A2G100D1200DT2

1200V Silicon Carbide Schottky Diode

Features

- Zero Reverse Recovery Current
- Zero Forward Recovery Voltage
- Max Junction Temperature 175°C
- 100% Avalanche (UIL) Tested
- Temperature-independent Switching
- High-Speed Switching

Benefits

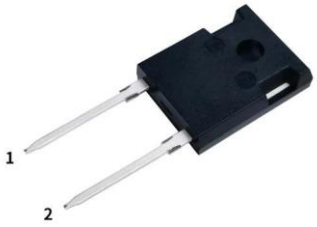
- Replace Bipolar with Unipolar Device
- Reduction of Heat Sink Size
- Parallel Devices Without Thermal Runaway
- Essentially No Switching Losses

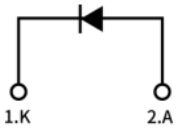
Applications

- Switch Mode Power Supplies
- Uninterruptible Power Supplies
- Server/Telecom Power Supplies
- Industrial Power Supplies
- Locomotive Traction
- Wind Power

Product Summary

V_{DS}	1200V
I_D ($T_C \leq 150°C$)	100A





Ordering Information

Part Number	Marking	Package	Packaging
A2G100D1200DT2	A2G100D1200DT2	TO-247-2L	Tube

Absolute Maximum Ratings

Symbol	Parameter	Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltage	1200	V
V_{RSM}	Surge Peak Reverse Voltage	1200	
V_R	DC Blocking Voltage	1200	
I_F	Forward Current	270 (T_C = 25°C)	A
		100 (T_C = 150°C)	
I_{FSM}	Non-Repetitive Forward Surge Current	550	A
P_{tot}	Power Dissipation	1071 (T_C = 25°C)	W
T_J, T_{stg}	Operating Junction and Storage Temperature	-55 to +175	°C

Electrical Characteristics (T_J=25°C unless otherwise specified)

Typical Performance-Static

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V_F	Forward Voltage	I_F = 100A, T_J = 25℃		1.6	1.8	V
		I_F = 100A, T_J = 175℃		2.0	2.45	V
I_R	Reverse Current	V_R = 1200V, T_J = 25℃		35	220	μA
		V_R = 1200V, T_J = 175℃		98	580	μA
C	Total Capacitance	V_R = 0.1V, T_J = 25℃, f = 1MHz		8540		pF
		V_R = 400V, T_J = 25℃, f = 1MHz		455		pF
		V_R = 800V, T_J = 25℃, f = 1MHz		380		pF
Q_C	Total Capacitive Charge	V_R = 800V		560		nC
E_C	Capacitance Stored Energy	V_R = 800V		148		μJ

Thermal Characteristics

Symbol	Parameter	Value	Unit
$R_{\theta JC}$	Thermal Resistance, Junction-to-Case	0.14	°C/W

