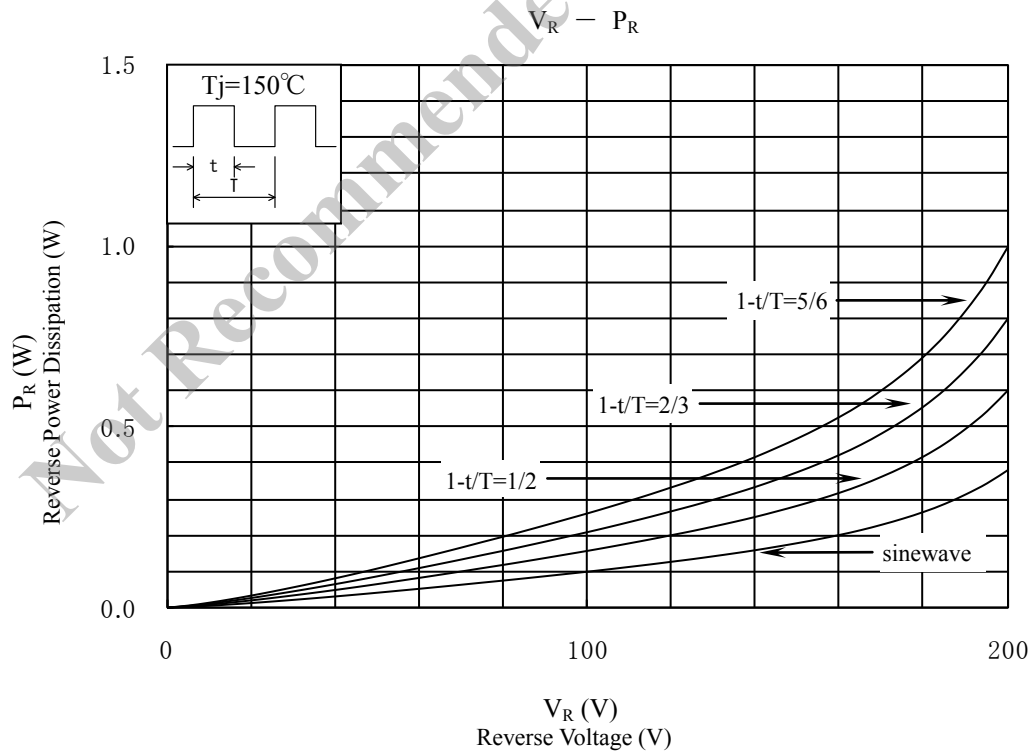
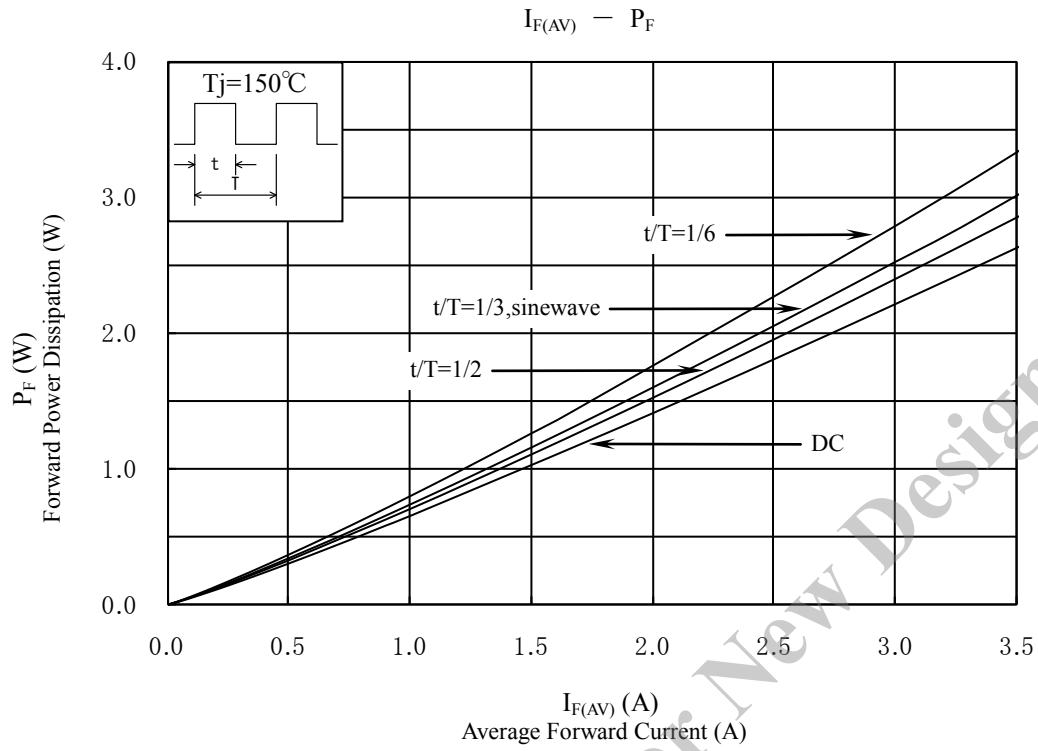
## 4. Absolute maximum ratings

