8A, 1200V Silicon Carbide Schottky Diode

Features

● High-Frequency Operation

● Zero Reverse Recovery Current

● Temperature-Independent Switching

● Extremely Fast Switching

● Plastic package has underwriters Laboratory
  Flammability Classification 94V-0

● Halogen-free according to IEC 61249-2-21

TO-247AC

Applications

● Boost Diodes in PFC or DC/DC stages

● LED Lighting Power Supplies

● Power Factor Correction

Cathode
1
Case
Anode
2
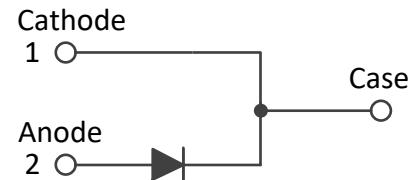
Mechanical Data

● Case: Epoxy, Molded

● Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable

● Lead Temperature for Soldering Purposes: 260°C Max. for 10 sec

● Shipped 50 units per plastic tube

Maximum Ratings & Electrical Characteristics (TA=25℃ unless otherwise noted)

Parameter		Symbol	GS08D120SP	Unit
Maximum repetitive peak reverse voltage		V_{RRM}	1200	V
Working peak reverse voltage		V_{RWM}	1200	V
Maximum DC blocking voltage		V_{DC}	1200	V
Maximum average forward rectified current	T_C=25°C	$I_{F(AV)}$	25	A
	T_C=135°C		12.5	
	T_C=156°C		8	
Peak forward surge current，tp=10ms,Half Sine Pulse		I_{FSM}	70	A
Power dissipation	T_C=25°C	P_{tot}	136	W
	T_C=110°C		59	
Operating junction temperature range		T_J	-55 to +175	°C
Storage temperature range		T_{STG}	-55 to +175	°C

Electrical Specifications(TA=25℃ unless otherwise noted)

Parameter	Symbol	Test Conditions	Typ	Max	Unit
Forward drop voltage	V_F	I_F=8A, T_J=25℃	1.45	1.75	V
		I_F=8A, T_J=175℃	2.10	2.60	
Reverse leakage current @rated V_R	I_R	V_R=1200V, T_J=25℃	3	100	μA
		V_R=1200V, T_J=175℃	20	300	
Total capacitive charge	Q_C	V_R=800V, I_F=8A, T_J=25℃	53	-	nC
Total capacitance	C	V_R=800V, T_J=25℃, f=1MHz	38	-	pF

Thermal-Mechanical Specifications (TA=25℃ unless otherwise noted)

Parameter	Symbol	Typ	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.10	-	℃ /W

