

Product Summary

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

Feature

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

Applications

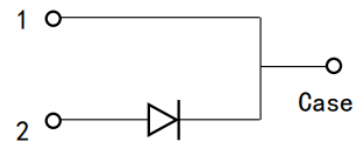
- Switch mode power supply
- Solar inverter
- Data Center
- Uninterruptible power supply

Package

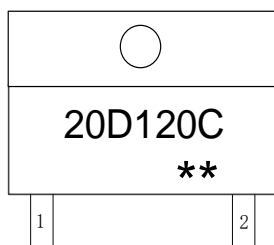


TO-220-2L

Circuit diagram



Marking



20D120 =Device Code
C =SiC product
** =Week Code

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

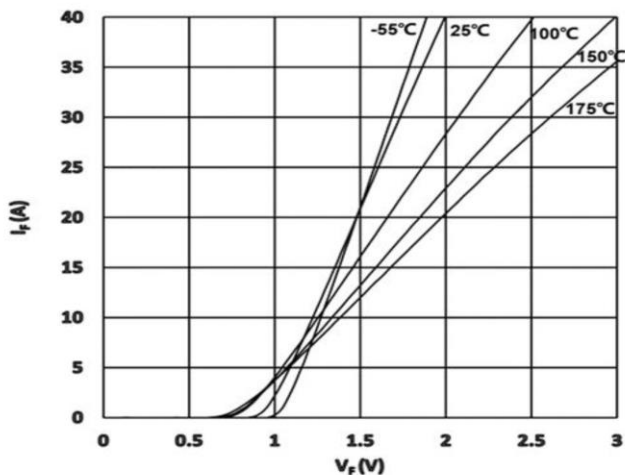
Parameter	Symbol	Rating	Units
Drain-Source Voltage	V _{RRM}	1200	V
Continuous forward current (T _c =25°C)	I _F	44	A
Continuous forward current (T _c =150°C)		20	
Non-repetitive forward surge current	I _{FSM}	170	A
Repetitive Peak Forward Surge Current	I _{FRM}	135	A
i ² t value	∫i ² dt	120	A ² S
Total Power Dissipation(T _c =25°C)	P _D	271	W
Total Power Dissipation(T _c =150°C)		48	
Thermal Resistance Junction-Case ¹	R _{θJC}	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 (T_a=25°C, unless otherwise noted)

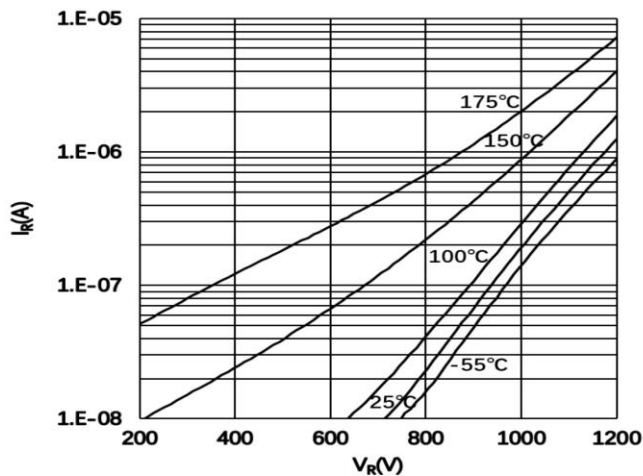
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
DC blocking voltage	V _{DC}		1200	---	---	V
Forward voltage	V _F	I _F =10A	---	1.22	---	V
		I _F =20A, T _c =25°C	---	1.45	1.8	
		I _F =20A, T _c =175°C	---	2.1	3.0	
Reverse current	I _R	V _R =1200V, T _c =25°C	---	2	20	uA
		V _R =1200V, T _c =175°C	---	10	200	
Total capacitive charge	Q _C	V _R =800V	---	116	---	nC
Total capacitance	C	V _R =1V, f=1MHZ	---	1950	---	pF
		V _R =400V, f=1MHZ	---	105	---	
		V _R =800V, f=1MHZ	---	81	---	
Capacitance Stored Energy	E _C	V _R =400V, T _c =25°C	---	4.1	---	uJ



