SiPower

Power Semiconductor Technology

# 2CL4510

## High Voltage Diodes for Micro-Wave Oven

### ■ Features

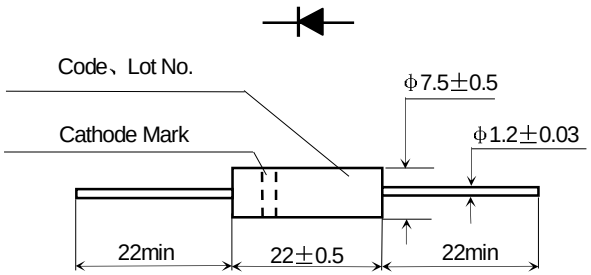
- $I_{F(AV)}$ 450mA
- $V_{RRM}$ 10kV
- High reliability

### ■ Applications

- Rectification for high voltage power supply of magnetron in Micro wave oven and others

### ■ Outline Dimensions and Mark

Unit：mm

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| Type | Code | Cathode Mark |
|---|---|---|
| 2CL4510 | T4510 | |

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### ■Limiting Values（Absolute Maximum Rating）

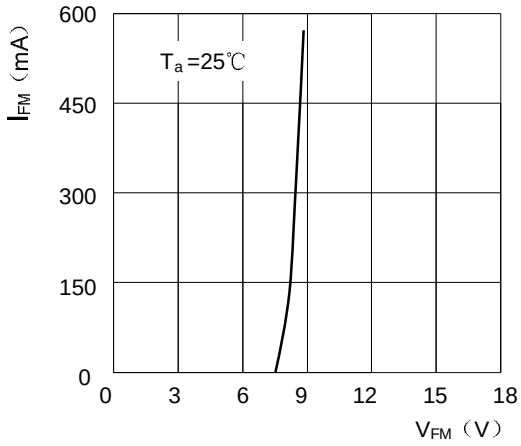
| Item | Symbol | Unit | 2CL4510 | |
|---|---|---|---|---|
| Repetitive Peak Reverse Voltage | $V_{RRM}$ | kV | 10 | |
| Average Forward Current | $I_{F(AV)}$ | mA | 450 | (50$H_Z$Half-sine wave, Resistance load, $T_a$≤60℃) |
| Forward Surge Current | $I_{FSM}$ | A | 30 | （50$H_Z$ Half-sine wave,$T_a$=25℃） |
| Reverse Surge Current | $I_{RSM}$ | mA | 100 | ($W_P$=1ms, Rectangular-wave, One-shot, $T_a$=25℃) |
| Virtual Junction Temperature | $T_{(vj)}$ | ℃ | 130 | |
| Storage Temperature | $T_{stg}$ | ℃ | -40 ~ +130 | |

* Cooling Requirement: Cathode terminal is fastened to radiating fin that size is more than 50mm×50mm×0.6mm Wind-cooled velocity is more than 0.5m/s

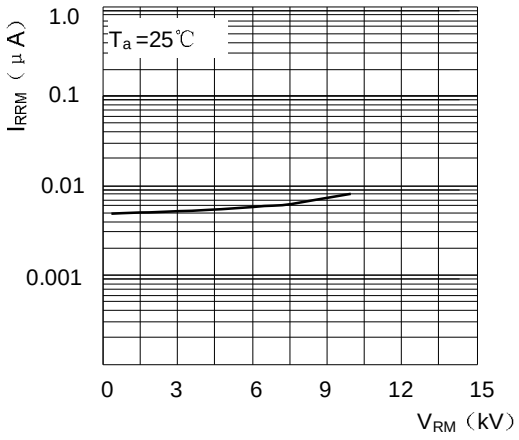
### ■Electrical Characteristics（$T_a$=25℃ Unless otherwise specified）

| Item | Symbol | Unit | Test Condition | 2CL4510 |
|---|---|---|---|---|
| Peak Forward Voltage | $V_{FM}$ | V | $I_{FM}$=450mA | ≤10 |
| Peak Reverse Current | $I_{RRM1}$ | μA | $V_{RM}$=$V_{RRM}$ | ≤5 |
| Avalanche Breakdown Voltage | $V_{(BR)}$ | kV | $I_R$=100μA | ≥12.0 |

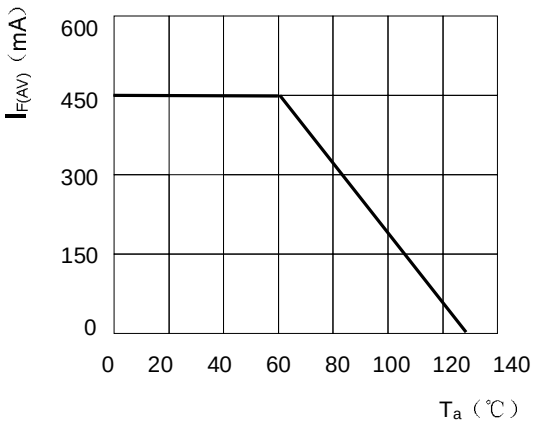
## ■ Characteristics(Typical)



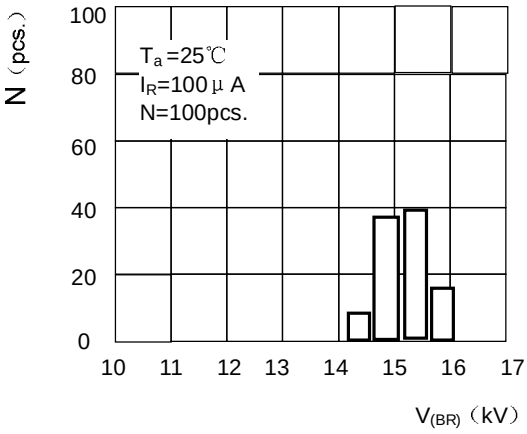

Forward Characteristics




Reverse Characteristics

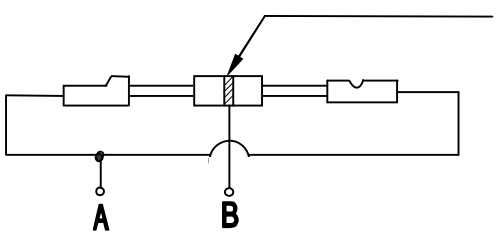



$I_{F(AV)}$—$T_a$ Derating




Breakdown Voltage Distribution

- **Safety Test**




**3mm Wide metal film is rolled on the surface middle of diode body**

1.Insulation Resistance Test:500V DC voltage is added between A and B. The measurement by insulation resistance meter is big than 1000MΩ.

2.Resistance To Voltage Strength Test: 15kV half-sine wave voltage is added between A and B for one minute and no breakdown or arc in insulation oil.