Ratings and Characteristics Curves

(T$_A$ = 25℃ unless otherwise noted)
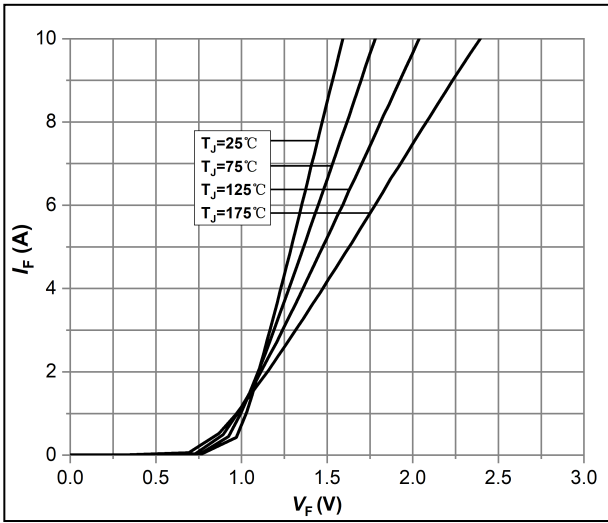

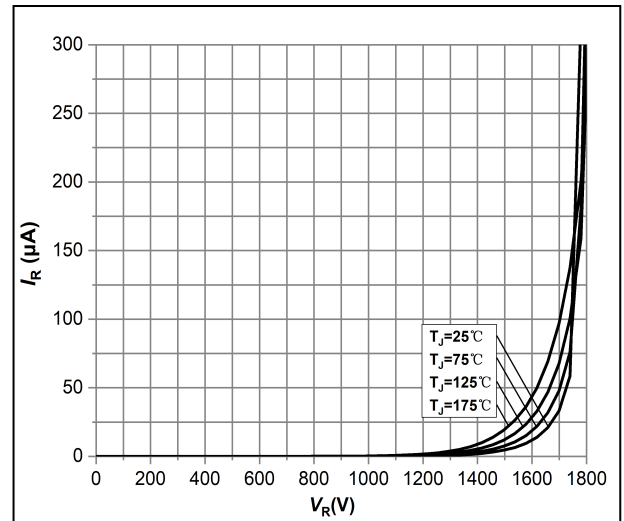**Fig.1 –Forward Characteristics**

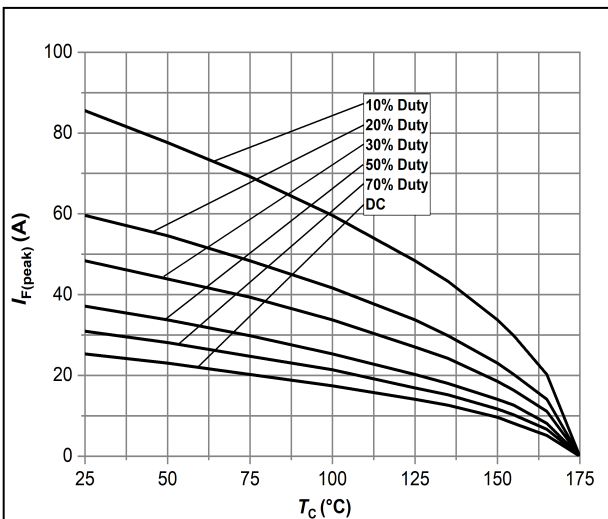**Fig.2 –Reverse Characteristics**
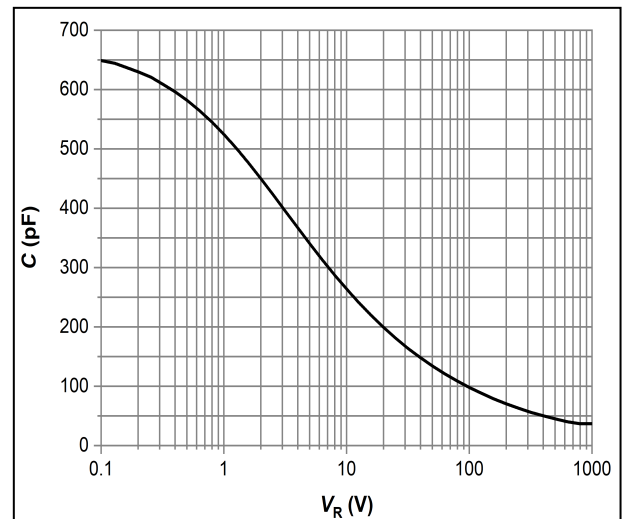

Fig.3 –Current Derating

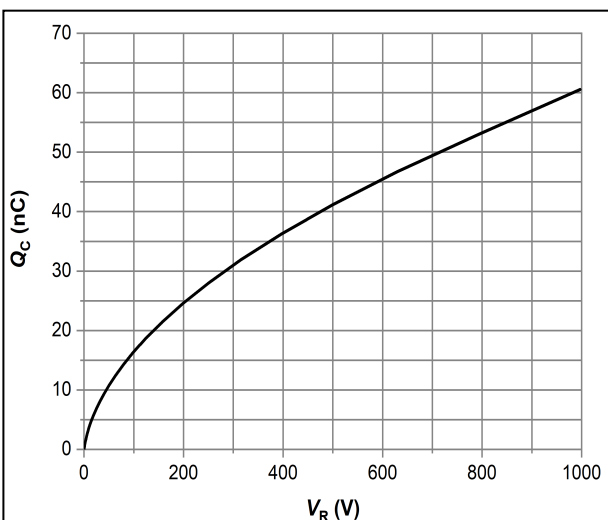**Fig.4 –Capacitance vs. Reverse Voltage**

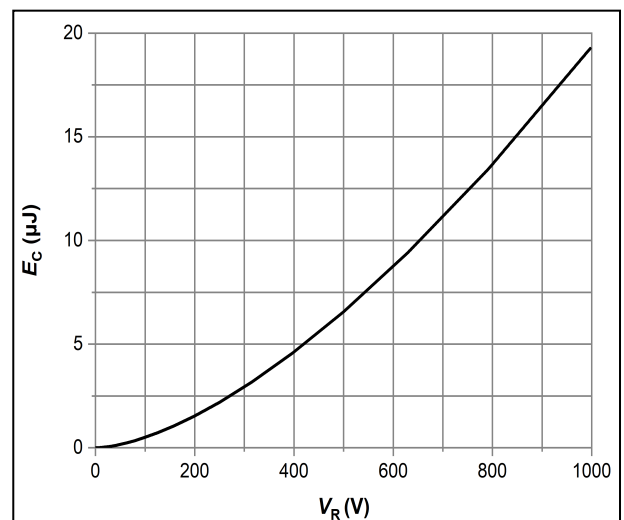**Fig.5 –Total Capacitance Charge vs. Reverse Voltage**