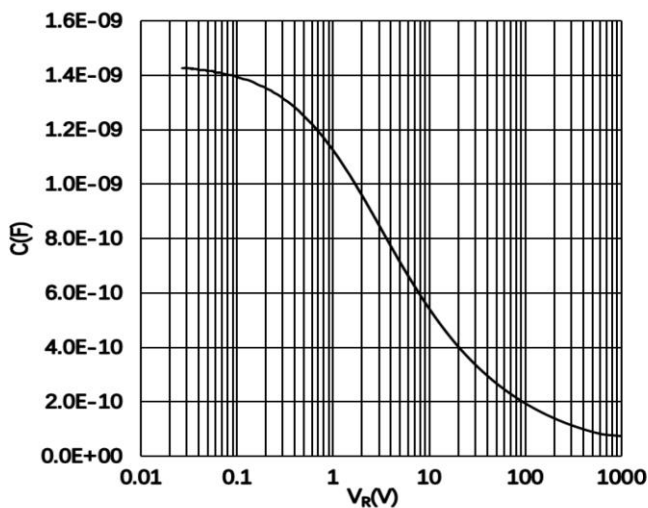
Typical Characteristics



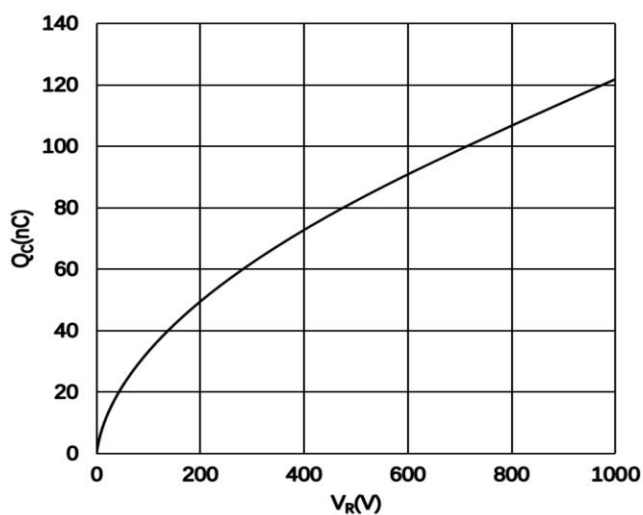
典型正向特性曲线



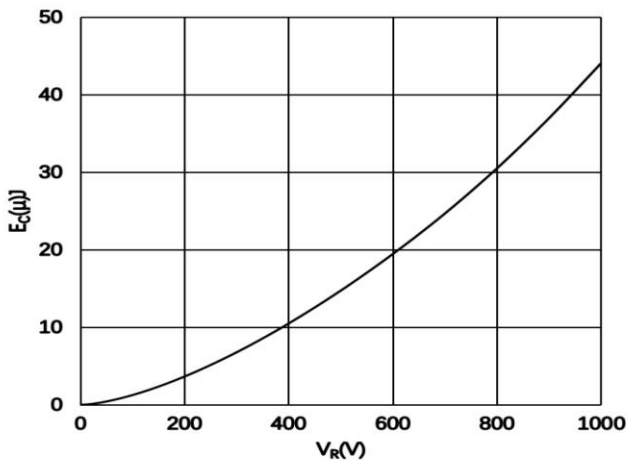
典型反向特性曲线



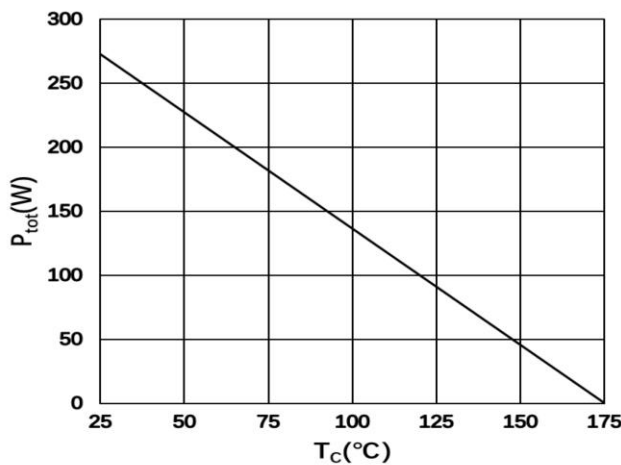
典型电容与反向电压曲线



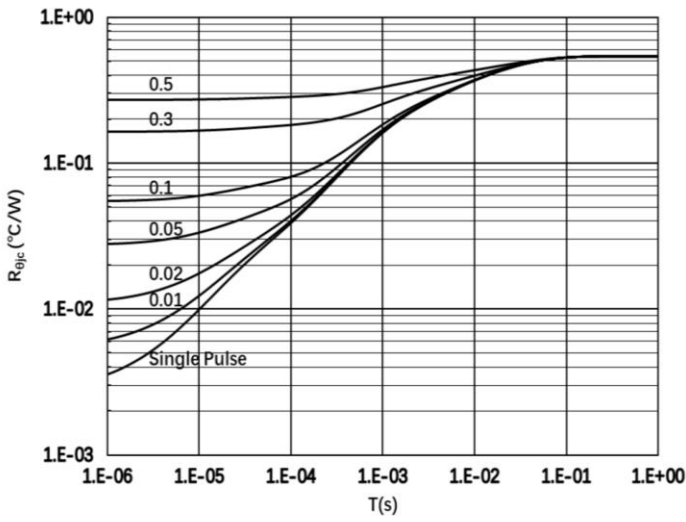
