1. Scope

The present specifications shall apply to Sanken silicon rectifier diode, RL10Z.

2. Outline

Type	Silicon Rectifier Diode (Planar type)
Structure	Resin Molded
Applications	High Frequency Rectification, etc.

3. Flammability

UL94V-0 (equipment)

4. Absolute maximum ratings

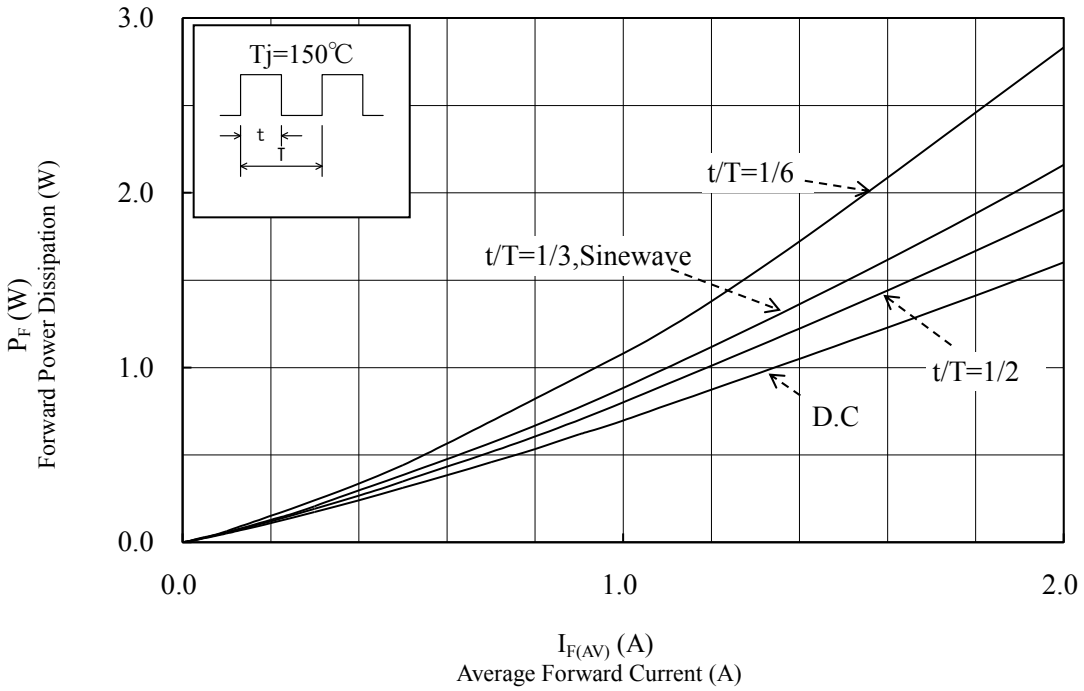
No.	Item	Symbol	Unit	Rating	Conditions
1	Transient Peak Reverse Voltage	V_{RSM}	V	200	
2	Peak Reverse Voltage	V_{RM}	V	200	
3	Average Forward Current	$I_{F(AV)}$	A	2.0	Refer to Derating of .7
4	Peak Surge Forward Current	I_{FSM}	A	30	10ms. Sine wave, one shot
5	I^2t Limiting Value	I^2t	A^2s	4.5	1msec≦t≦10msec
6	Junction Temperature	T_j	℃	-40～+150	
7	Storage Temperature	T_{stg}	℃	-40～+150	

5. Electrical characteristics Ta=25℃、unless otherwise specified

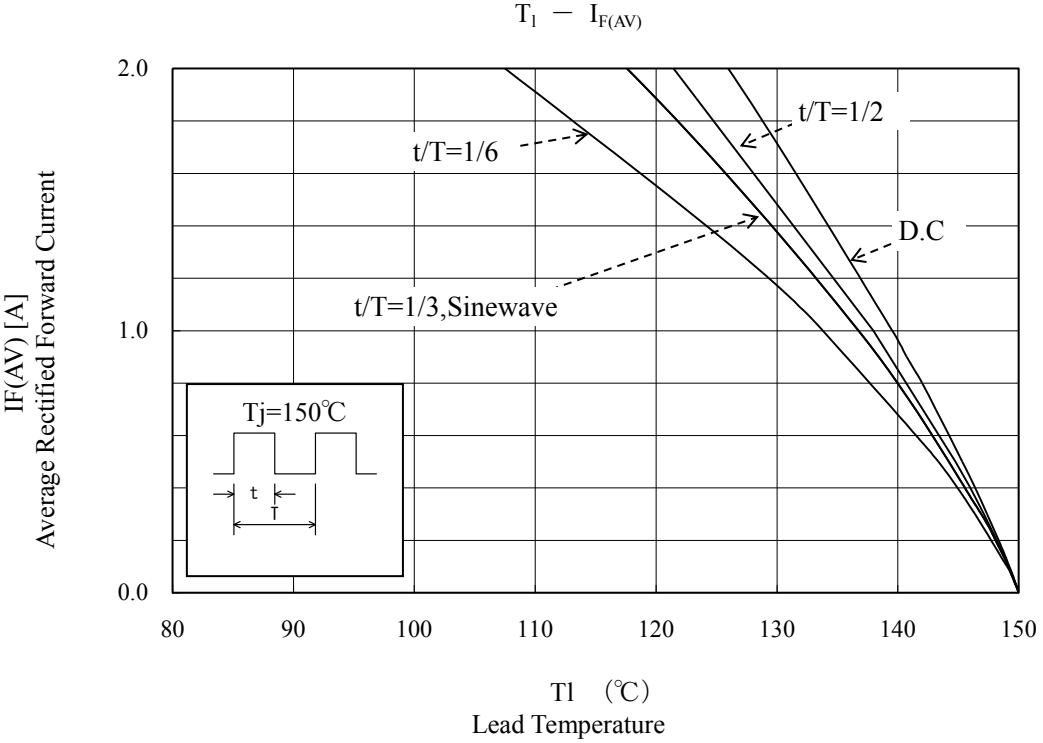
No.	Item	Symbol	Unit	Value	Conditions
1	Forward Voltage Drop	V_F	V	0.98 max.	I_F = 2.0A
2	Reverse Leakage Current	I_R	μA	50 max.	$V_R=V_{RM}$
3	Reverse Leakage Current Under High Temperature	HI_R	μA	100 max.	$V_R=V_{RM}$, Ta=100℃
4	Reverse Recovery Time	trr-1	ns	50 max.	$I_F=I_{RP}$=100mA, 90% Recovery point
		trr-2	ns	35 max.	I_F=100mA,I_{RP}=200mA,75% Recovery point
5	Thermal Resistance	θj-l	℃/W	15max.	Between Junction and Lead

