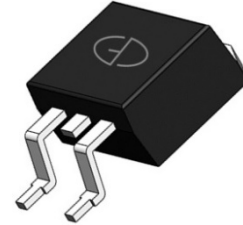


6A, 650V Silicon Carbide Schottky Diode

Features

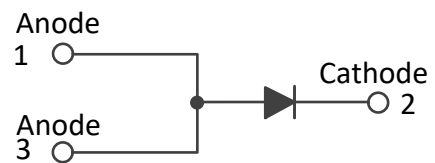
- High-Frequency Operation
- Zero Reverse Recovery Current
- Temperature-Independent Switching
- Extremely Fast Switching
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21



TO-263AB(D²PAK)

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 50 units per plastic tube or tape reel packing 800/reel

Maximum Ratings & Electrical Characteristics (T _A =25°C unless otherwise noted)				
Parameter	Symbol	GS06D065SW	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	18	A	
	T _C =135°C	8		
	T _C =150°C	6		
Peak forward surge current, tp=10ms, Half Sine Pulse	I _{FSM}	42	A	
Power dissipation	T _C =25°C	73	W	
	T _C =110°C	31		
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	$I_F=6\text{A}, T_J=25^\circ\text{C}$	1.38	1.65	V
		$I_F=6\text{A}, T_J=175^\circ\text{C}$	1.80	2.40	
Reverse leakage current @rated V_R	I_R	$V_R=650\text{V}, T_J=25^\circ\text{C}$	5	50	μA
		$V_R=650\text{V}, T_J=175^\circ\text{C}$	15	200	
Total capacitive charge	Q_C	$V_R=400\text{V}, I_F=6\text{A}, T_J=25^\circ\text{C}$	22	-	nC
Total capacitance	C	$V_R=400\text{V}, T_J=25^\circ\text{C}, f=1\text{MHz}$	33	-	pF

Thermal-Mechanical Specifications ($T_A=25^\circ\text{C}$ unless otherwise noted)				
Parameter	Symbol	Typ	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.05	-	$^\circ\text{C}/\text{W}$

