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Green

FS1MED

1.0A SURFACE MOUNT STANDARD RECOVERY RECTIFIER

Product Summary (@ T_A = +25°C)

V_{RRM} (V)	I_O (A)	V_F Max (V)	I_R Max (μA)
1000	1	1.1	5

Description

The FS1MED is a rectifier packaged in the low-profile DO-219AA package and is suited for AC to DC rectification. It is ideal as a snubber in adapters for quick chargers and for discretely building a bridge for LED lighting circuits. The controlled reverse recovery time helps reduce power loss.

Features and Benefits

- Low Profile, Small Form Factor Package
- Low Leakage Current
- Glass Passivated Die Construction
- Low Forward Voltage, Low Power Loss
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please contact us or your local Diodes representative. https://www.diodes.com/quality/product-definitions/**

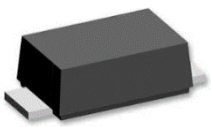
Applications

- Adapters for Quick Chargers
- Bridge Circuits in LED Lighting Systems

Mechanical Data

- Case: DO-219AA
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish Annealed over Copper Lead-Frame. Solderable per MIL-STD-202, Method 208 e3
- Polarity: Cathode Band
- Weight: 0.016 grams (Approximate)

DO-219AA



Top View



Schematic View

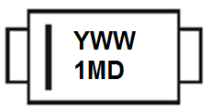
Ordering Information (Note 4)

Part Number	Qualification	Case	Packaging
FS1MED-7	Commercial	DO-219AA	3000/Tape & Reel

Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See https://www.diodes.com/quality/lead-free/ for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

Marking Information

DO-219AA



1MD = Product Type Marking Code
YWW= Date Code Marking
Y = Last Digit of Year (ex: 0 = 2020)
WW = Week Code (01 to 53)

Date Code Key

Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Code	0	1	2	3	4	5	6	7	8	9	0	1

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Maximum Ratings (@ T_A = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	1000	V
Average Rectified Output Current	I_O	1	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	30	A
I^2t Rating for Fusing (t = 8.3ms)	I^2t	7.47	A^2S

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance Junction to Case	$R_{\Theta JC}$	30	°C/W
Typical Thermal Resistance Junction to Ambient (Note 5)	$R_{\Theta JA}$	50	°C/W
Typical Thermal Resistance Junction to Lead (Note 5)	$R_{\Theta JL}$	18	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics (@ T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	1000	—	—	V	I_R = 10μA
Forward Voltage	V_F	—	— 0.86	1.1 —	V	I_F = 1A, T_J = +25°C I_F = 1A, T_J = +125°C
Reverse Leakage Current (Note 6)	I_R	—	—	5 500	μA	V_R = 1000V, T_J = +25°C V_R = 1000V, T_J = +125°C
Reverse Recovery Time	t_{RR}	500	—	1000	ns	I_F = 0.5A, I_R = 1.0A, I_{RR} = 0.25A
Typical Total Capacitance	C_T	—	7.6	—	pF	V_R = 4V, f = 1MHz

Notes: 5. Thermal resistance test performed in accordance with JESD-51. Unit mounted on glass-epoxy substrate with 5mm × 7mm copper pad.
6. Short duration pulse test used to minimize self-heating effect.

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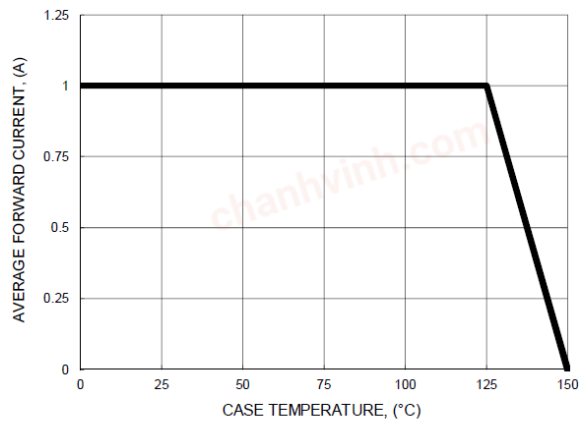