典型存储电荷与反向电压曲线



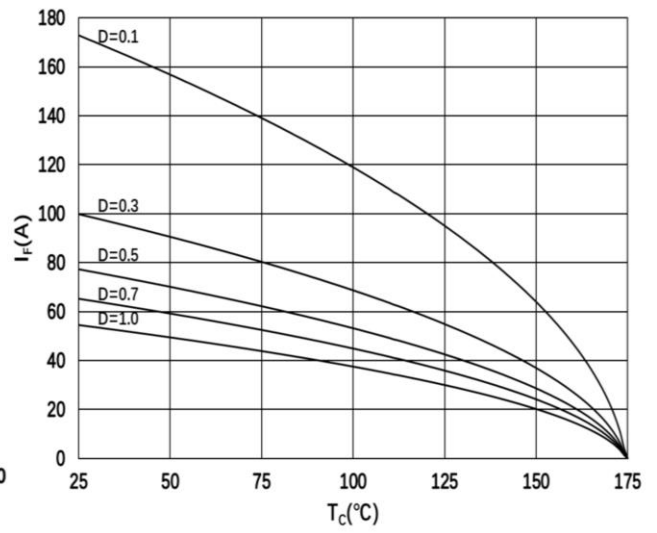
典型电容能量与反向电压曲线



典型功率降额曲线



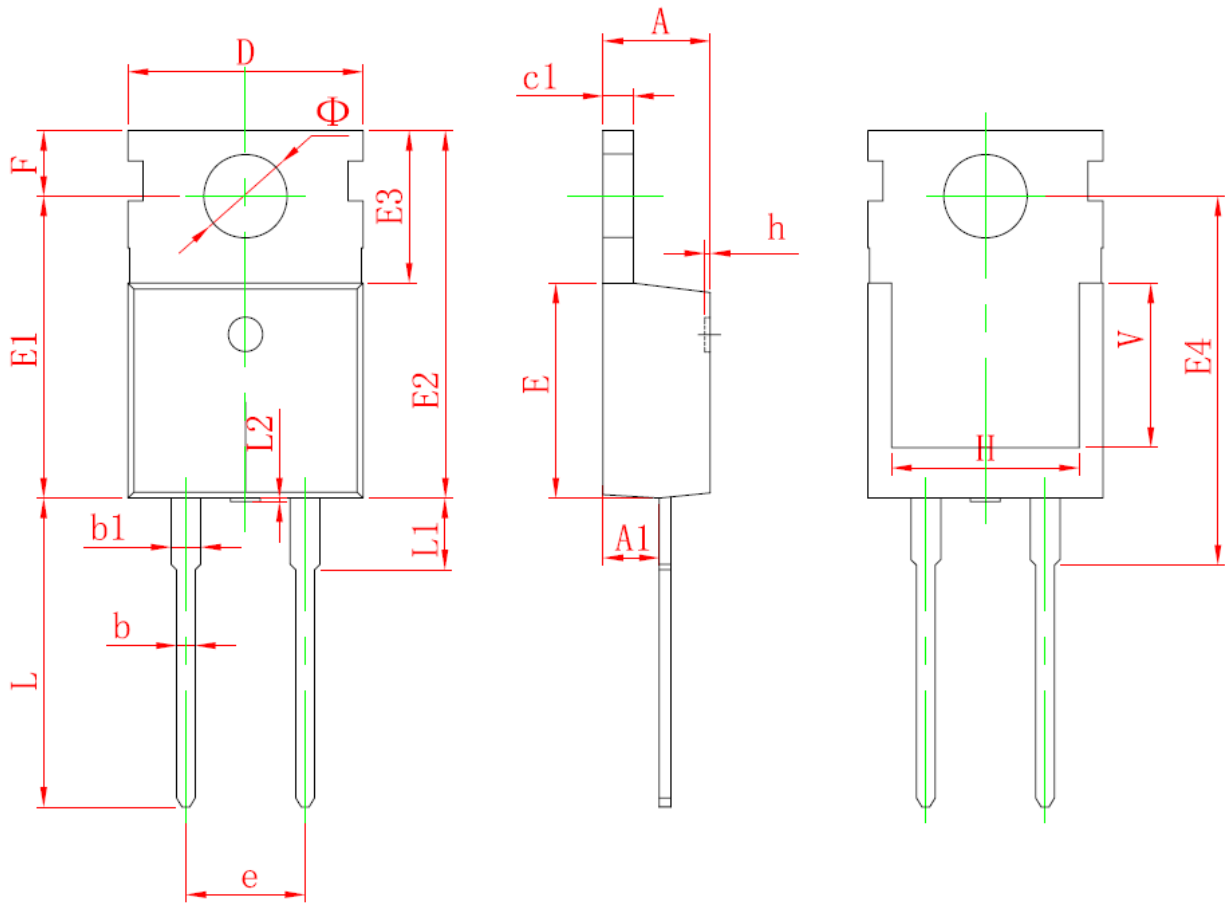
瞬态热阻抗



不同负载下的电流曲线



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

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