Typical Perfomance

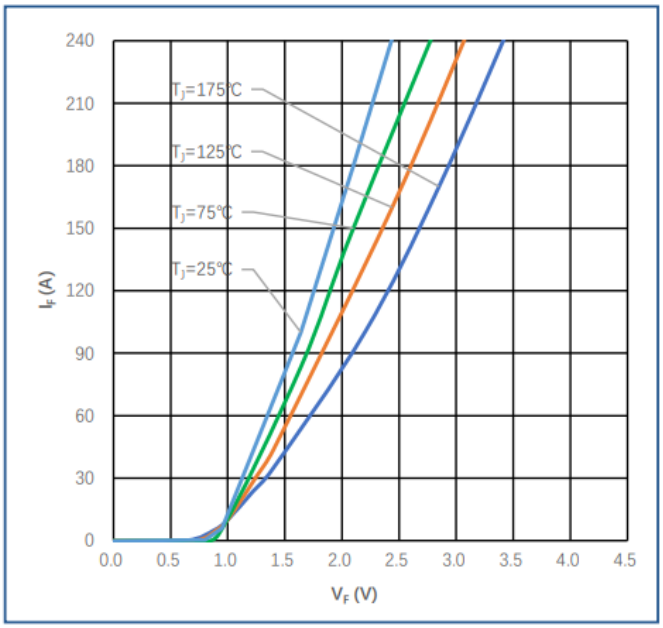


Figure 1

Forward Characteristics

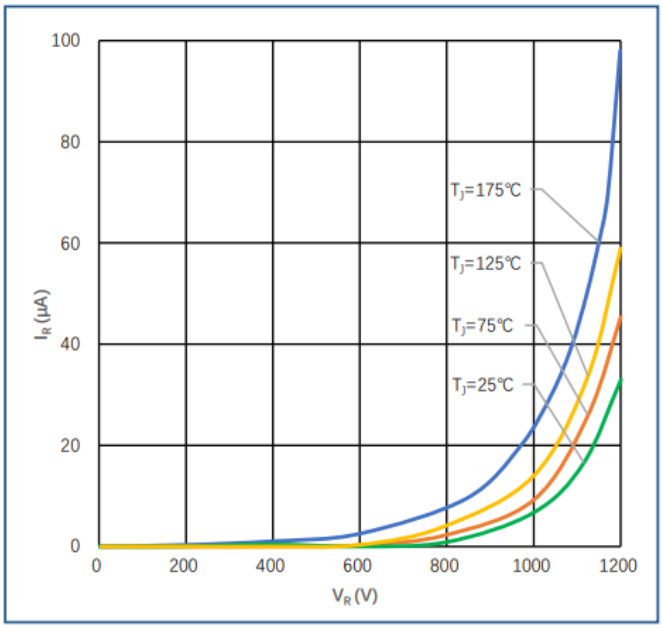


Figure 2

Reverse Characteristics

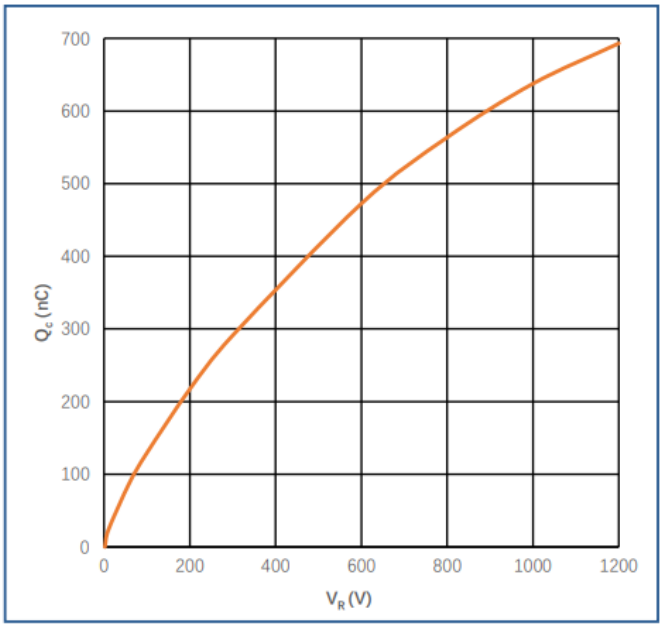


Figure 3

Reverse Charge vs. Reverse Voltage

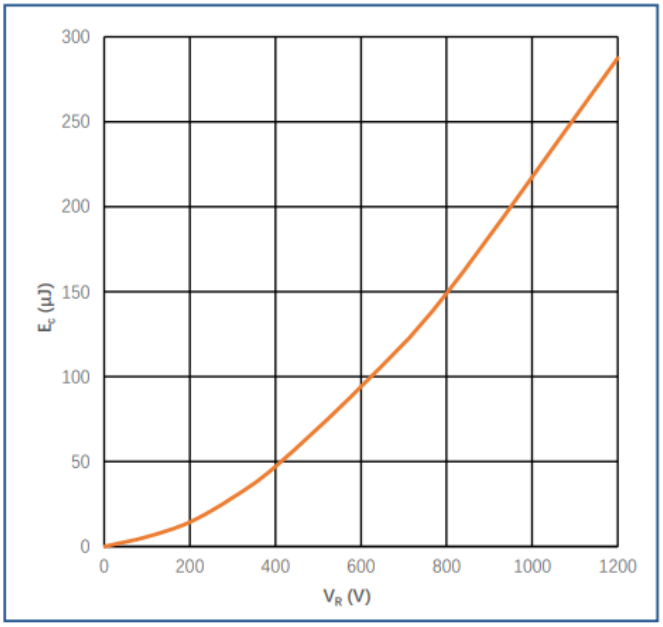


Figure 4

Capacitance Stored Energy

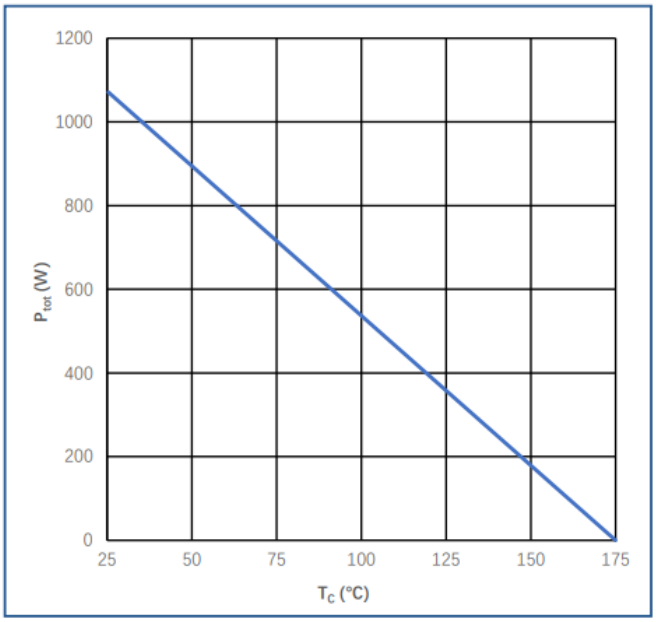


Figure 5

Power Derating

