

## 2A, 650V Silicon Carbide Schottky Diode

### Features

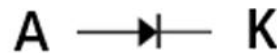
- High-Frequency Operation
- Zero Reverse Recovery Current
- Temperature-Independent Switching
- Extremely Fast Switching
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21



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### 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 2500 units per reel

### Maximum Ratings & Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	GS02D065SAF	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	6	A
	T <sub>C</sub> =135°C	3	
	T <sub>C</sub> =158°C	2	
Peak forward surge current, t <sub>p</sub> =10ms, Half Sine Pulse	I <sub>FSM</sub>	18	A
Power dissipation	T <sub>C</sub> =25°C	19	W
	T <sub>C</sub> =110°C	8	
Operating junction temperature range	T <sub>J</sub>	-55 to +175	°C
Storage temperature range	T <sub>STG</sub>	-55 to +175	°C

## Electrical Specifications (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> =2A, T <sub>J</sub> =25°C	1.3	1.5	V
		I <sub>F</sub> =2A, 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	3	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	3.8	-	nC
Total capacitance	C	V <sub>R</sub> =400V, T <sub>J</sub> =25°C, f=1MHz	8	-	pF

## Thermal-Mechanical Specifications (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Typ	Max	Unit
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	7.7	-	°C /W

## Ratings and Characteristics Curves

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

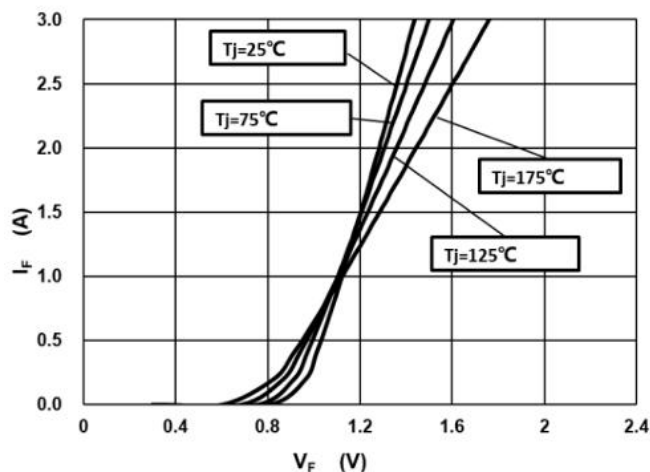


Fig.1 –Forward Characteristics

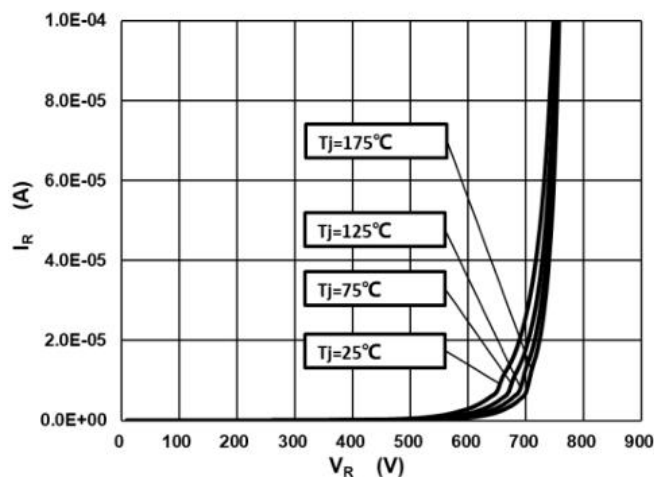


Fig.2 –Reverse Characteristics

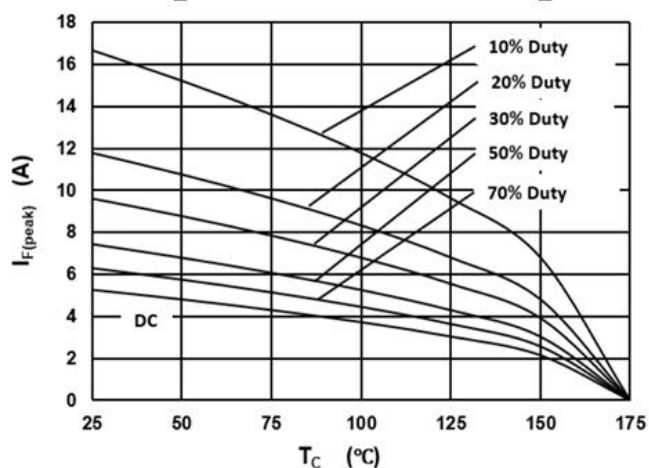


Fig.3 –Current Derating

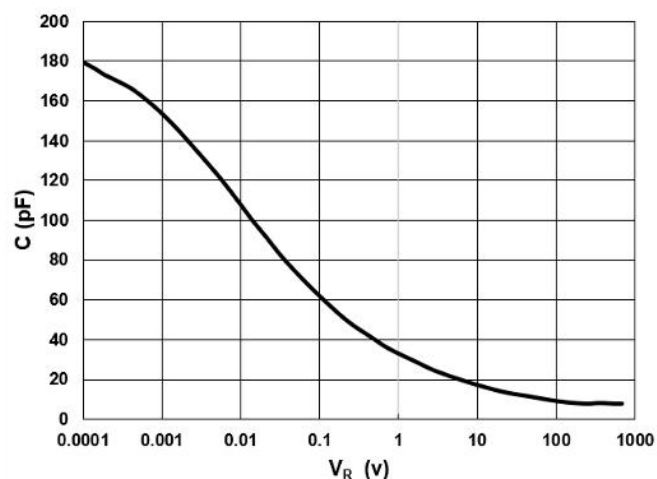


Fig.4 –Capacitance vs. Reverse Voltage

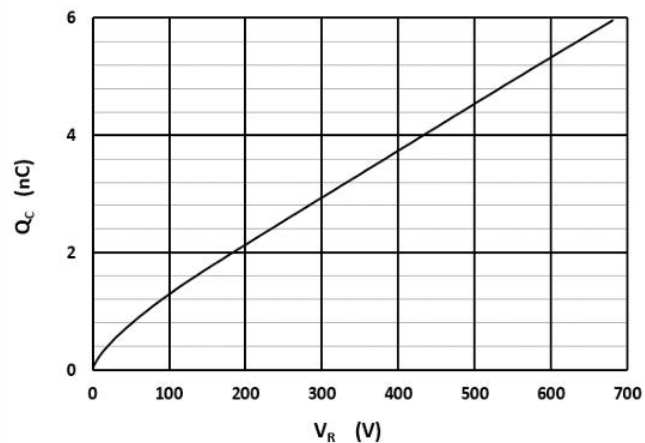


Fig.5 –Total Capacitance Charge vs. Reverse Voltage

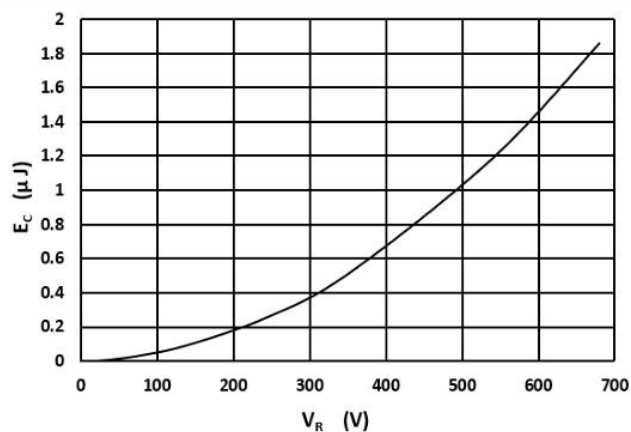
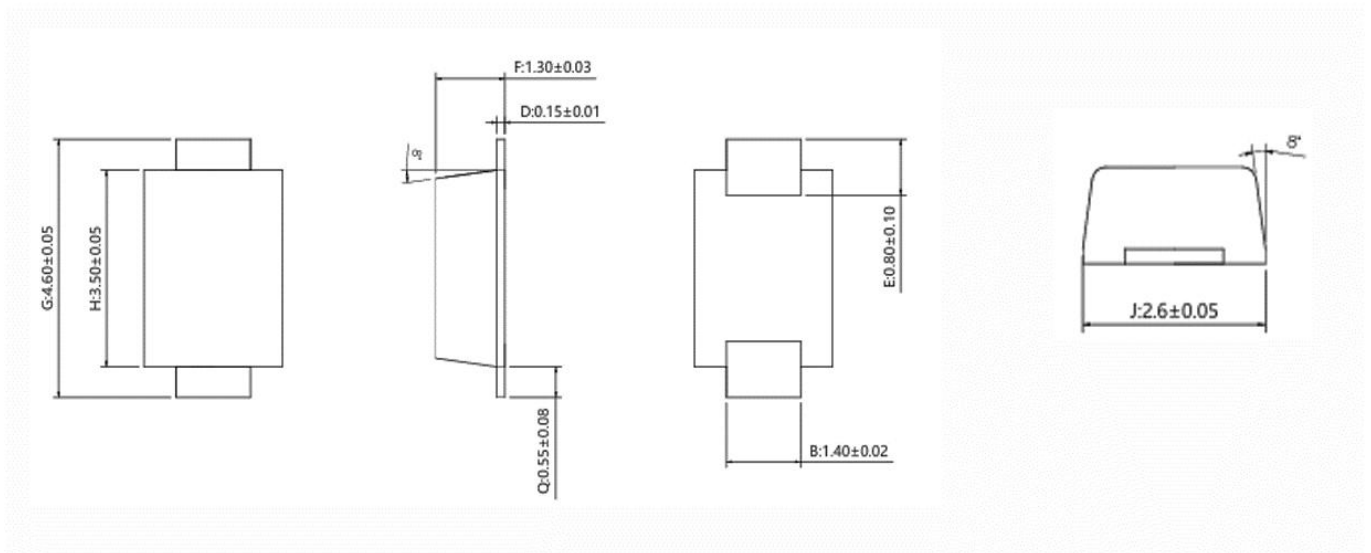


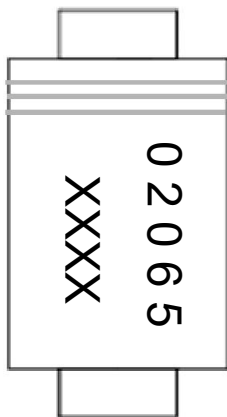
Fig.6 –Typical Capacitance Stored Energy

## Package Outline Dimensions (Unit: millimeters)

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## Marking Outline



1. Logo Mark:
2. Data code: XXXX
3. Part Name: 02065
4. Polarity :

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