

40A, 650V Silicon Carbide Schottky Diode

Features

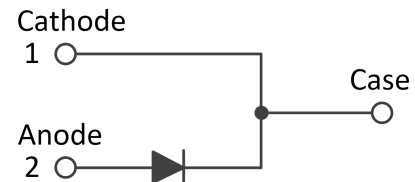
- High-Frequency Operation
- Zero Reverse Recovery Current
- Temperature-Independent Switching
- Extremely Fast Switching
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21



TO-247AC

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 30 units per plastic tube

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

Parameter	Symbol	GS40D065SP	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	98	A
	T _C =135°C	50	
	T _C =150°C	40	
Peak forward surge current, t _p =10ms, Half Sine Pulse	I _{FSM}	270	A
Power dissipation	T _C =25°C	267	W
	T _C =110°C	116	
Operating junction temperature range	T _J	-55 to +175	°C
Storage temperature range	T _{STG}	-55 to +175	°C

Electrical Specifications (T_A=25°C unless otherwise noted)

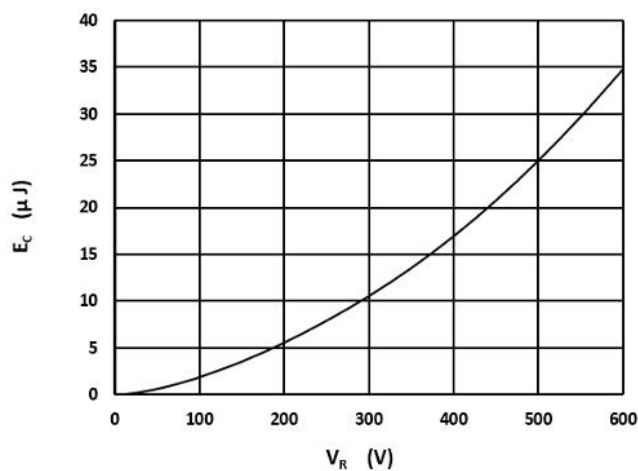
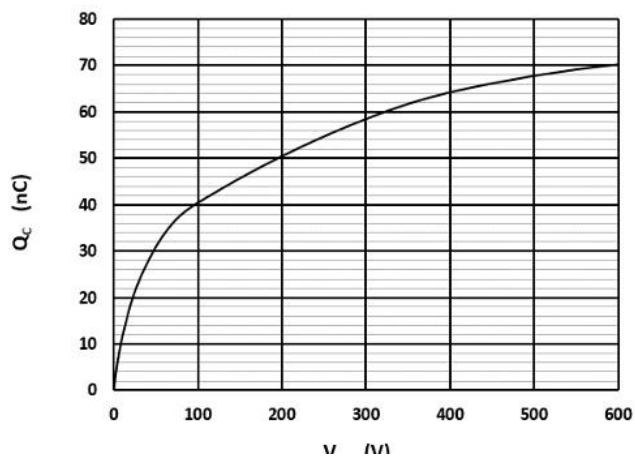
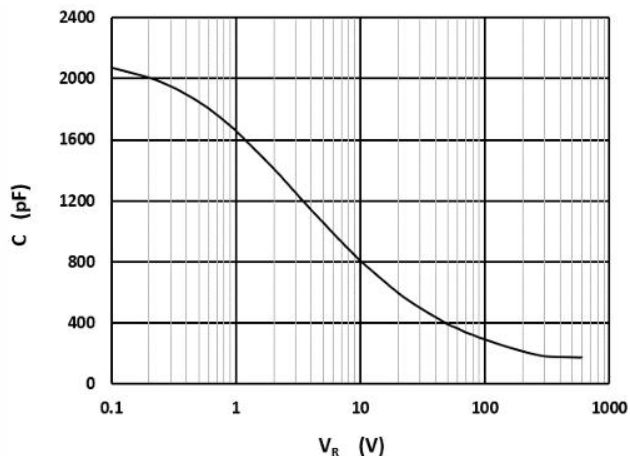
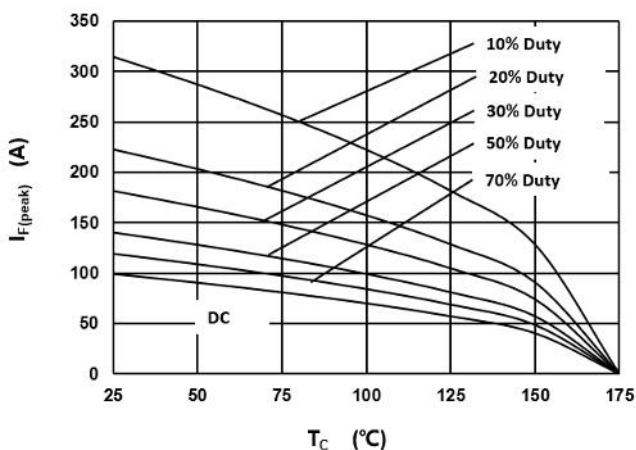
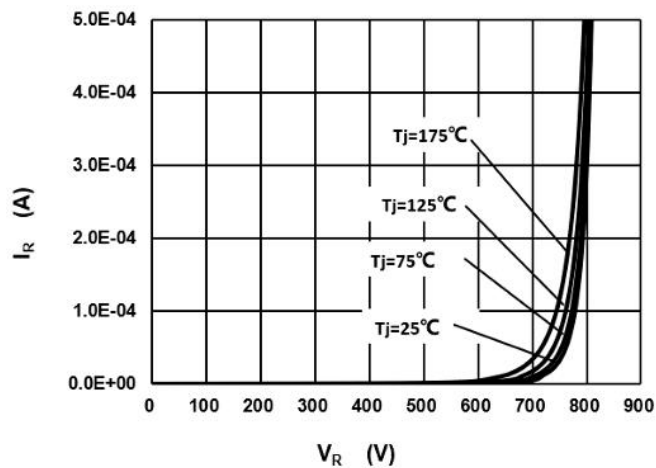
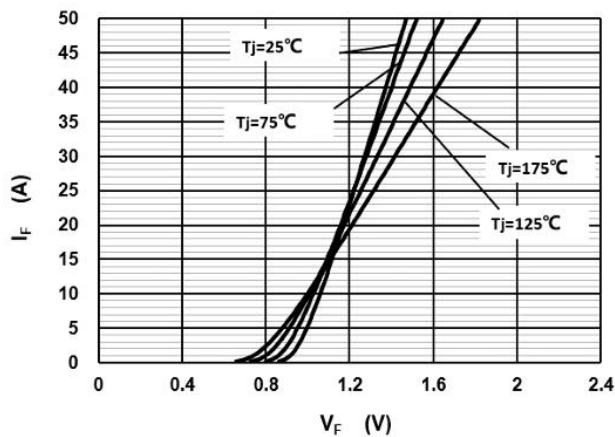
Parameter	Symbol	Test Conditions	Typ	Max	Unit
Forward drop voltage	V _F	I _F =40A, T _J =25°C	1.35	1.55	V
		I _F =40A, T _J =175°C	1.7	-	
Reverse leakage current @rated V _R	I _R	V _R =650V, T _J =25°C	10	50	μA
		V _R =650V, T _J =175°C	20	200	
Total capacitive charge	Q _C	V _R =400V, T _J =25°C	64	-	nC
Total capacitance	C	V _R =400V, T _J =25°C, f=1MHz	158	-	pF