FIG. 1 FORWARD CURRENT DERATING CURVE

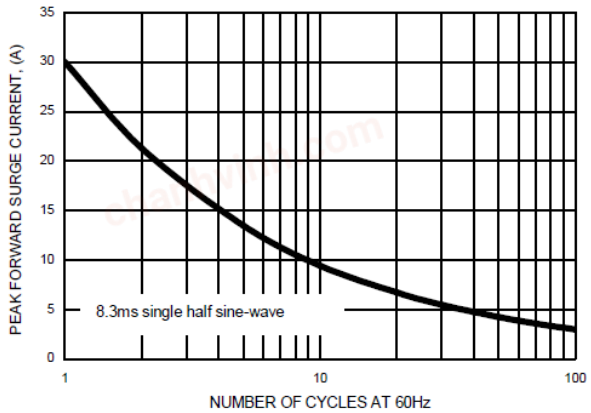


FIG. 2 MAXIMUM NON-REPETITIVE SURGE CURRENT

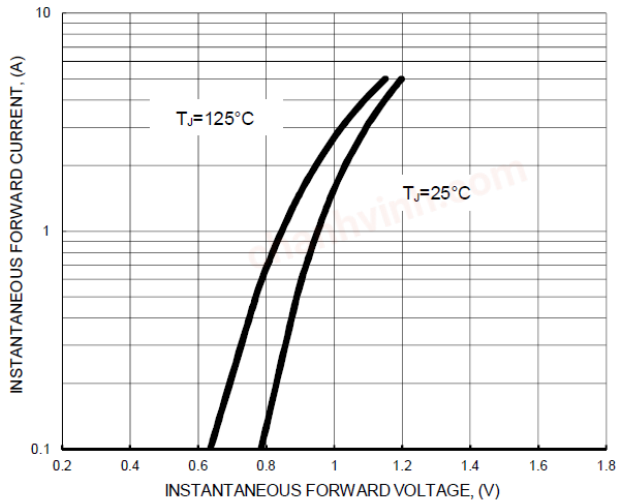


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

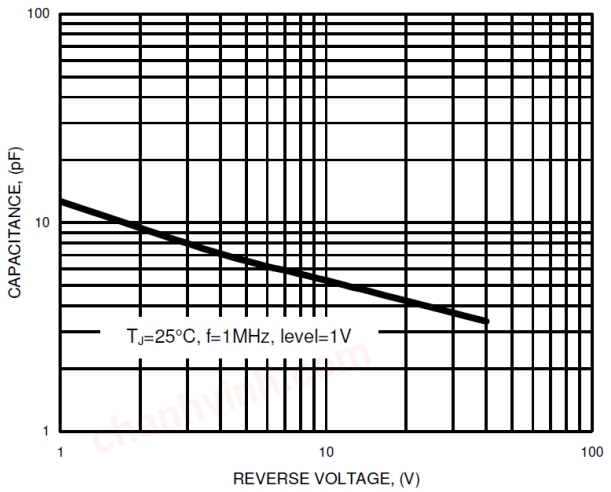


FIG. 4 TYPICAL TOTAL CAPACITANCE

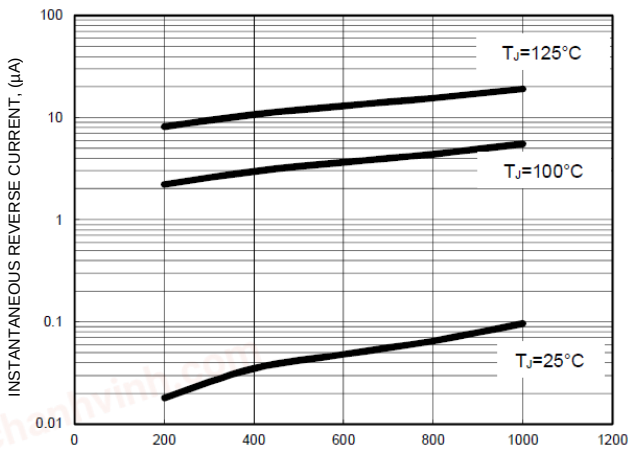


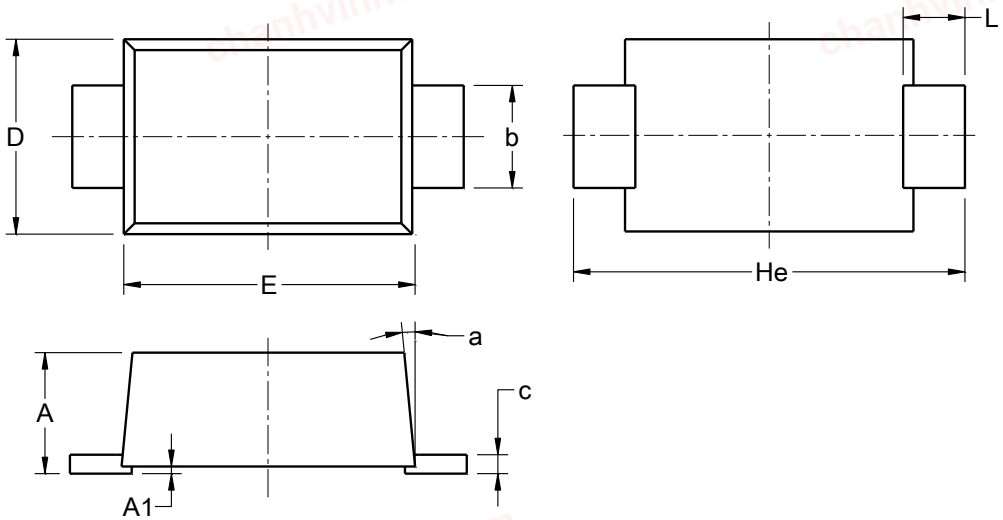
FIG. 5 TYPICAL REVERSE CHARACTERISTICS

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Package Outline Dimensions

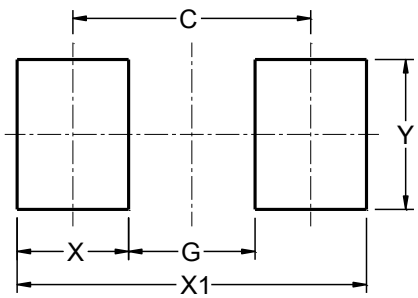
Please see http://www.diodes.com/package-outlines.html for the latest version.



DO-219AA			
Dim	Min	Max	Typ
A	0.81	1.20	1.18
A1	0.03	0.10	0.07
b	0.85	1.15	1.00
c	0.05	0.30	0.15
D	1.70	2.00	1.90
E	2.70	2.90	2.80
He	3.50	3.90	3.80
L	0.45	0.75	0.60
a	0°	8°	5°
All Dimensions in mm			

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.



Dimensions	Value (in mm)
C	2.86
G	1.52
X	1.34
X1	4.20
Y	1.80

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