Fig.6 –Typical Capacitance Stored Energy

Package Outline Dimensions (Unit: millimeters)

TO-247AC
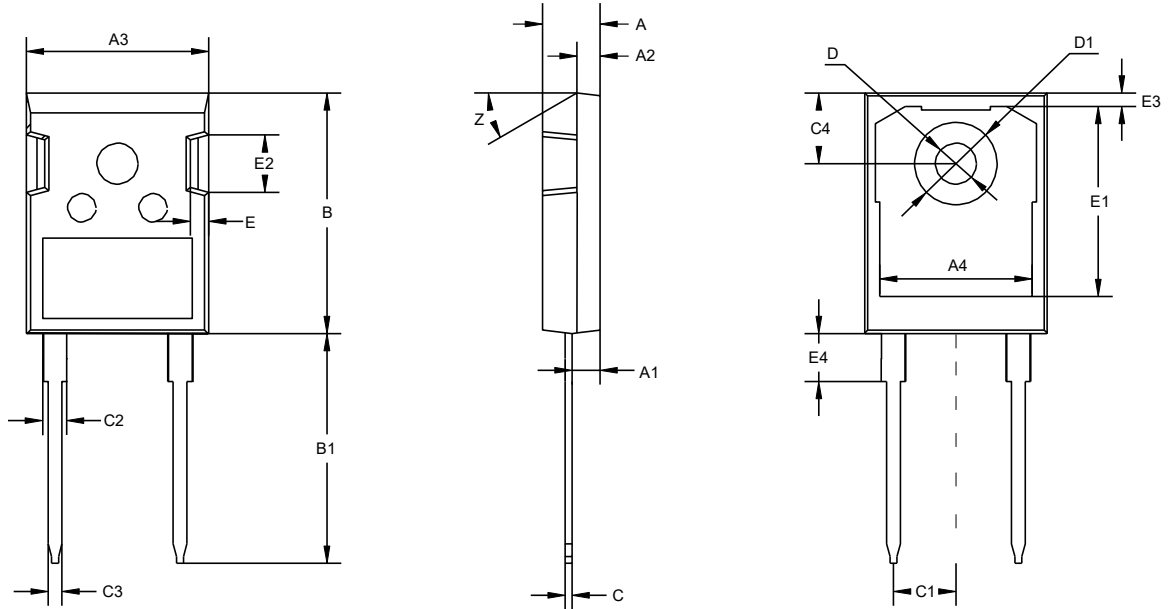
TO-247AC							
	Min.	Nom.	Max.		Min.	Nom.	Max.
A	4.7	5	5.2	C3	1.1	1.2	1.3
A1	2.3		2.5	C4	6.04	6.15	6.30
A2	1.9	2	2.1	D	3.5	3.6	3.7
A3	15.48	15.88	16.28	D1	7	7.19	7.4
A4	13.06	13.26	13.56	E	1.5	1.6	1.7
B	20.8	20.95	21.1	E1		16.55	
B1	19.8	20	20.32	E2	4.9	5.0	5.1
C	0.5	0.6	0.7	E3	0.95	1.17	1.35
C1	5.34	5.44	5.54	E4		4.17	4.5
C2		2		Z		30°	

Marking Outline
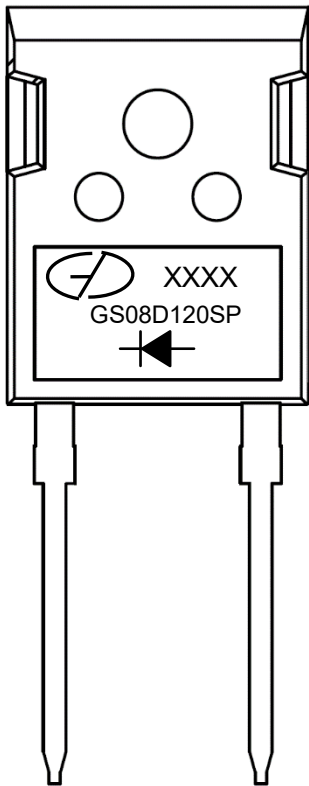
1. Logo Mark:

2. Data code: XXXX

3. Part Name:GS08D120SP

4. Polarity：

Revision History

Document Version	Date of release	Description of changes
Rev.A	2022.06.22	Preliminary Datasheet

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