No.	Item	Symbol	Unit	Rating	Conditions
1	Transient Peak Reverse Voltage	$V_{RSM}$	V	200	
2	Peak Reverse Voltage	$V_{RM}$	V	200	
3	Average Forward Current	$I_{F(AV)}$	A	3.5	Refer to Derating of 7
4	Peak Surge Forward Current	$I_{FSM}$	A	120	10msec. Half sinewave, one shot
5	$I^2t$ Limiting Value	$I^2t$	$A^2s$	72	$1\text{msec} \leq t \leq 10\text{msec}$
6	Junction Temperature	$T_j$	$^{\circ}C$	-40~+150	
7	Storage Temperature	$T_{stg}$	$^{\circ}C$	-40~+150	

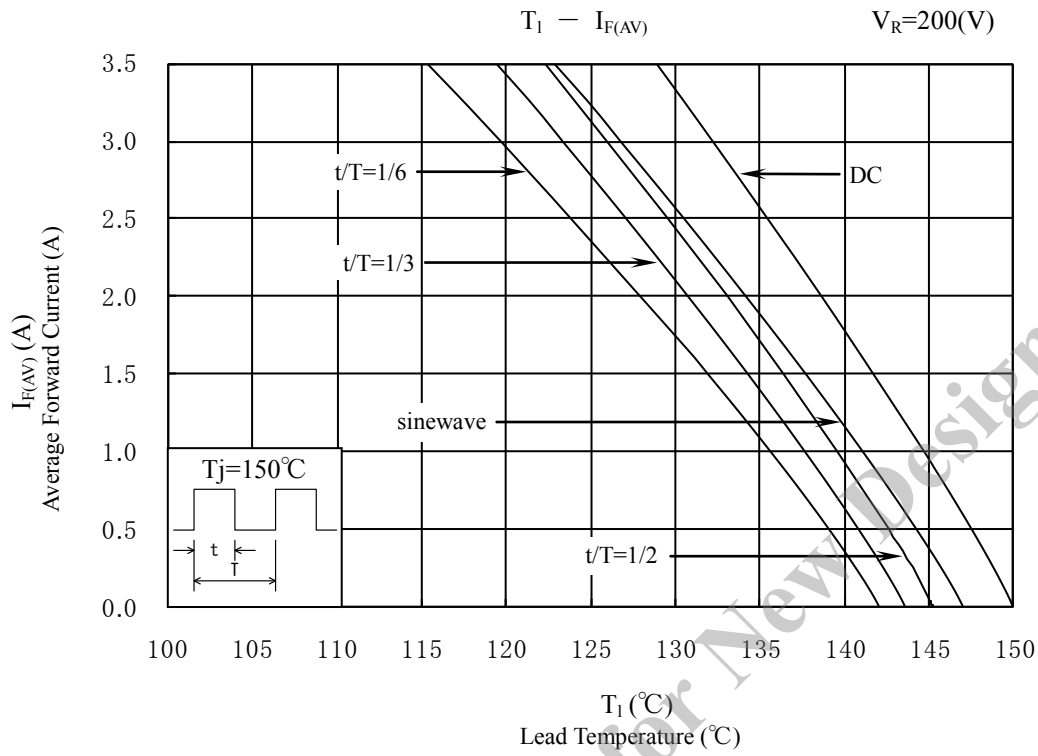
## 5. Electrical characteristics (Ta=25°C , unless otherwise specified)

No.	Item	Symbol	Unit	Value	Conditions
1	Forward Voltage Drop	$V_F$	V	0.92 max.	$I_F=3.5A$
2	Reverse Leakage Current	$I_R$	$\mu A$	50 max.	$V_R=V_{RM}$
3	Reverse Leakage Current Under High Temperature	$H \cdot I_R$	$mA$	6.0 max.	$V_R=V_{RM}, T_j=150^{\circ}C$
4	Reverse Recovery Time	$t_{rr1}$	ns	100 max.	$I_F=I_{RP}=500mA$ 90% Recovery point,
		$t_{rr2}$	ns	50 max.	$I_F=500mA, I_{RP}=1A$ 75% Recovery point,
5	Thermal Resistance	$R_{th(j-l)}$	$^{\circ}C/W$	8.0 max.	Between Junction and Lead

