

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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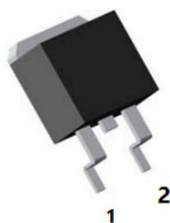
Feature

- 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

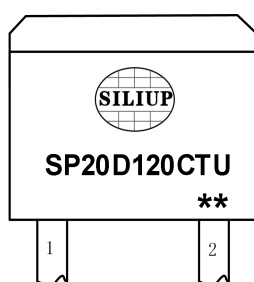


TO-263-2L

Circuit diagram



Marking



SP20D120CTU :Device Code
** :Week Code

Order Information

Device	Package	Unit/Tape
SP20D120CTU	TO-263	800

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	$I_F=20A, T_C=25^{\circ}C$	-	1.42	1.7	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

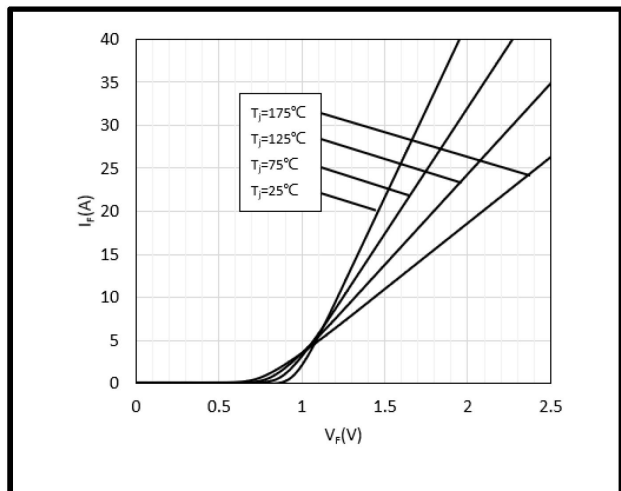


图 1 典型正向特性曲线

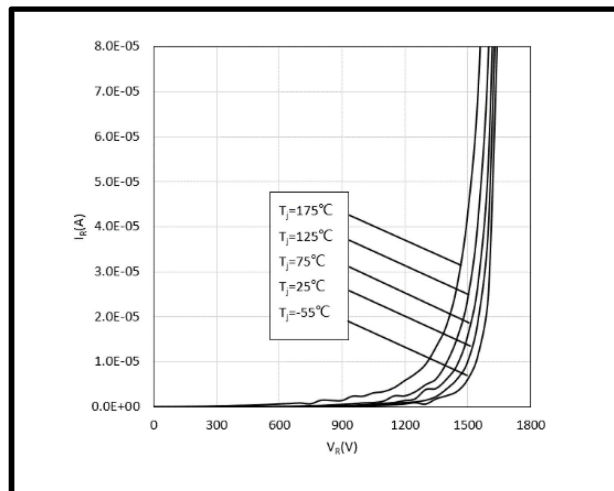


图 2 典型反向特性曲线

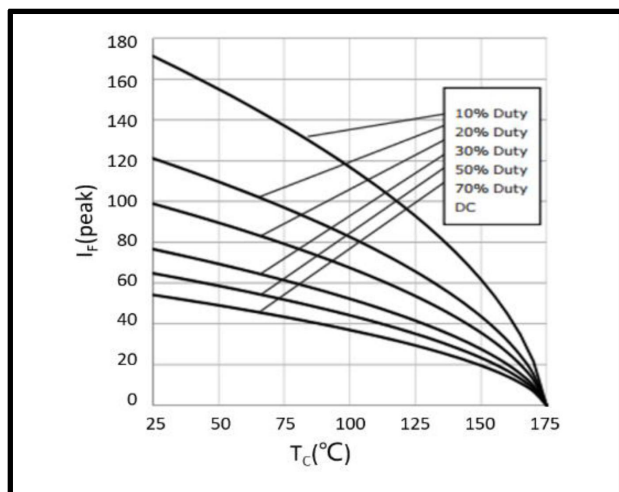


图 3 典型电流降额曲线

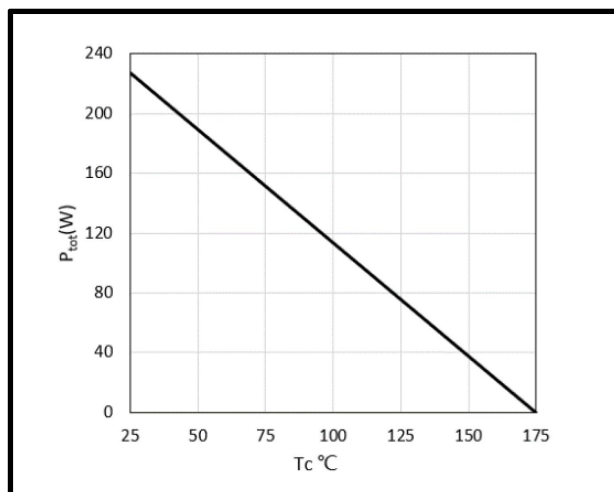


图 4 典型功率降额曲线

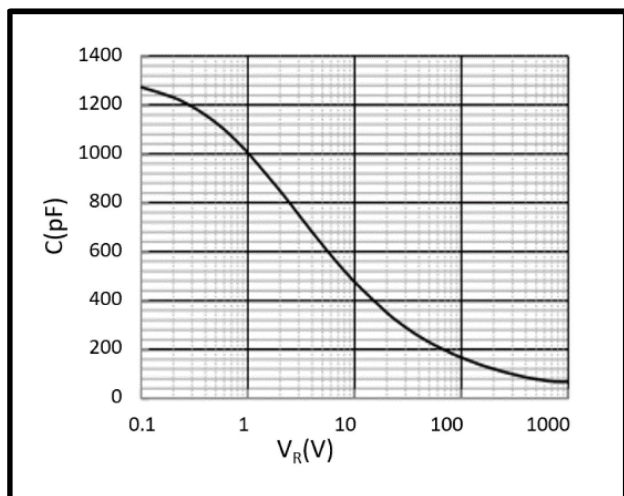


图 5 典型电容与反向电压曲线

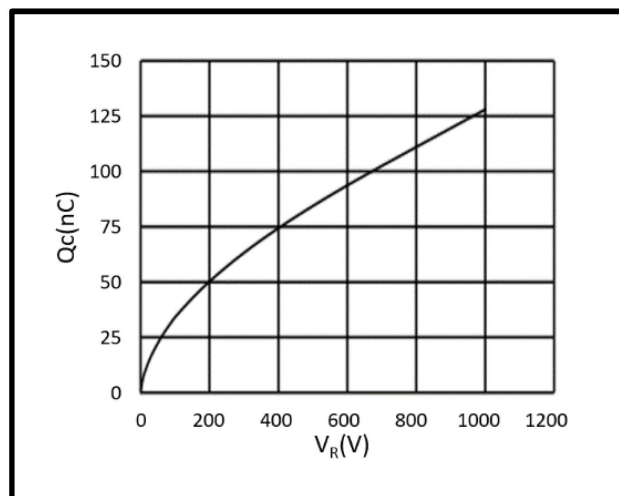


图 6 典型存储电荷与反向电压曲线

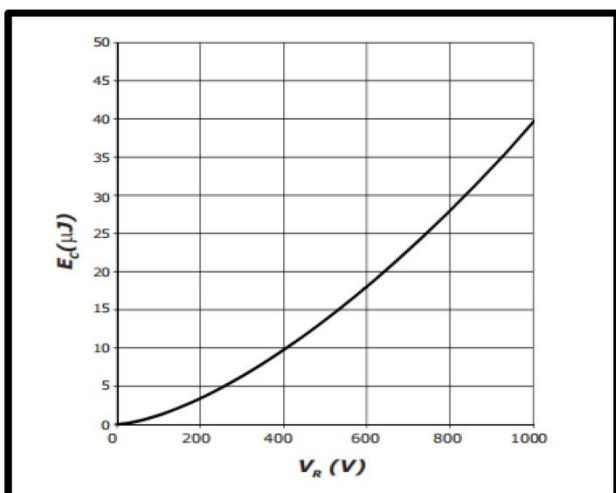


图 7 典型电容能量与反向电压曲线

