

Product Summary

V_{RRM}	I_F	Q_c
1200V	20A	116nC



合肥矽普半导体

Siliup Semiconductor Technology Co., Ltd

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Feature

- Negligible reverse recovery
- High-speed switching
- Positive Temperature Coefficient
- Temperature-Independent Switching

Applications

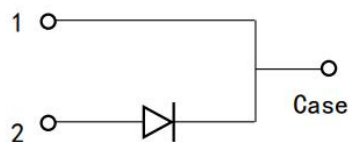
- Switch mode power supply
- Solar inverter
- Data Center
- Uninterruptible power supply

Package

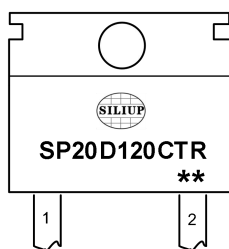


TO-220-2L

Circuit diagram



Marking



SP20D120CTR :Device Code
** :Week Code

Order Information

Device	Package	Unit/Tube
SP20D120CTR	TO-220-2L	50

Absolute maximum ratings (Tc=25°C, unless otherwise noted)

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{RRM}	1200	V
Continuous forward current (T _C =25°C)	I_F	20	A
Non-repetitive forward surge current	I_{FSM}	175	A
Repetitive Peak Forward Surge Current	I_{FRM}	80	A
Power Dissipation(T _C =25°C)	P_D	227	W
Power Dissipation(T _C =150°C)		98	
Thermal Resistance Junction-to-Case	$R_{\theta JC}$	0.55	°C/W
Storage Temperature Range	T_{STG}	-55 to 175	°C
Operating Junction Temperature Range	T_J	-55 to 175	°C

Electrical characteristics (Ta=25°C, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
DC blocking voltage	V_{DC}		1200	-	-	V
Forward voltage	V_F	$I_F=20A, T_C=25^{\circ}C$	-	1.45	1.65	V
		$I_F=20A, T_C=175^{\circ}C$	-	2.1	3	
Reverse current	I_R	$V_R=1200V, T_C=25^{\circ}C$	-	2	20	uA
		$V_R=1200V, T_C=175^{\circ}C$	-	6	200-	
Total capacitive charge	Q_C	$V_R=800V$	-	116	-	nC
Total capacitance	C	$V_R=0V, f=1MHZ$	-	1950	-	pF
		$V_R=400V, f=1MHZ$	-	105	-	
		$V_R=800V, f=1MHZ$	-	81	-	