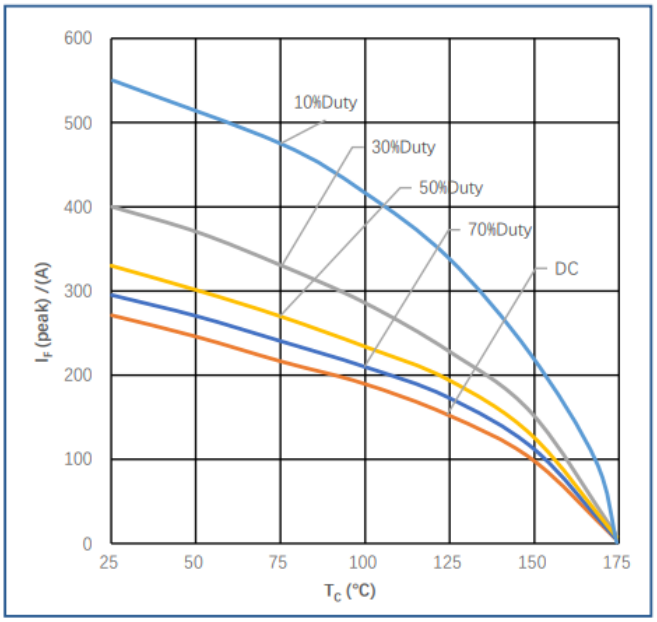


Figure 6

Current Derating

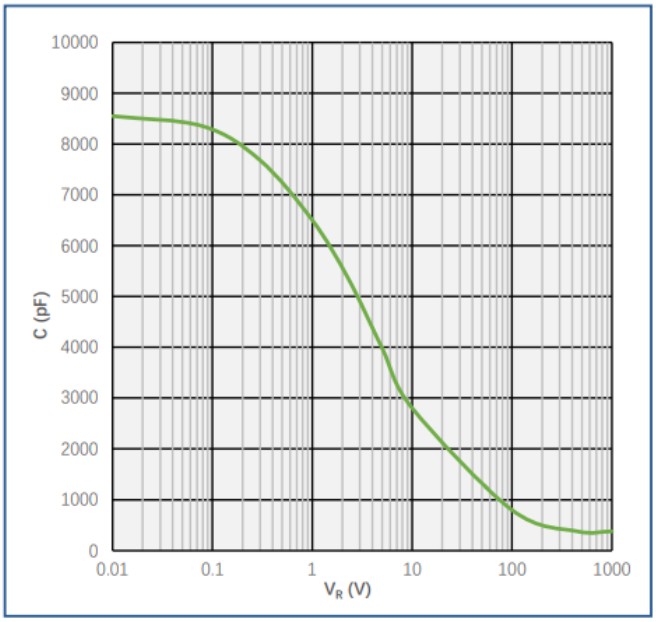


Figure 7

Capacitance vs. Reverse Voltage

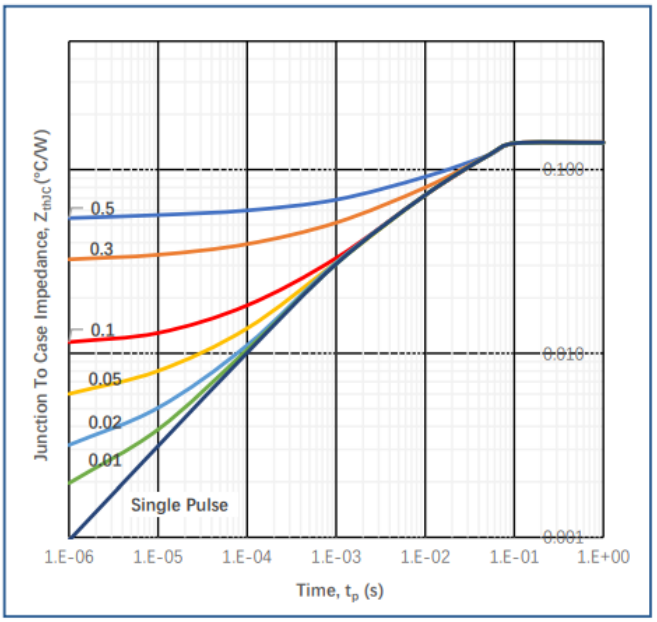
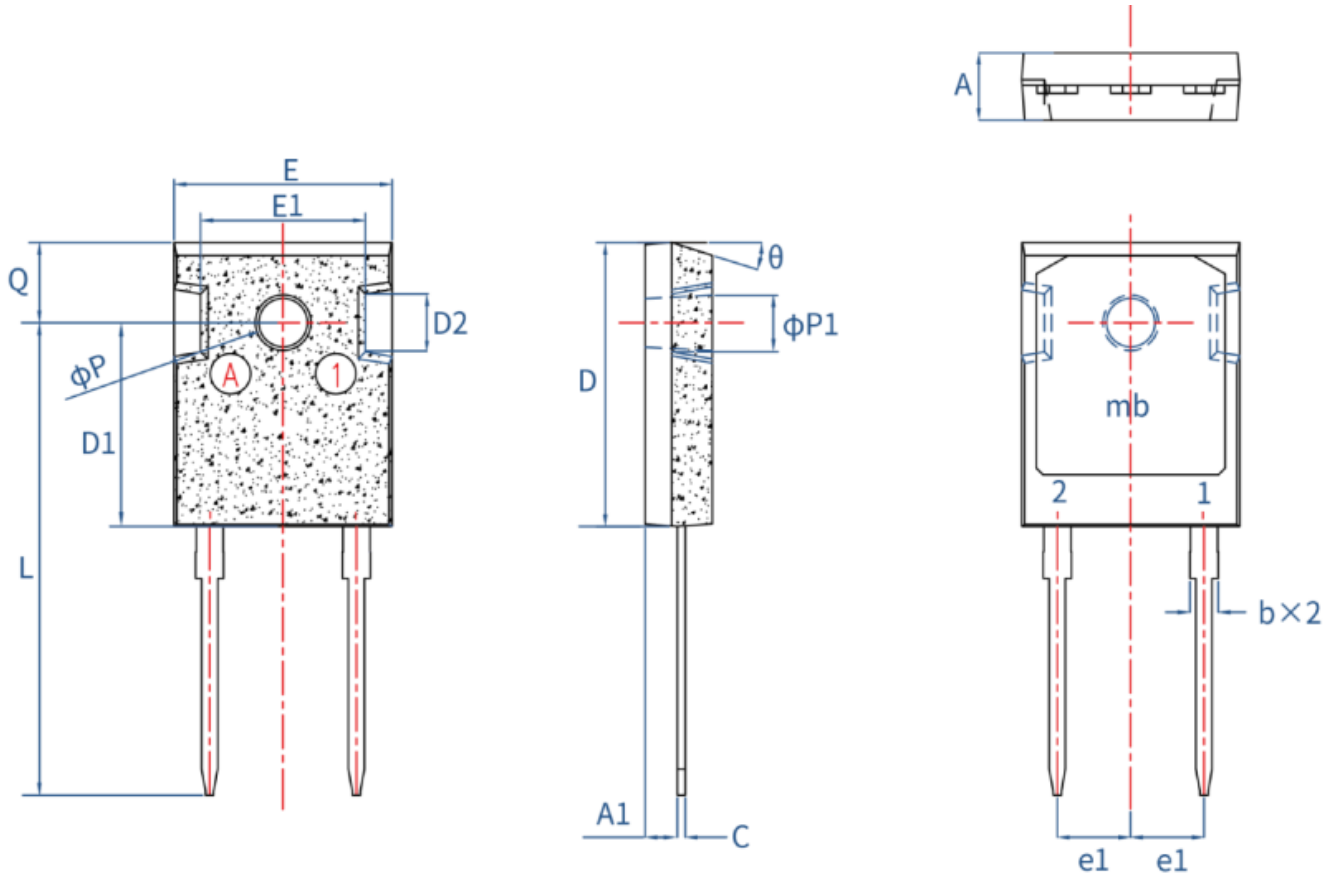


Figure 8

Transient Thermal Impedance

Package Drawing



Symbol	Min. (mm)	Typ. (mm)	Max. (mm)
A	4.80	5.00	5.20
A1	2.25	2.40	2.55
b	2.03	2.65	2.10
C	0.55	0.60	0.65
D	20.80	21.00	21.20
F	0.50	0.80	1.21
	15.11		
	4.30		
e1	5.29	5.44	5.59
E	15.95	16.15	16.35
E1	12.00	12.20	12.40
L	34.65	35.05	35.45
Q	5.85	5.95	6.05
dP	3.45	3.60	3.75
dP1	4.12		
θ	17.50°		

PIN	Symbol	Description
1	K	Cathode
2	A	Anode
mb	mb	mounting base; connected to cathode

Note:

1. All metal surfaces are Sn plated (matte), except area of cut.

2. Burr or mold flash size (0.5 mm) is not included in the dimensions

Revision version	Description	Date
1	Initial	09.2025