High Voltage Silicon Diodes for Micro-wave oven
2CL3509 2CL3512

High voltage silicon 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

Mechanical data

- **Case:** Molded Plastic Body
- Epoxy meets UL 94V-0 flammability rating
- **Terminals:** Pure tin plated leads, solderable per J-STD-002 and JESD22-B102, E3 suffix for consumer grade, meet JESD201 class 1A whisker test.
- **Polarity:** Color band denotes cathode end

Primary characteristics

Type	2CL3509	2CL3512
$I_{F(AV)}$	350mA	
V_{RRM}	9kV	12kV
I_{FSM}	30A	
I_{RM}	5uA	
V_{FM}	9V	10V
T_J max.	130°C	

Maximum rating (Ta=25°C unless otherwise noted)

Parameter		Symbol	2CL3509	2CL3512	Unit
Repetitive peak reverse voltage		V_{RRM}	9	12	kV
Average forward current	60Hz half-sine wave, Resistance load, Ta≤60°C	$I_{F(AV)}$	350		mA
Forward surge current	60Hz half-sine wave, 1cycle,T_a=25°C	I_{FSM}	30		A
Reverse surge current	W_P=1ms, Rectangular-wave, One-shot, T_a=25°C	I_{RSM}	100		mA
Peak forward voltage	I_{FM}=350mA	V_{FM}	≤9	≤10	V
Peak reverse current	V_{RM}=V_{RRM}	I_{RRM1}	≤5		μA
Avalanche breakdown voltage	I_R=100μA	$V_{(BR)}$	≥9.5	≥12.5	kV
Virtual junction temperature		$T_{(vj)}$	130		°C
Storage temperature		T_{stg}	-40 ~ +130		°C

Notes: 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

Typical characteristics

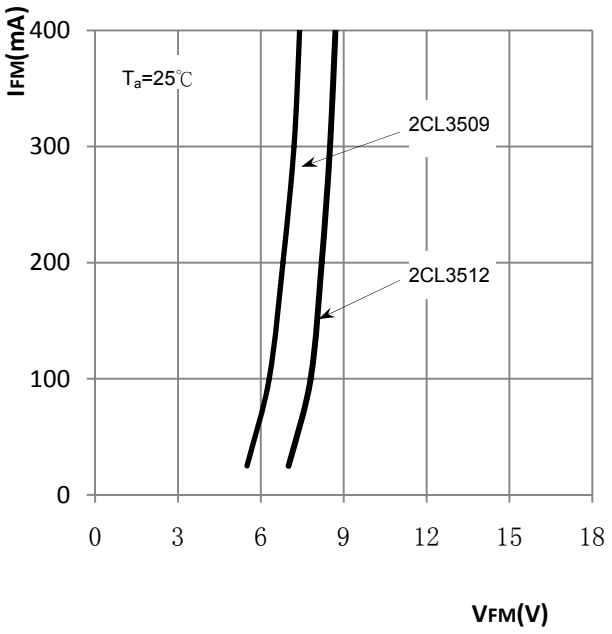


Figure 1. Forward characteristics

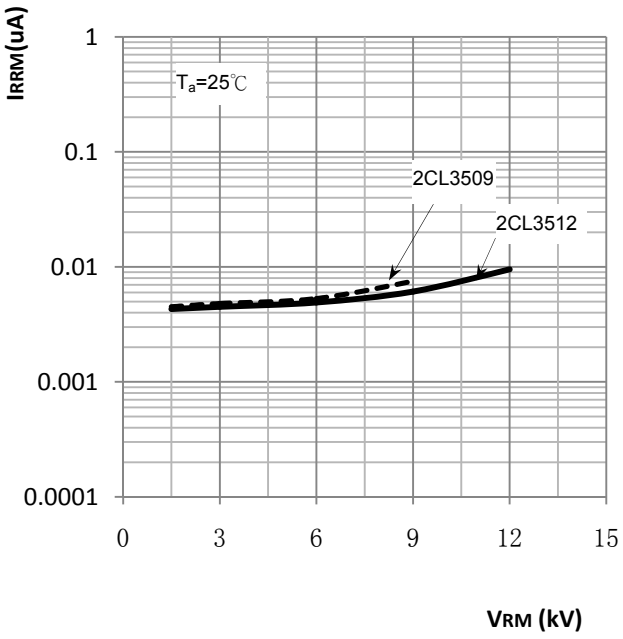


Figure 2. Reverse characteristics

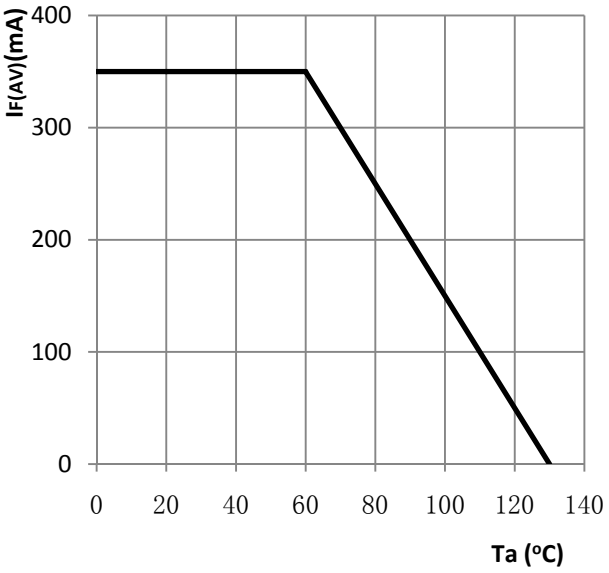
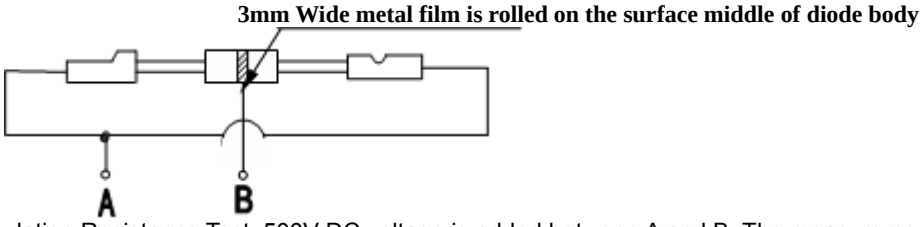


Figure 3. $I_{F(AV)}$-Ta Derating

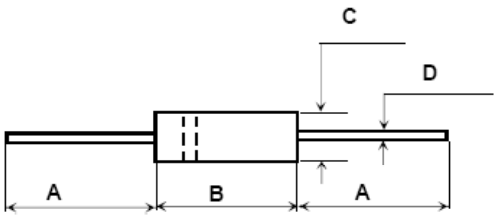
Safety Test

Safety Test



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.

Package outline dimensions



Dim.	Inches		Millimeters	
	Min.	Max.	Min.	Max.
A	0.866		22	
B	0.846	0.886	21.5	22.5
C	0.276	0.315	7.0	8.0
D	0.046	0.048	1.17	1.23

Marking

Type	Code	Cathode Mark
2CL3509	T3509	
2CL3512	T3512	