6. Characteristics



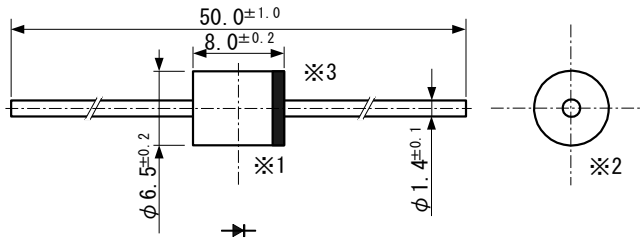
7. Derating



Not Recommended for New Designs

8. Package information

8-1 Package type, physical dimensions and material



- ※1 The allowance position of Body against the center of whole lead wire is 0.5mm(max.)
- ※2 The centric allowance of lead wire against center of physical body is 0.3mm(max.)
- ※3 The burr may exit up to 2mm from the body of lead

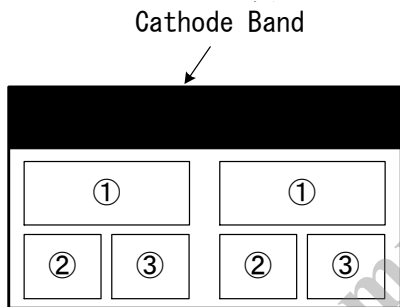
Dimensions in mm

8-2 Appearance

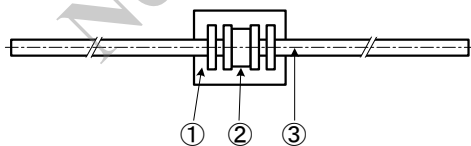
The body shall be clean and shall not bear any stain, rust or flaw.

8-3 Marking

- ① Type number : RN4Z
- ② Lot number 1  
 First digit: Last digit of Year  
 Second digit: Month  
 From 1 to 9 for Jan. to Sep.  
 O for Oct., N for Nov., and D for Dec.
- ③ Lot number 2 (ten days)  
 · · : Top of the month  
 · · · : Middle of month  
 · · · · : End of month



9. Internal structure diagram



Weight of products: Approx. 1.2g

No.	Name of part	Materials
①	Plastic body	Epoxy Resin
②	Chip	Silicon
③	Leads	Solder Dipped Silver plated copper wire

## 10. Reliability

No.	Item	Rating	Conditions
1	Thermal Fatigue Test	5000 cycles	$\Delta T_j = 100^\circ\text{C}$
2	High Temperature Reverse Bias Test	1000 hours	$T_a = 120^\circ\text{C}$ , $V_R = V_{RM}$ (Half sine wave)
3	Humidity Reverse Bias Test	500 hours	$T_a = 85^\circ\text{C}$ , R.H.=85%, $V_R = V_{RM} \times 0.8$ (D.C.)
4	High Temperature Storage Test	1000 hours	$T_a = 150^\circ\text{C}$
5	Moisture Resistance Test	1000 hours	$T_a = 85^\circ\text{C}$ , 85% R.H.
6	Thermal Shock Test	100 cycles	Ice-water(5min.) ~ R.T.(20sec.) ~ Boiling-water(5min.)
7	Temperature Cycle Test	100 cycles	$-40^\circ\text{C}$ (30min.) ~ $+150^\circ\text{C}$ (30min.)
8	Pressure Cooker Test	48 hours	$2.03 \times 10^5 \text{Pa}$ , 100% R.H., Unsaturated equipment
9	Resistance to Soldering Heat Test	10 sec.	$260 \pm 5^\circ\text{C}$ , Dipping up to 1.5mm from case
		3.5 sec.	$380 \pm 5^\circ\text{C}$ , Using soldering iron
10	Solder ability Test	95%	$245 \pm 5^\circ\text{C}$ , $5 \pm 0.5 \text{sec.}$ , Using rosin flux
11	Lead Bend Test	2 cycles	Apply EIAJ ED 4701/400
12	Lead Pull Test	10 sec.	
13	Lead Twist Test	2 times	
14	Drop Test	10 times	Naturally drop from 1m height on maple plate

## 11. Acceptance Criteria

- (1) Item No. 1~9 The product shall meet the electrical specifications in paragraph 5 satisfy 1 and 2 after being exposed to normal temperature for less than 24 hours in 2 hours or more
- (2) Item No. 10 The product shall meet the rating.
- (3) Item No. 11~14 There shall be no trouble in testing and the electrical characteristics in paragraph 5 satisfy 1 and 2.

## 12. Cautions and warnings

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