Typical Characteristics

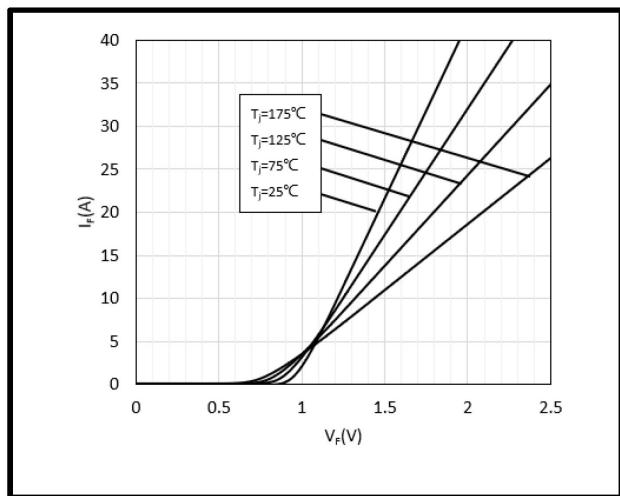


图 1 典型正向特性曲线

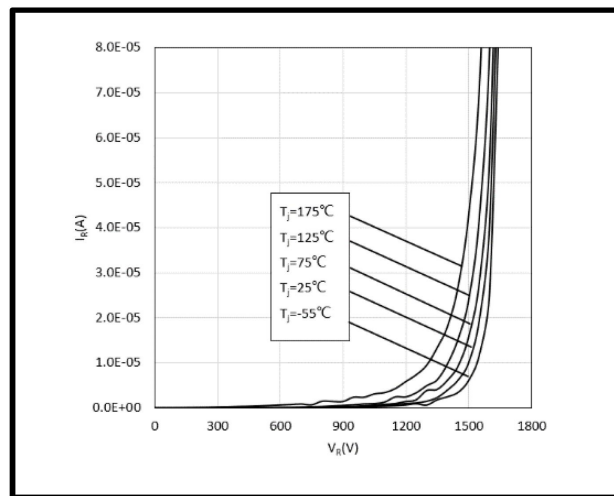


图 2 典型反向特性曲线

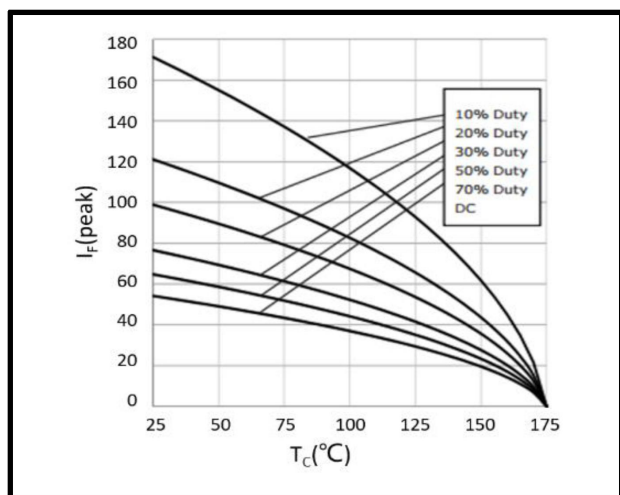


图 3 典型电流降额曲线

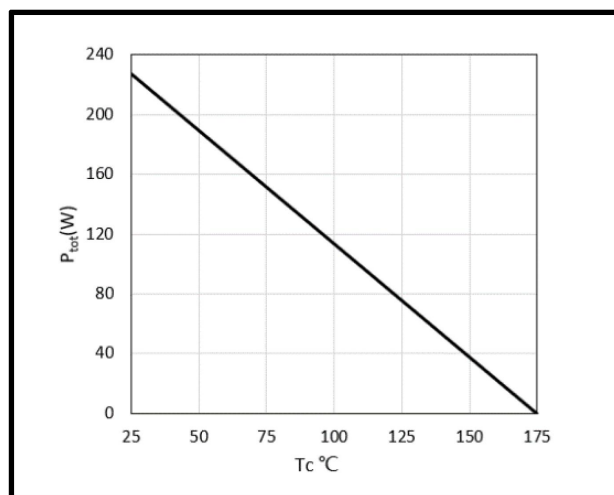


图 4 典型功率降额曲线

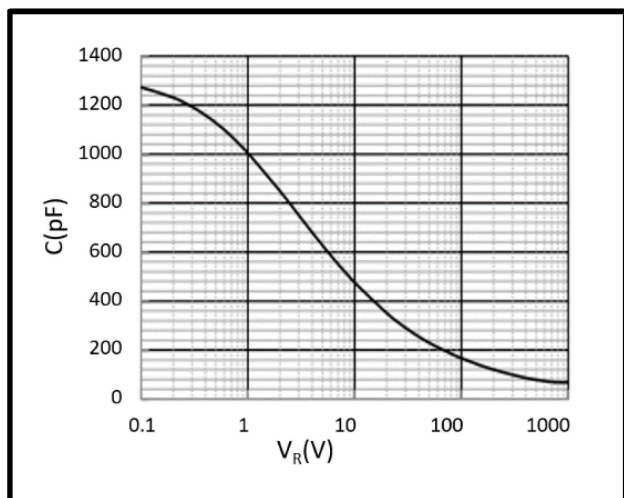


图 5 典型电容与反向电压曲线

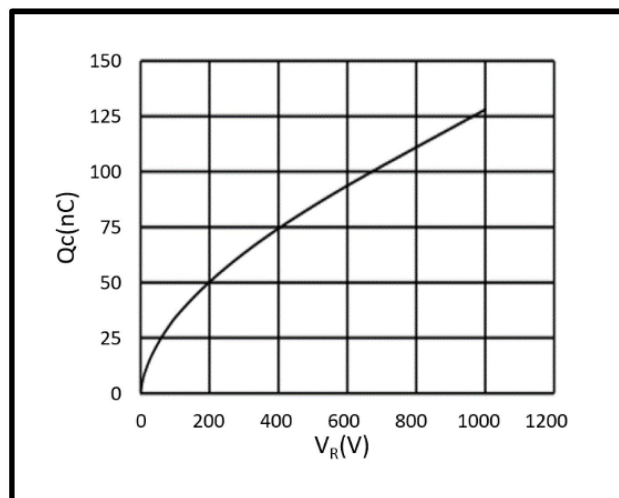


图 6 典型存储电荷与反向电压曲线