Ratings and Characteristics Curves

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

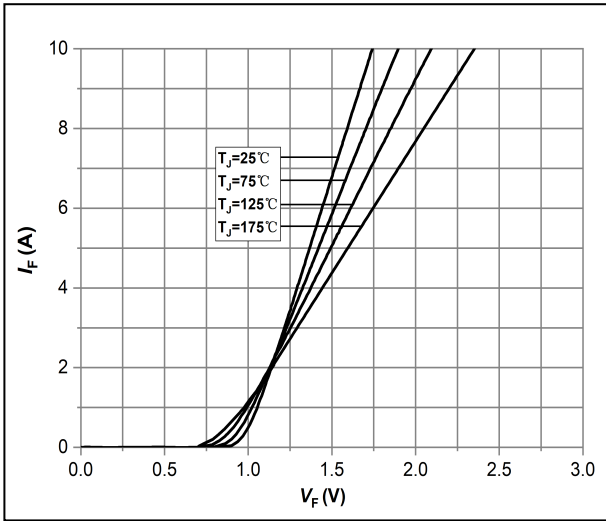


Fig.1 -Forward Characteristics

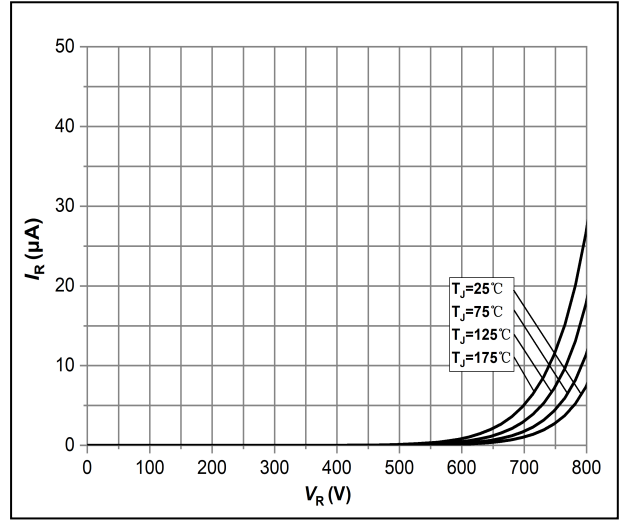


Fig.2 -Reverse Characteristics

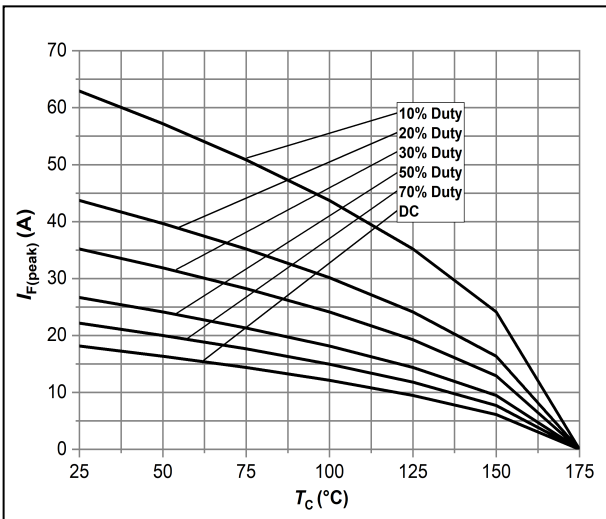


Fig.3 -Current Derating

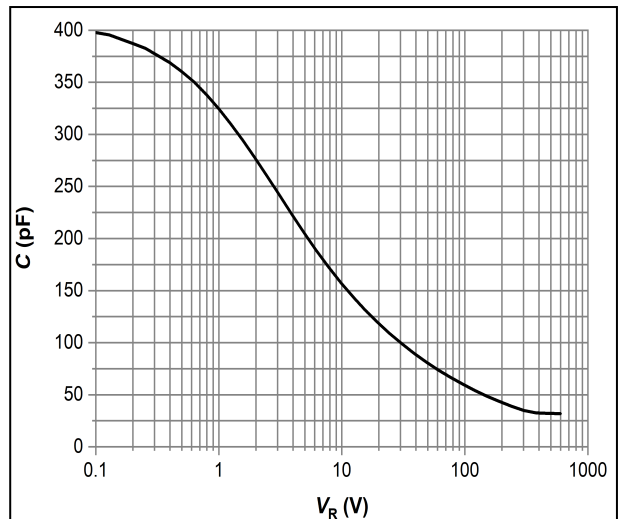


Fig.4 -Capacitance vs. Reverse Voltage

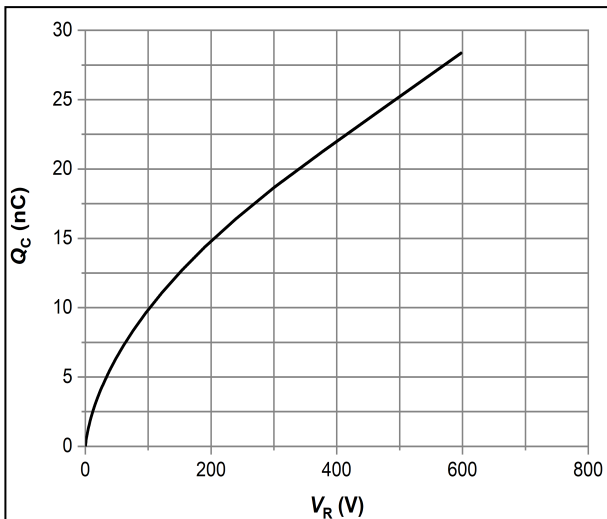


Fig.5 -Total Capacitance Charge vs. Reverse Voltage

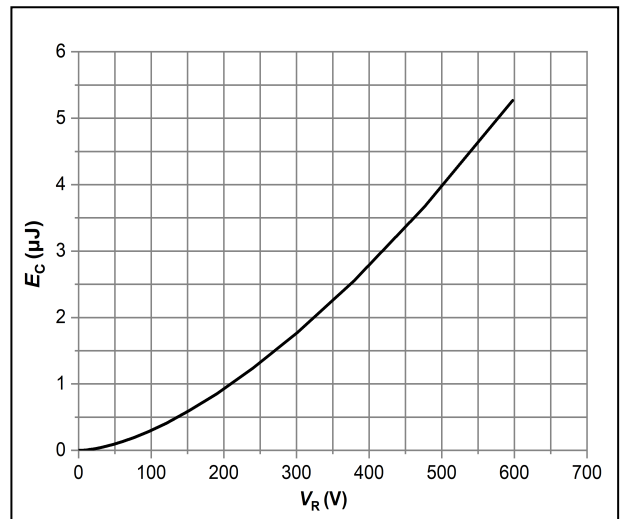
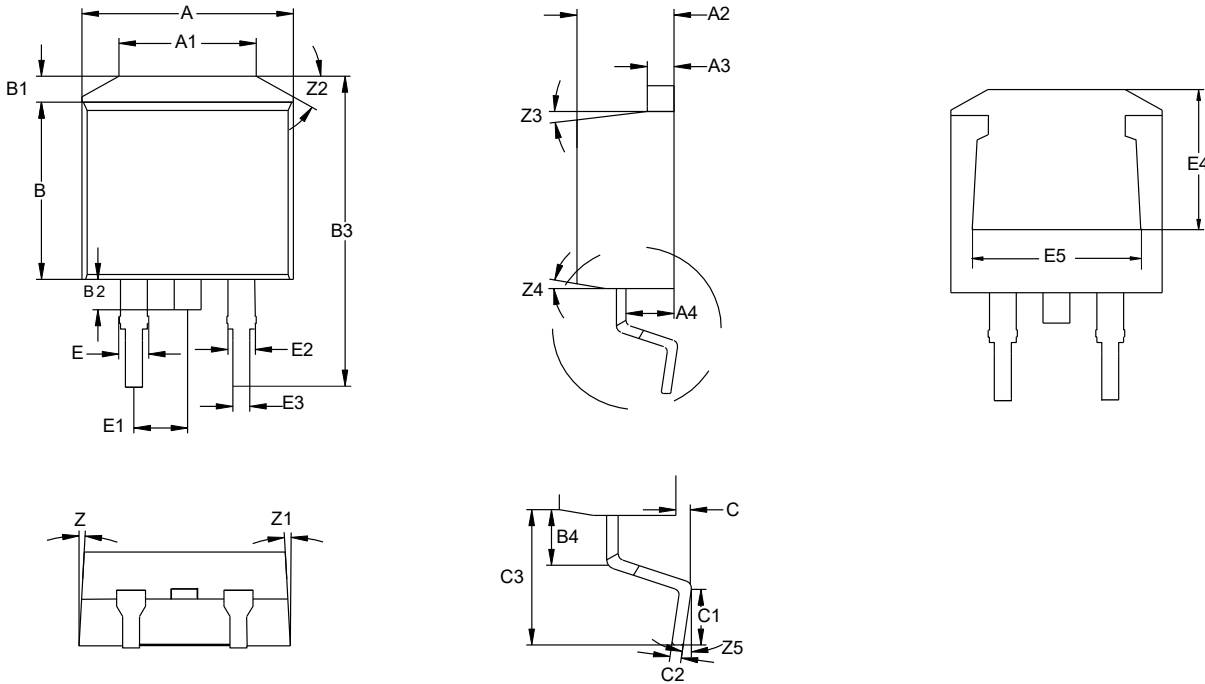


Fig.6 -Typical Capacitance Stored Energy

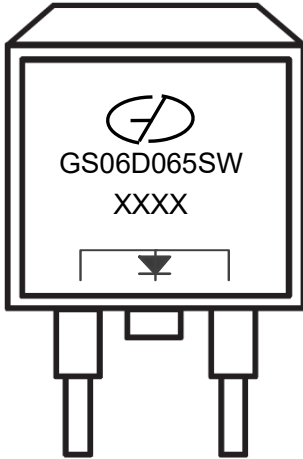
Package Outline Dimensions (Unit: millimeters)



TO-263AB



TO-263AB							
	Min.	Nom.	Max.		Min.	Nom.	Max.
A	9.8	10	10.2	C3	5	5.3	5.6
A1	6.5			E	1.17	1.37	1.57
A2	4.4	4.6	4.8	E1	2.44	2.54	2.64
A3	1.17	1.27	1.37	E2	1.17	1.27	1.37
A4	2.37	2.67	2.97	E3	0.7	0.8	0.9
B	8.5	8.7	8.9	E4	6.47	6.67	6.87
B1	1.07	1.27	1.47	E5	8.3	8.5	8.7
B2	1.2	1.5	1.8	Z		3°	
B3	15	15.3	15.6	Z1		3°	
B4	1.8	2	2.2	Z2		30°	
C	0		0.25	Z3		7°	
C1	2.34	2.54	2.74	Z4		7°	
C2	0.3	0.4	0.5	Z5	-4°		4°

Marking Outline



1. Logo Mark: 
2. Part Name: GS06D065SW
3. Date Code: XXXX
4. Polarity : 

Revision History

Document Version	Date of release	Description of changes
Rev.A	2022.06.16	Preliminary Datasheet

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