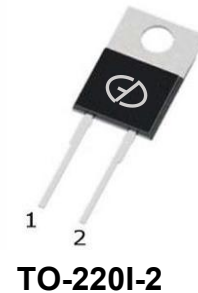


## 15A, 650V Silicon Carbide Schottky Diode

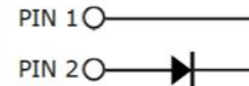
### Features

- 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



### 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

Maximum Ratings & Electrical Characteristics (T <sub>A</sub> =25°C unless otherwise noted)				
Parameter		Symbol	GS15D065SI	Unit
Maximum repetitive peak reverse voltage		V <sub>RRM</sub>	650	V
Working peak reverse voltage		V <sub>RWM</sub>	650	V
Maximum DC blocking voltage		V <sub>DC</sub>	650	V
Maximum average forward rectified current	T <sub>C</sub> =25°C	I <sub>F(AV)</sub>	47	A
	T <sub>C</sub> =135°C		24	
	T <sub>C</sub> =155°C		15	
Peak forward surge current, t <sub>p</sub> =10ms, Half Sine Pulse		I <sub>FSM</sub>	128	A
Power dissipation	T <sub>C</sub> =25°C	P <sub>tot</sub>	107	W
	T <sub>C</sub> =110°C		46	
Operating junction temperature range		T <sub>J</sub>	-55 to +175	°C
Storage temperature range		T <sub>STG</sub>	-55 to +175	°C

<b>Electrical Specifications</b> (T <sub>A</sub> =25°C unless otherwise noted)					
Parameter	Symbol	Test Conditions	Typ	Max	Unit
Forward drop voltage	V <sub>F</sub>	I <sub>F</sub> =15A, T <sub>J</sub> =25°C	1.3	1.5	V
		I <sub>F</sub> =15A, T <sub>J</sub> =175°C	1.5	-	
Reverse leakage current @rated V <sub>R</sub>	I <sub>R</sub>	V <sub>R</sub> =650V, T <sub>J</sub> =25°C	5	50	μA
		V <sub>R</sub> =650V, T <sub>J</sub> =175°C	10	100	
Total capacitive charge	Q <sub>C</sub>	V <sub>R</sub> =400V, T <sub>J</sub> =25°C	27	-	nC
Total capacitance	C	V <sub>R</sub> =400V, T <sub>J</sub> =25°C, f=1MHz	43	-	pF

<b>Thermal-Mechanical Specifications</b> (T <sub>A</sub> =25°C unless otherwise noted)				
Parameter	Symbol	Typ	Max	Unit
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	1.4	-	°C /W