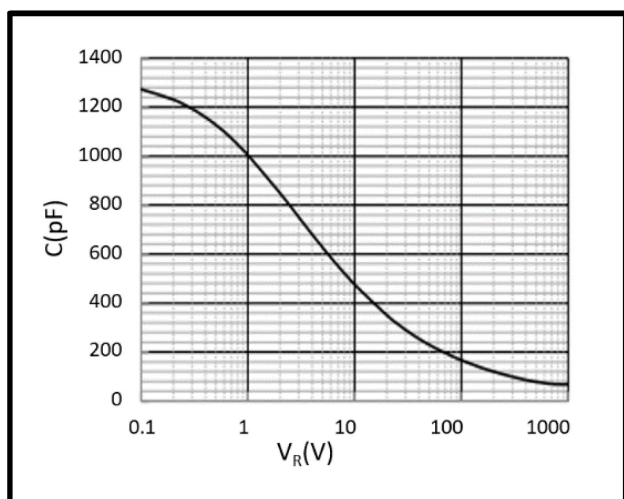


图 5 典型电容与反向电压曲线

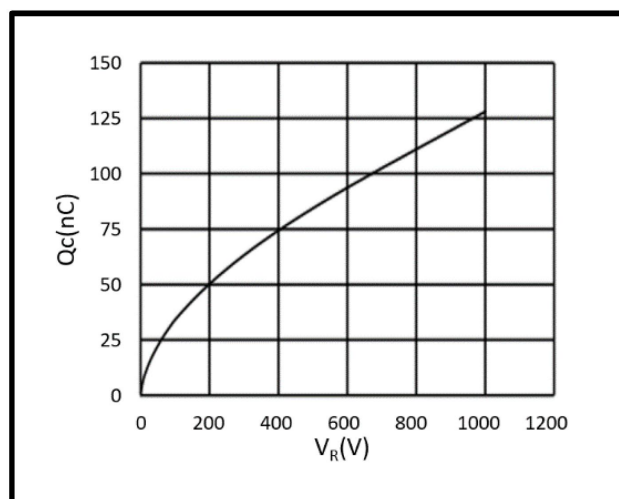
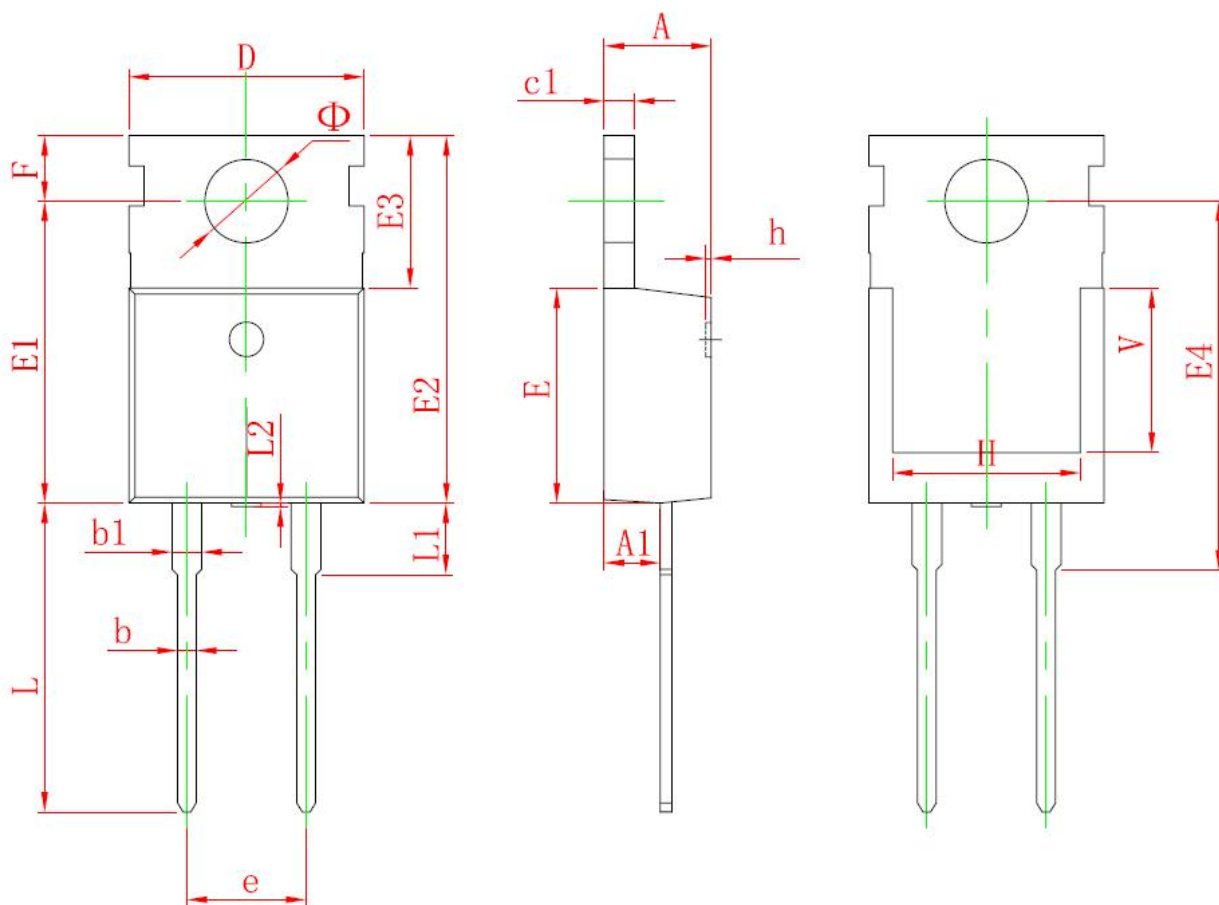


图 6 典型存储电荷与反向电压曲线

TO-220-2L Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.400	4.600	0.173	0.181
A1	2.250	2.550	0.089	0.100
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.330	0.650	0.013	0.026
c1	1.200	1.400	0.047	0.055
D	9.910	10.250	0.390	0.404
E	8.950	9.750	0.352	0.384
E1	12.700	13.000	0.500	0.512
E2	15.500	15.800	0.610	0.622
E3	6.350	6.650	0.250	0.262
E4	15.750	16.050	0.620	0.632
e	4.980	5.180	0.196	0.204
F	2.650	2.950	0.104	0.116
H	7.900	8.100	0.311	0.319
h	0.000	0.300	0.000	0.012
L	12.900	13.400	0.508	0.528
L1	2.850	3.250	0.112	0.128
L2	0.050	0.300	0.002	0.012
V	6.900 REF.		0.272 REF.	
Φ	3.400	3.800	0.134	0.150