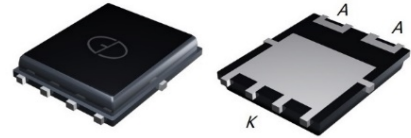


4A, 650V Silicon Carbide Schottky Diode

Features

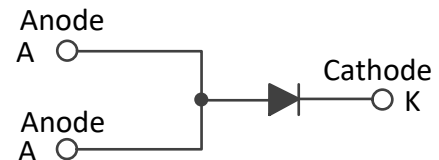
- High-Frequency Operation
- Zero Reverse Recovery Current
- Temperature-Independent Switching
- Extremely Fast Switching
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21



PDFN56

Applications

- Boost Diodes in PFC or DC/DC stages
- LED Lighting Power Supplies
- Power Factor Correction



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 3000 units per reel

Maximum Ratings & Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	GS04D065SM	Unit
Maximum repetitive peak reverse voltage	V _{RRM}	650	V
Working peak reverse voltage	V _{RWM}	650	V
Maximum DC blocking voltage	V _{DC}	650	V
Maximum average forward rectified current	T _C =25°C	16.5	A
	T _C =135°C	7.5	
	T _C =157°C	4	
Peak forward surge current, t _p =10ms, Half Sine Pulse	I _{FSM}	34	A
Power dissipation	T _C =25°C	79	W
	T _C =110°C	34	
Operating junction temperature range	T _J	-55 to +175	°C
Storage temperature range	T _{STG}	-55 to +175	°C

Electrical Specifications ($T_A=25^\circ\text{C}$ unless otherwise noted)					
Parameter	Symbol	Test Conditions	Typ	Max	Unit
Forward drop voltage	V_F	$I_F=4\text{A}, T_J=25^\circ\text{C}$	1.40	1.65	V
		$I_F=4\text{A}, T_J=175^\circ\text{C}$	1.80	2.40	
Reverse leakage current @rated V_R	I_R	$V_R=650\text{V}, T_J=25^\circ\text{C}$	2	30	μA
		$V_R=650\text{V}, T_J=175^\circ\text{C}$	10	100	
Total capacitive charge	Q_C	$V_R=400\text{V}, I_F=4\text{A}, T_J=25^\circ\text{C}$	11	-	nC
Total capacitance	C	$V_R=400\text{V}, T_J=25^\circ\text{C}, f=1\text{MHz}$	17	-	pF

Thermal-Mechanical Specifications ($T_A=25^\circ\text{C}$ unless otherwise noted)				
Parameter	Symbol	Typ	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.90	-	$^\circ\text{C}/\text{W}$

Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

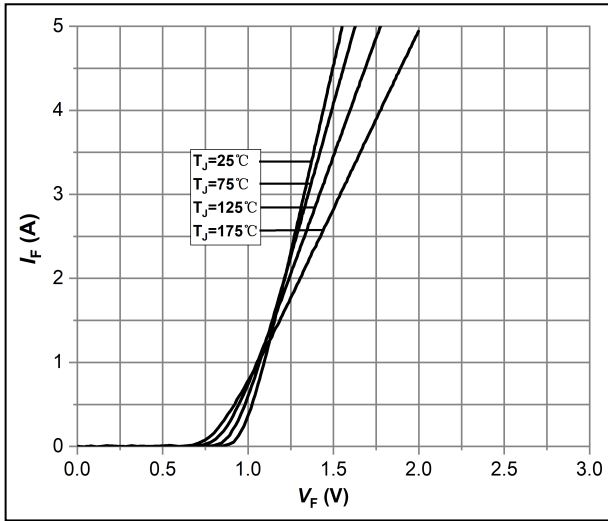


Fig.1 -Forward Characteristics

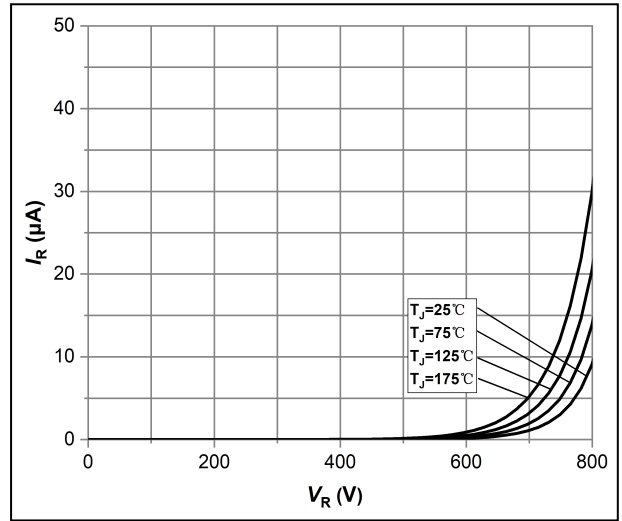


Fig.2 -Reverse Characteristics

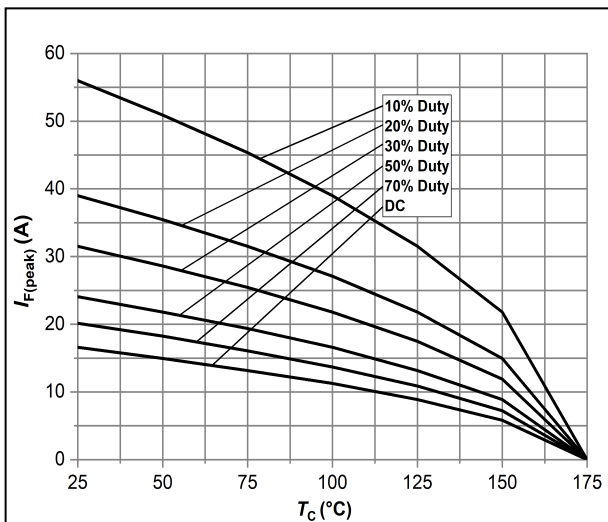


Fig.3 -Current Derating

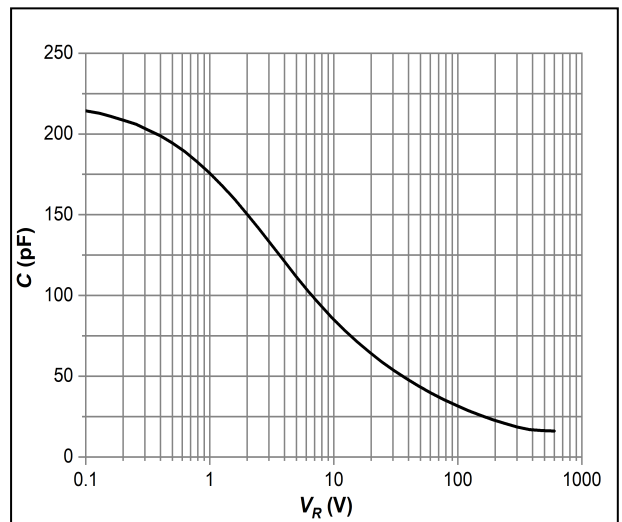


Fig.4 -Capacitance vs. Reverse Voltage

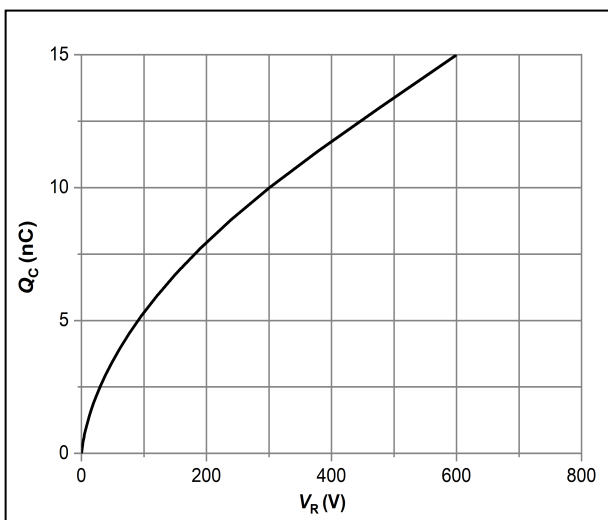


Fig.5 -Total Capacitance Charge vs. Reverse Voltage

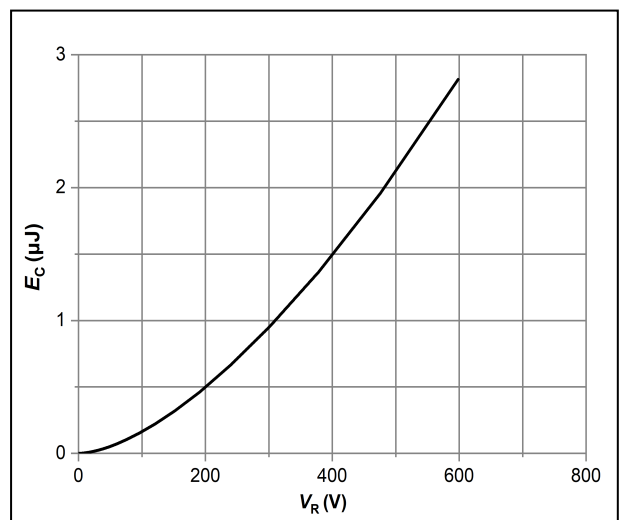
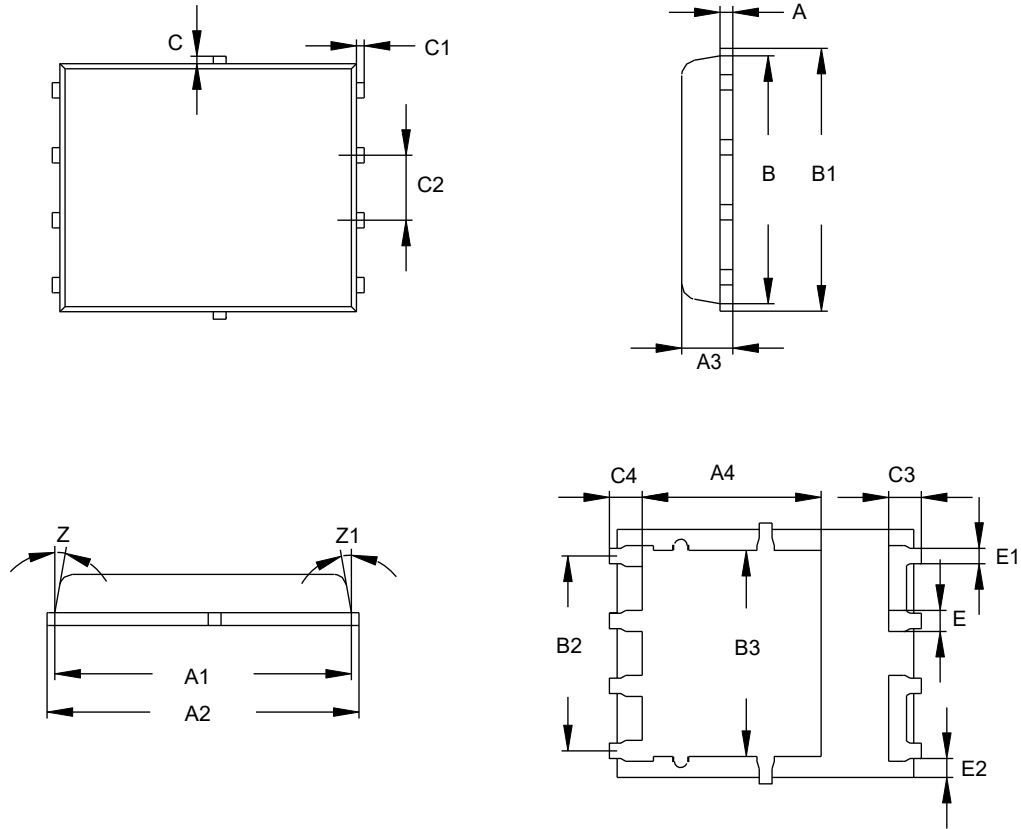


Fig.6 -Typical Capacitance Stored Energy

Package Outline Dimensions (Unit: millimeters)



PDFN56



PDFN56							
	Min.	Nom.	Max.		Min.	Nom.	Max.
A	0.15	0.25	0.35	C1	0.05	0.15	0.25
A1	5.6	5.8	6.0	C2	1.17	1.27	1.37
A2	5.9	6.1	6.3	C3	0.53	0.63	0.73
A3	0.9	1	1.1	C4		0.63	
A4		3.5		E	0.31	0.41	0.51
B	4.7	4.9	5.1	E1	0.2	0.3	0.4
B1	5	5.2	5.4	E2	0.25	0.35	0.45
B2	3.71	3.81	3.91	Z	8°	10°	12°
B3		4		Z1	8°	10°	12°
C	0.05	0.15	0.25				

Marking Outline



1. Logo Mark: 
2. Part Name: GS04D065SM
3. Data Code: XXXX
4. Polarity : 

Revision History

Document Version	Date of release	Description of changes
Rev.A	2022.08.16	Preliminary Datasheet

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