



Silicon Carbide Schottky Diode

➤ Features

VR	IF	VF
1200V	20A	1.5V

➤ Description

- 1200V Schottky Rectifier
- High Frequency Operation
- Extremely Fast Switching
- Positive Temperature Coefficient on V_F

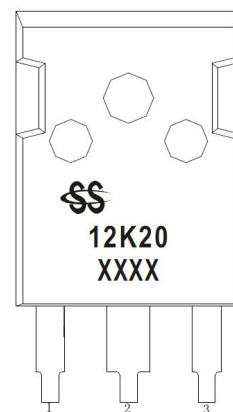
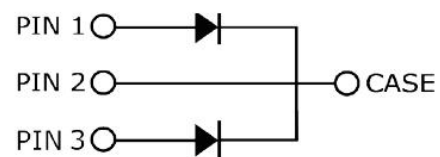
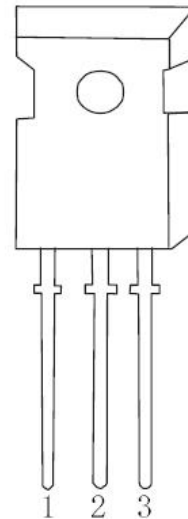
➤ Applications

- Power Supplies
- Power Factor Correction
- Motor Drives

➤ Ordering Information

Device	Package	Shipping
SSC12K20AT2	TO247-3L	0.3K/Box

➤ Pin Configuration



Marking

(XXXX: Year/Week)



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

Symbol	Parameter		Ratings	Unit
V_{RRM}	Repetitive Peak Reverse Voltage		1200	V
V_{RSM}	Surge Peak Reverse Voltage		1200	V
V_{DS}	DC Blocking Voltage		1200	V
I_F	Continuous Forward Current	$T_C=150^{\circ}\text{C}$	20	A
I_{FRM}	Repetitive Peak Forward Surge Current ^A		100	A
I_{FSM}	Non-Repetitive Peak Forward Surge Current ^A		185	A
$I_{F\text{ MAX}}$	Non-Repetitive Peak Forward Surge Current ^B		1200	A
P_{TOT}	Power Dissipation	$T_C=25^{\circ}\text{C}$	272	W
$T_J\ T_{STG}$	Operating Junction and Storage Temperature		-55~+175	°C

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

Symbol	Parameter	Ratings	Unit
$R_{\theta JC}$	Thermal Resistance Junction-to-Case	0.55	°C/W

Note:

A. $T_C=25^{\circ}\text{C}$, $t=10\text{ms}$, Half Sine Wave;

B. $T_C=25^{\circ}\text{C}$, $t=10\mu\text{s}$, Pulse;



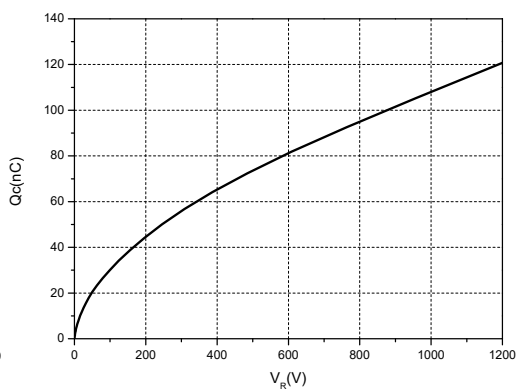
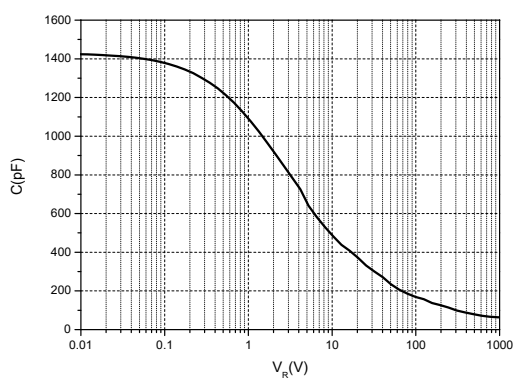
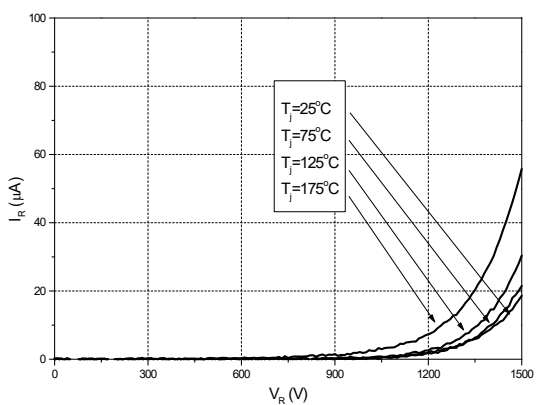
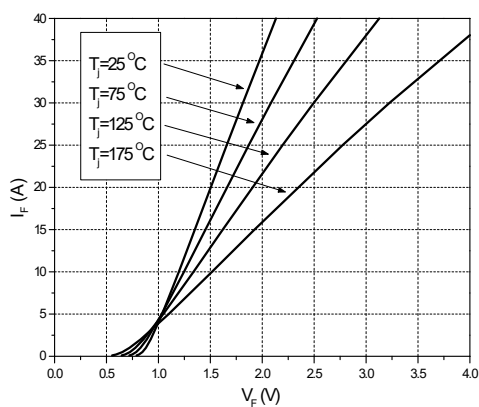
SSC12K20AT2