Thermal-Mechanical Specifications (T_A=25°C unless otherwise noted)

Parameter	Symbol	Typ	Max	Unit
Thermal Resistance, Junction to Case	R _{θJC}	0.56	-	°C /W

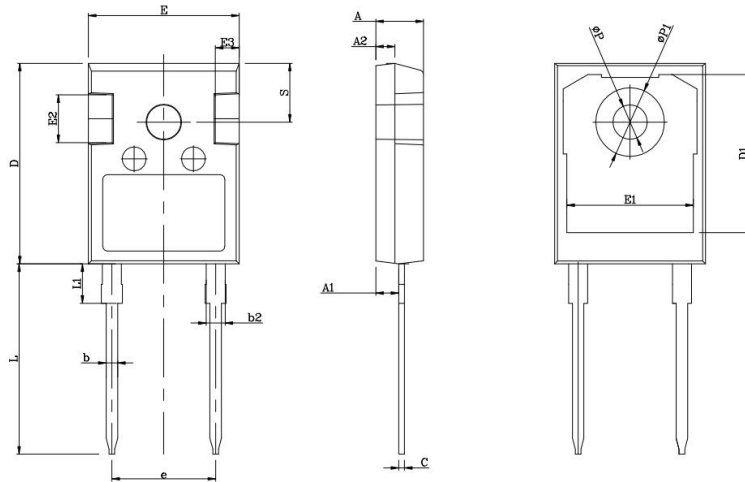
Ratings and Characteristics Curves

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



Package Outline Dimensions (Unit: millimeters)

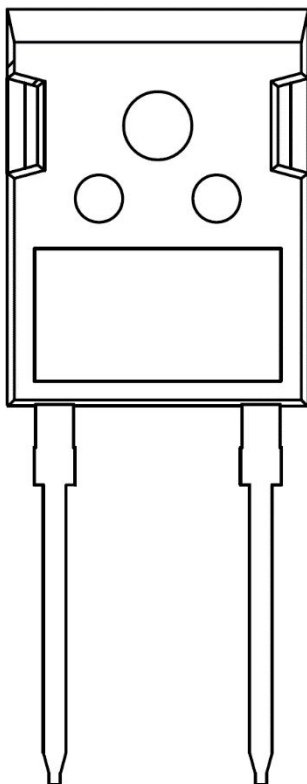
TO-247AC



COMMON DIMENSIONS

SYMBOL	mm		
	Min	Nom	Max
A	4.80	5.00	5.20
A1	2.23	2.41	2.59
A2	1.85	2.00	2.15
b	1.11	1.21	1.36
b2	1.91	2.01	2.21
c	0.51	0.61	0.75
D	20.80	21.00	21.30
D1	16.25	16.55	16.85
E	15.50	15.80	16.10
E1	13.00	13.26	13.56
E2	4.80	5.00	5.20
E3	2.30	2.50	2.70
e	10.88BSC		
L	19.82	19.92	20.22
L1	3.94	4.12	4.30
OP	3.66	3.68	3.75
OP1	7.08	7.19	7.30
S	6.15BSC		

Marking Outline



1. Logo Mark:
2. Data code: XXXX
3. Part Name:GS40D065SP
4. Polarity : 

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