SiPower

Power Semiconductor Technology

2CL3509 2CL3512

High Voltage Diodes for Micro-wave Oven

■ Features

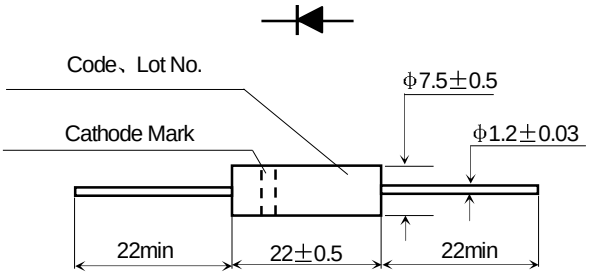
- $I_{F(AV)}$ 350mA
- V_{RRM} 9kV，12kV
- High reliability

■ Applications

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

■ Outline Dimensions and Mark

Unit：mm



Type	Code	Cathode Mark
2CL3509	T3509	
2CL3512	T3512	

■Limiting Values（Absolute Maximum Rating）

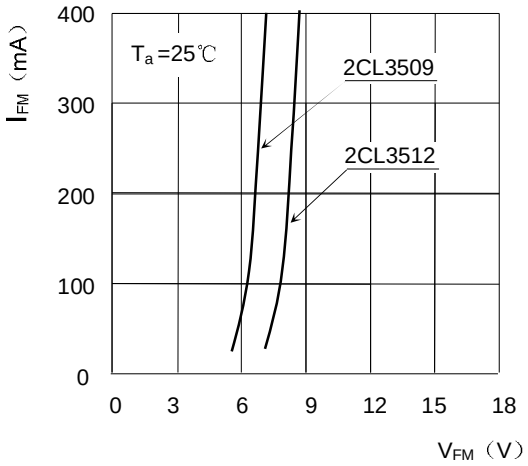
Item	Symbol	Unit	2CL3509	2CL3512
Repetitive Peak Reverse Voltage	V_{RRM}	kV	9	12
Average Forward Current	$I_{F(AV)}$	mA	350 (50Hz Half-sine wave, Resistance load, $T_a \leqslant 60℃$)	
Forward Surge Current	I_{FSM}	A	30 (50Hz Half-sine wave,1cycle,T_a=25℃)	
Reverse Surge Current	I_{RSM}	mA	100 (W_P=1ms, Rectangular-wave, One-shot, T_a=25℃)	
Virtual Junction Temperature	$T_{(vj)}$	℃	130	
Storage Temperature	T_{stg}	℃	-40 ~ +130	

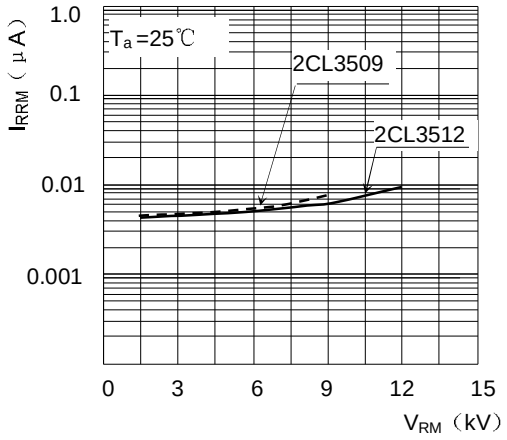
∗Cooling Requirement: Cathode terminal is fastened to radiating fin that size is more than 50mm×50mm×0.6mm Wind-cooled velocity is more than 0.5m/s

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

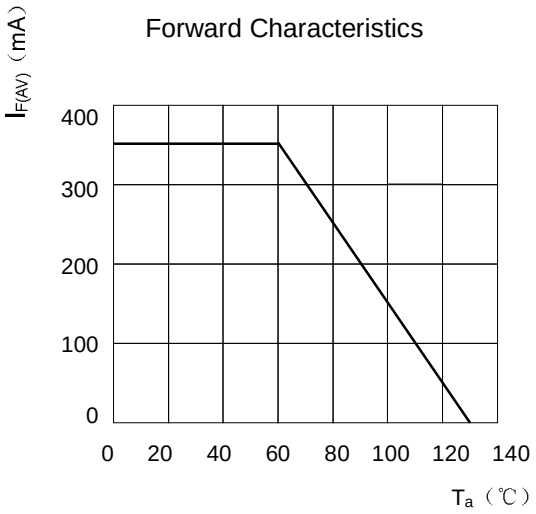
Item	Symbol	Unit	Test Condition	2CL3509	2CL3512
Peak Forward Voltage	V_{FM}	V	I_{FM}=350mA	≤9	≤10
Peak Reverse Current	I_{RRM1}	μA	$V_{RM}=V_{RRM}$	≤5	
Avalanche Breakdown Voltage	$V_{(BR)}$	kV	I_R=100μA	≥9.5	≥12.5

■ Characteristics(Typical)



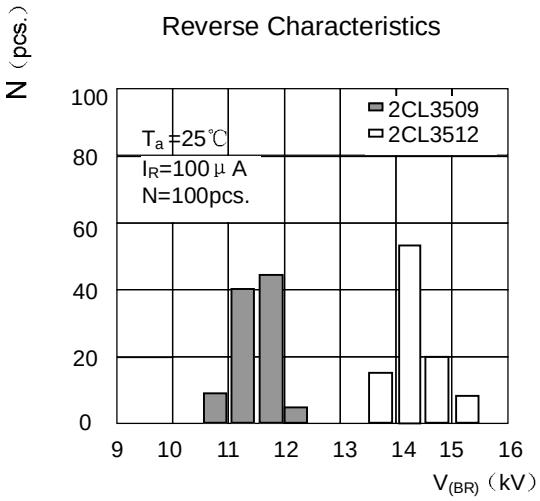


Forward Characteristics



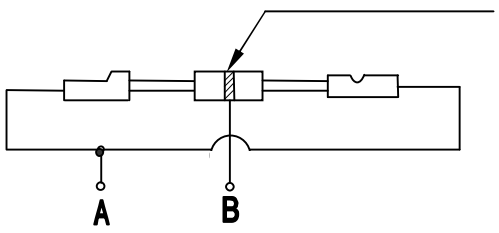
$I_{F(AV)}$—T_a Derating

Reverse Characteristics



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.