6. Characteristics

$I_{F(AV)}$ － P_F

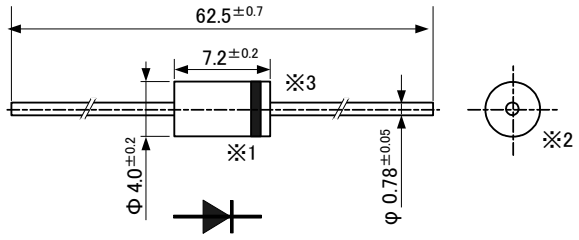

3.0
2.0
1.0
0.0
0.0
1.0
2.0
Tj=150℃
t
T
t/T=1/6
t/T=1/3,Sinewave
t/T=1/2
D.C
P_F (W)
Forward Power Dissipation (W)
$I_{F(AV)}$ (A)
Average Forward Current (A)

7. Derating


T_l — $I_{F(AV)}$
2.0
1.0
0.0
80
90
100
110
120
130
140
150
t/T=1/6
t/T=1/2
D.C
t/T=1/3,Sinewave
Tj=150℃
t
T
IF(AV) [A]
Average Rectified Forward Current
Tl (℃)
Lead Temperature

8. Package information

8.1 Dimensions

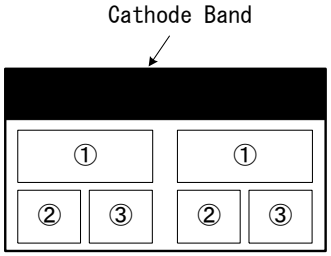


Dimensions in mm

※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

8.2 Appearance

The body shall be clean and shall not bear any stain, rust or flaw.
The color of the case will be black.

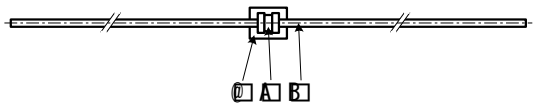


① Type number RL10Z

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 and material list



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

Weight of products: Approx.0.44g

10. Reliability

10.1 Test Conditions

No.	Item	Rating	Conditions
1	Thermal Fatigue Test	5000 cycles	⊿Tj=100℃
2	High Temperature Reverse Bias Test	1000 hours	Ta=150℃, $V_R=V_{RM}$ (Half sine wave)
3	Humidity Reverse Bias Test	500 hours	Ta=85℃, RH.=85%, $VR=V_{RM}\times 0.8$ (D.C.)
4	High Temperature Storage Test	1000 hours	Ta=150℃
5	Moisture Resistance Test	1000 hours	Ta=85℃, R.H.=85%
6	Thermal Shock Test	100 cycle	Ice-water(5min.) ~ R.T.(30sec.) ~ Boiling-water(5min.)
7	Temperature Cycle Test	100 cycle	-40℃(30min.) ~ R.T(5min.) ~ +150℃(30min.)
8	Pressure Cooker Test	48 hours	2.03×10^5Pa, 100%R.H., Unsaturated equipment
9	Resistance to Soldering Heat Test	10 sec.	260±5℃, Dipping up to 1.5mm form case
		3.5 sec.	380±5℃, Using soldering iron
10	Solderability Test	95%	245±5℃, 5±0.5sec.,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

10.2 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.

11. Standard Test Condition

Standard test conditions are at Ta=25℃ and R.H.=60%. But it is also acceptable to do test underordinary temperature and ordinary R.H. (Ta=5～35℃, R.H.=45～85%)

12. Caution and warning

⚠ CAUTION/ WARNING

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