## Ratings and Characteristics Curves

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

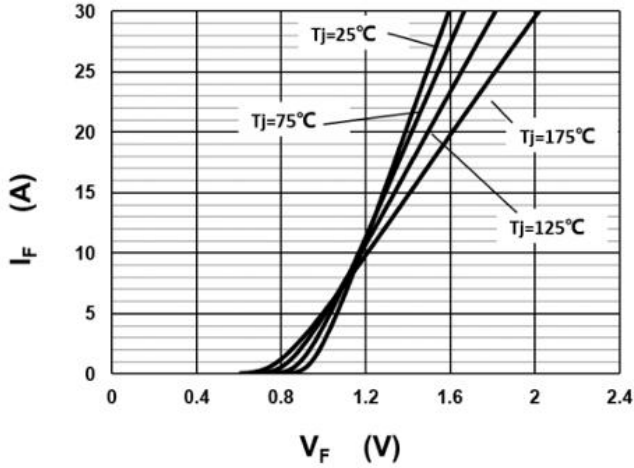


Fig.1 -Forward Characteristics

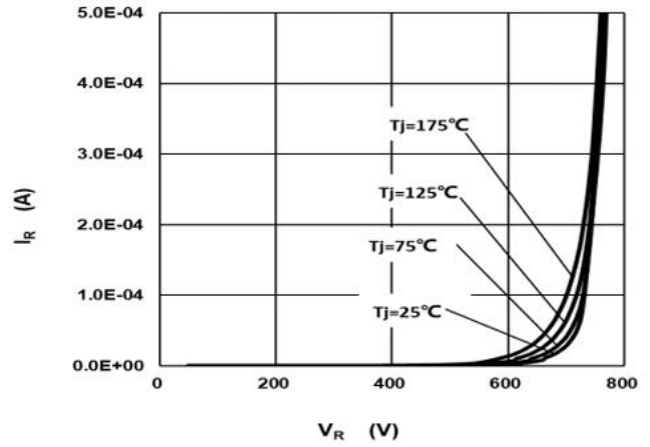


Fig.2 -Reverse Characteristics

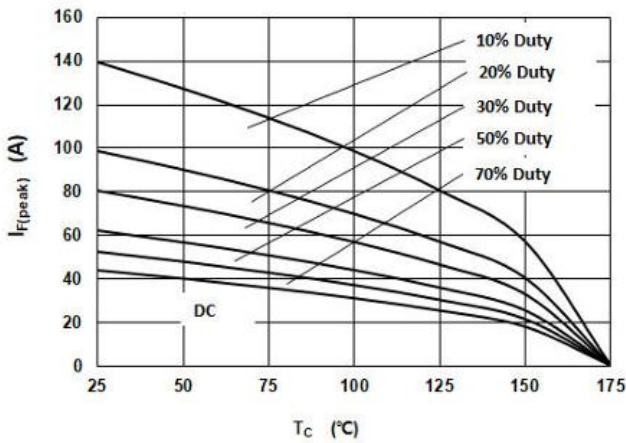


Fig.3 -Current Derating

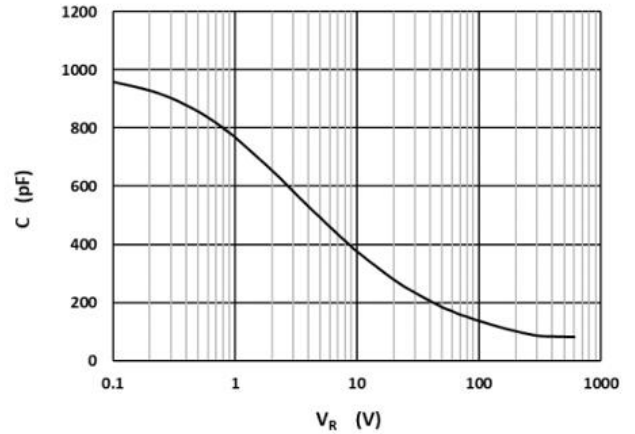


Fig.4 -Capacitance vs. Reverse Voltage

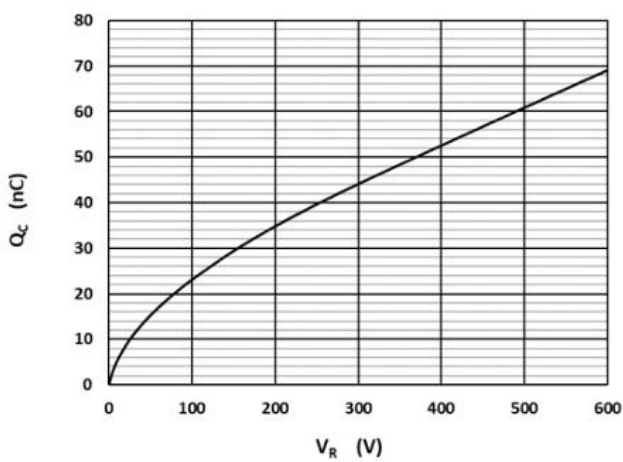


Fig.5 -Total Capacitance Charge vs. Reverse Voltage

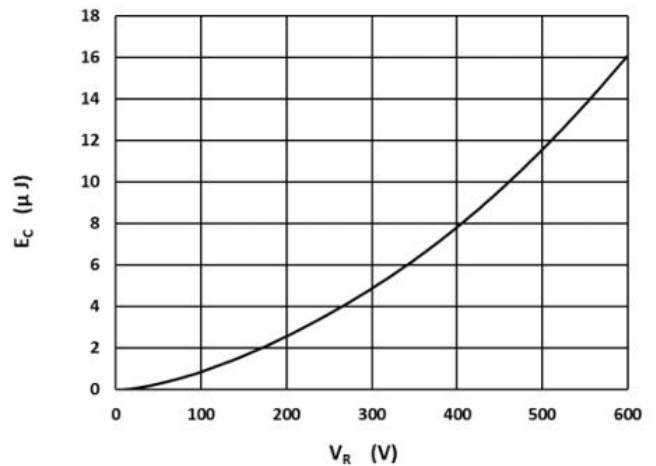
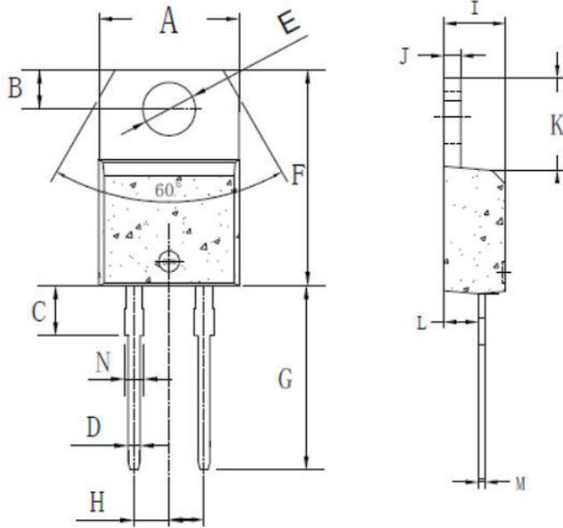


Fig.6 -Typical Capacitance Stored Energy

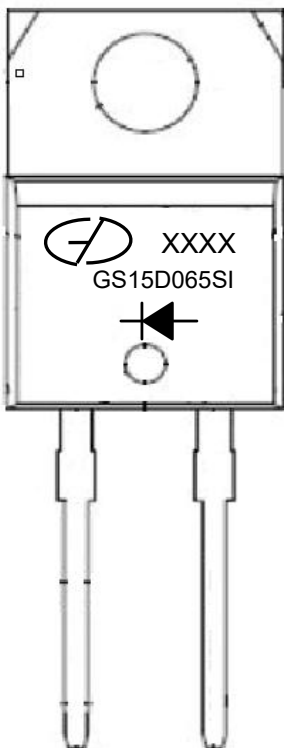
## Package Outline Dimensions (Unit: millimeters)



### TO-220I-2



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	9.8	10.4	0.385	0.409
B	2.65	3.1	0.104	0.122
C	2.8	4.2	0.110	0.165
D	0.7	0.92	0.027	0.036
E	3.75	3.95	0.147	0.155
F	14.8	16.1	0.582	0.633
G	13.05	13.6	0.513	0.535
H	4.9	5.3	0.192	0.208
I	4.38	4.61	0.172	0.181
J	1.15	1.36	0.045	0.053
K	5.85	6.82	0.230	0.268
L	2.35	2.75	0.092	0.108
M	0.35	0.65	0.013	0.025
N	1.18	1.42	0.046	0.055

## Marking Outline



1. Logo Mark: 
2. Data code: XXXX
3. Part Name:GS15D065SI
4. Polarity : 

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