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

Symbol	Parameter	Test Conditions	Typ.	Max.	Unit
V _F	Forward Voltage	IF=20A TJ=25°C	1.5	1.8	V
		IF=20A TJ=175°C	2.2	3	
I _R	Reverse Current	VR=1200V TJ=25°C	10	50	uA
		VR=1200V TJ=175°C	20	100	
Q _C	Total Charge	VR=800V IF=20A TJ=25°C	95		nC
C	Total Capacitive	VR=0V TJ=25°C f=1MHz	1430		pF
		VR=400V TJ=25°C f=1MHz	89		
		VR=800V TJ=25°C f=1MHz	65		
E _C	Capacitance Stored Energy	VR=800V	50		uJ

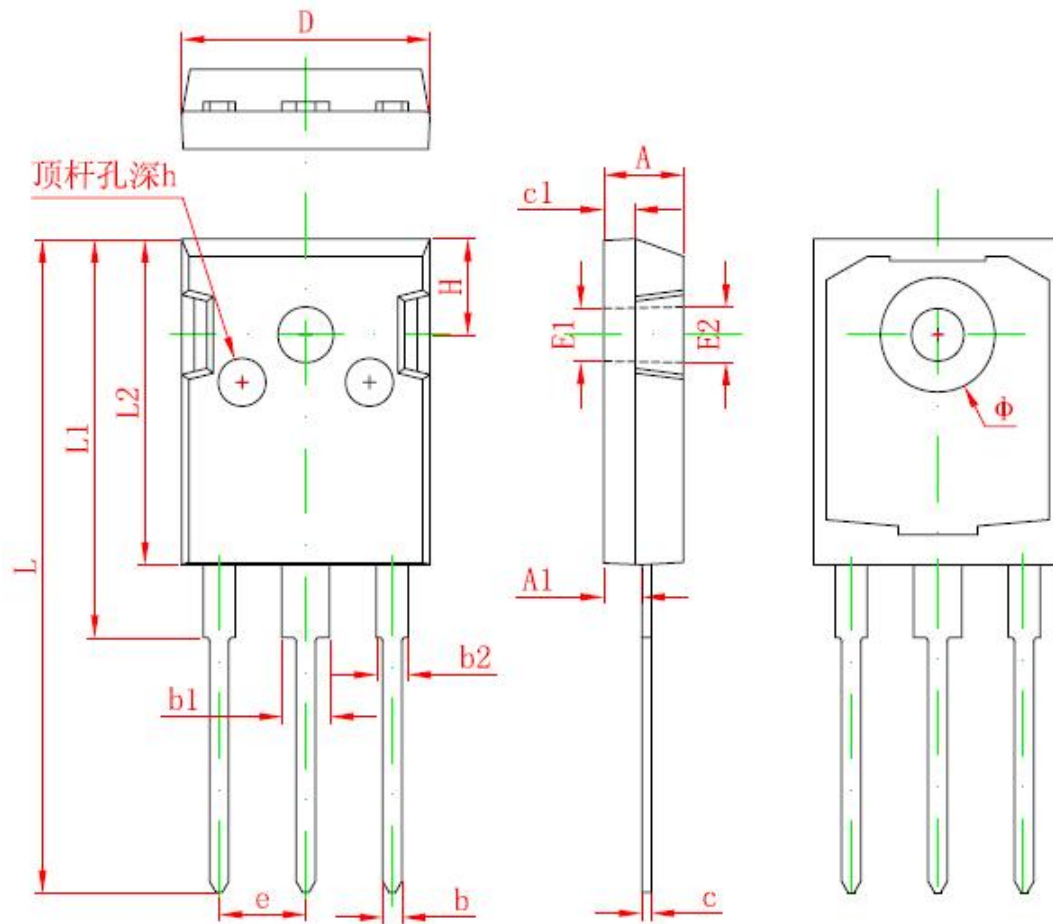


➤ **Typical Characteristics**(TA=25°C unless otherwise noted)





➤ Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.850	5.150	0.191	0.200
A1	2.200	2.600	0.087	0.102
b	1.000	1.400	0.039	0.055
b1	2.800	3.200	0.110	0.126
b2	1.800	2.200	0.071	0.087
c	0.500	0.700	0.020	0.028
c1	1.900	2.100	0.075	0.083
D	15.450	15.750	0.608	0.620
E1	3.500 REF		0.138 REF	
E2	3.600 REF		0.142 REF	
L	40.900	41.300	1.610	1.626
L1	24.800	25.100	0.976	0.988
L2	20.300	20.600	0.799	0.811
Φ	7.100	7.300	0.280	0.287
e	5.450 TYP		0.215 TYP	
H	5.980 REF		0.235 REF	
h	0.000	0.300	0.000	0.012



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