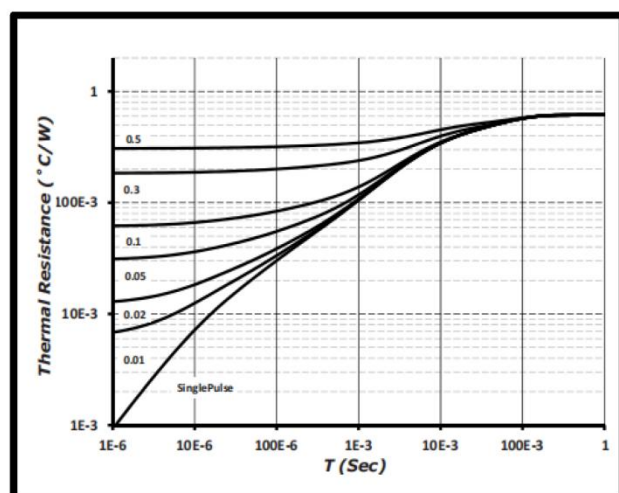
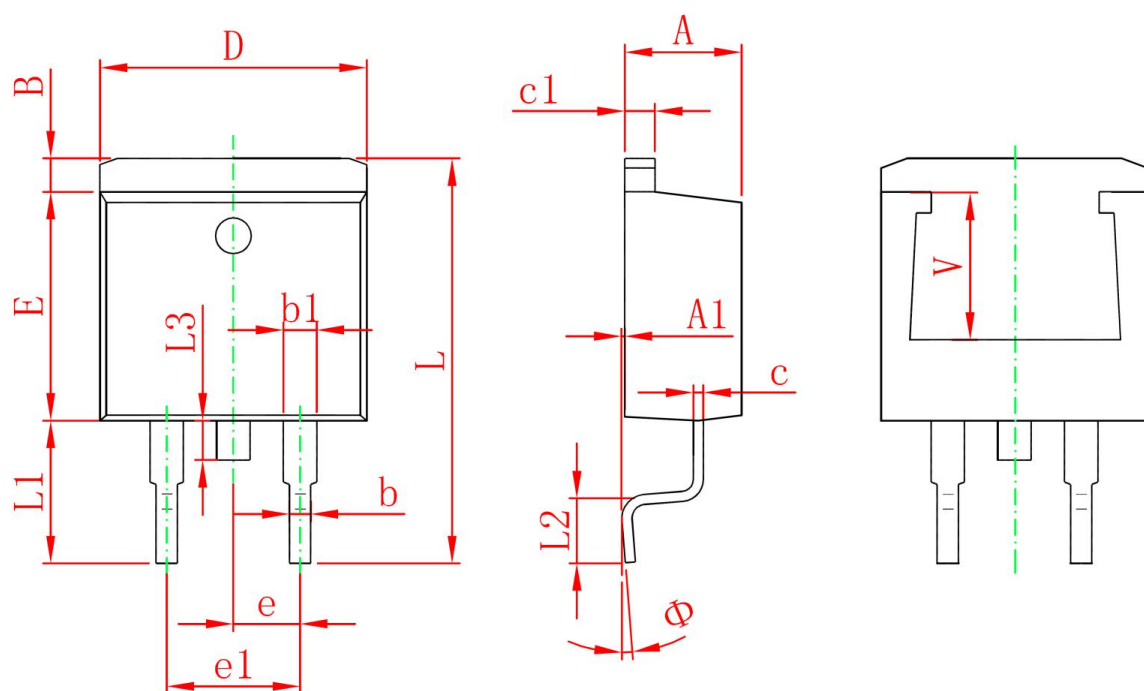


图 8 瞬态热阻抗

TO-263-2L Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.470	4.670	0.176	0.184
A1	0.000	0.150	0.000	0.006
B	1.120	1.420	0.044	0.056
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
e	2.540 TYP.		0.100 TYP.	
e1	4.980	5.180	0.196	0.204
L	14.940	15.500	0.588	0.610
L1	4.950	5.450	0.195	0.215
L2	2.340	2.740	0.092	0.108
L3	1.300	1.700	0.051	0.067
Φ	0°	8°	0°	8°
V	5.600 REF.		0.220 REF.	