



## Silicon Carbide Schottky Diode

### ➤ Features

VR	IF	VF
650V	2A	1.4V

### ➤ Description

- 650V Schottky Rectifier
- High Frequency Operation
- Extremely Fast Switching
- Positive Temperature Coefficient on  $V_F$

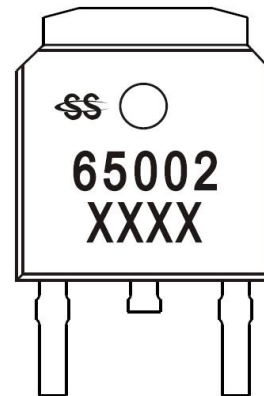
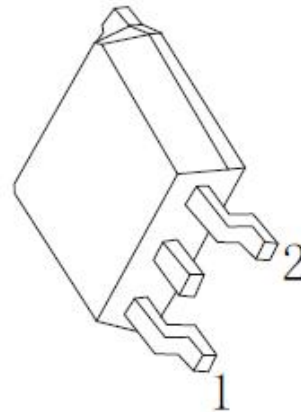
### ➤ Applications

- Power Supplies
- Power Factor Correction
- Motor Drives

### ➤ Ordering Information

Device	Package	Shipping
SSC65002AT8	TO252-2L	2.5K/Reel

### ➤ Pin Configuration



Marking

(XXXX: Year/Week)



➤ **Absolute Maximum Ratings**(TA=25°C unless otherwise noted)

Symbol	Parameter		Ratings	Unit
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage		650	V
V <sub>RSM</sub>	Surge Peak Reverse Voltage		650	V
V <sub>DS</sub>	DC Blocking Voltage		650	V
I <sub>F</sub>	Continuous Forward Current	T <sub>C</sub> =150°C	2	A
I <sub>FRM</sub>	Repetitive Peak Forward Surge Current <sup>A</sup>		11	A
I <sub>FSM</sub>	Non-Repetitive Peak Forward Surge Current <sup>A</sup>		16	A
I <sub>F MAX</sub>	Non-Repetitive Peak Forward Surge Current <sup>B</sup>		120	A
P <sub>TOT</sub>	Power Dissipation	T <sub>C</sub> =25°C	39	W
T <sub>J</sub> T <sub>STG</sub>	Operating Junction and Storage Temperature		-55~+175	°C

➤ **Thermal Resistance Ratings**(TA=25°C unless otherwise noted)

Symbol	Parameter	Ratings	Unit
R <sub>θJC</sub>	Thermal Resistance Junction-to-Case	3.8	°C/W

Note:

A. T<sub>C</sub>=25°C, t=10ms, Half Sine Wave;

B. T<sub>C</sub>=25°C, t=10us, Pulse;



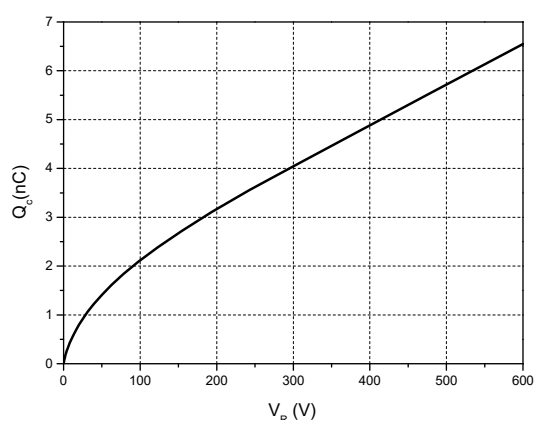
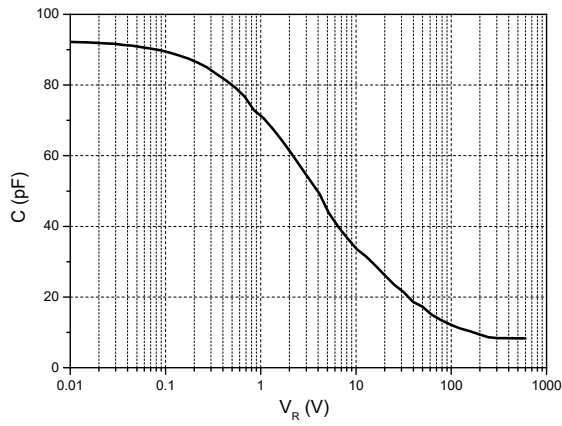
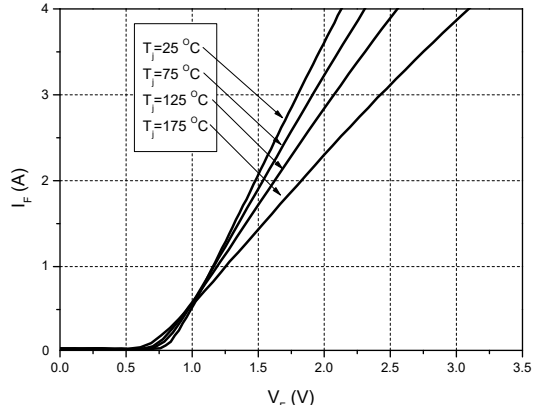
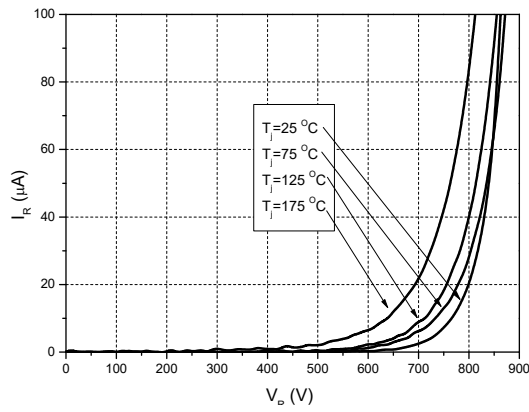
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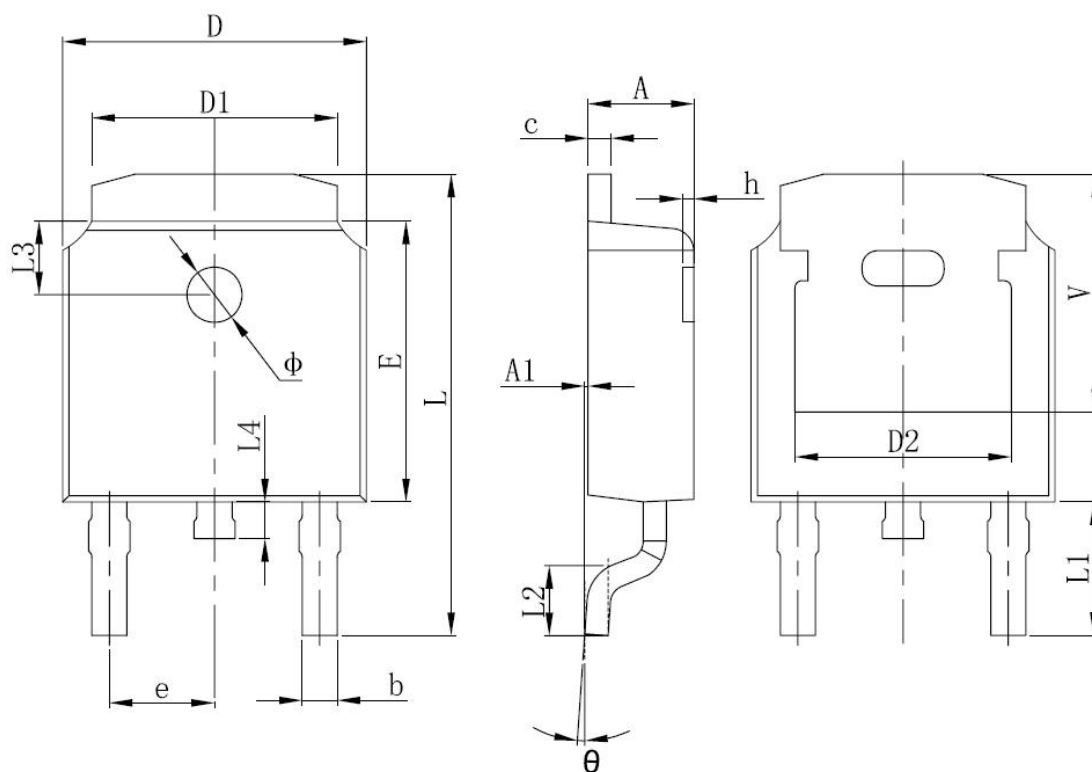
➤ **Electronics Characteristics**(TA=25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	Typ.	Max.	Unit
V <sub>F</sub>	Forward Voltage	IF=2A TJ=25°C	1.4	1.8	V
		IF=2A TJ=175°C	1.8	2.1	
I <sub>R</sub>	Reverse Current	VR=650V TJ=25°C	1	20	uA
		VR=650V TJ=175°C	12	100	
Q <sub>C</sub>	Total Charge	VR=400V IF=2A TJ=25°C	4.8		nC
C	Total Capacitive	VR=0V TJ=25°C f=1MHz	95		pF
		VR=200V TJ=25°C f=1MHz	10		
		VR=400V TJ=25°C f=1MHz	9		
E <sub>C</sub>	Capacitance Stored Energy	VR=400V	1.4		uJ



➤ Typical Characteristics (TA=25°C unless otherwise noted)



**➤ Package Information**


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	



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