SiPower

Power Semiconductor Technology

2CL3509H 2CL3512H

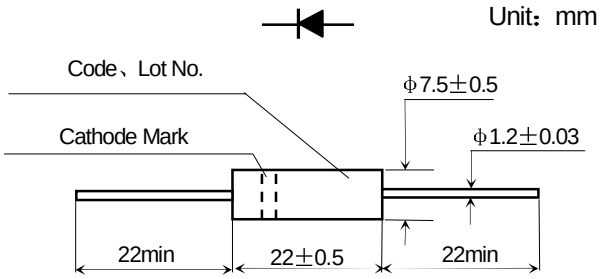
High Voltage Diodes for Micro-Wave Oven

■ Features

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

■ Outline Dimensions and Mark

Unit：mm



■ Applications

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

Type	Code	Cathode Mark
2CL3509H	T3509H	
2CL3512H	T3512H	

■Limiting Values（Absolute Maximum Rating）

Item	Symbol	Unit	2CL3509H	2CL3512H
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≤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	2CL3509H	2CL3512H
Peak Forward Voltage	V_{FM}	V	I_{FM}=350mA	≤10	≤12
Peak Reverse Current	I_{RRM1}	μA	V_{RM}=V_{RRM}	≤5	
Avalanche Breakdown Voltage	$V_{(BR)}$	kV	I_R=100μA	≥9.5	≥12.5

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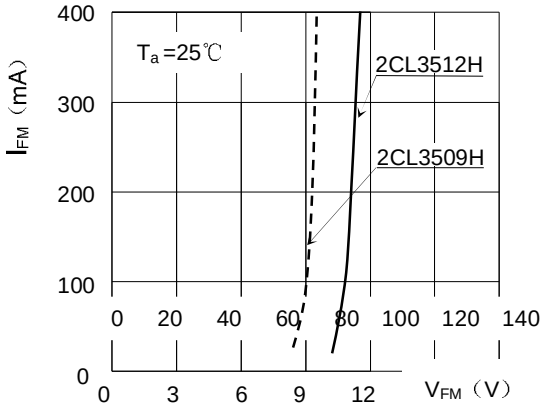
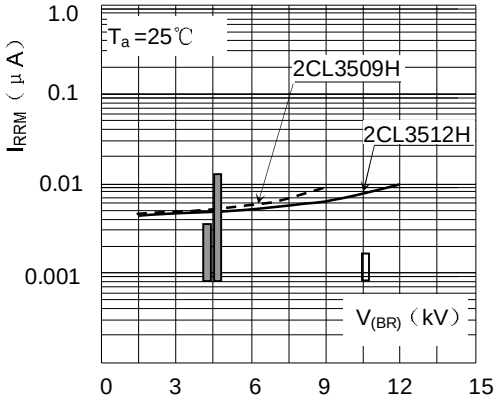
■ Characteristics(Typical)

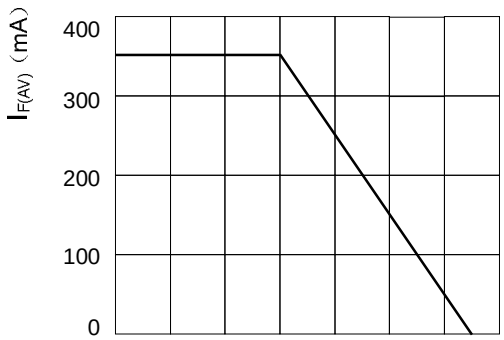


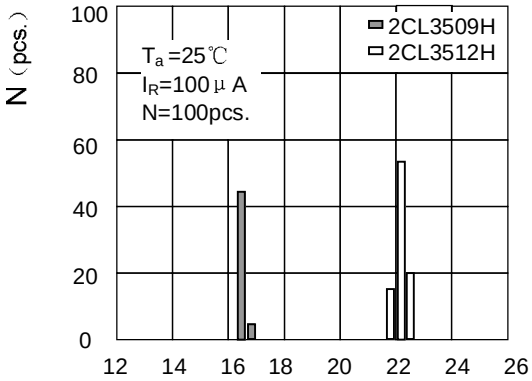
$I_{F(AV)}$—T_a Derating

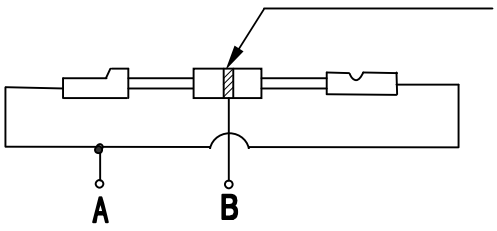


Breakdown Voltage Distribution
Reverse Characteristics

- **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.