



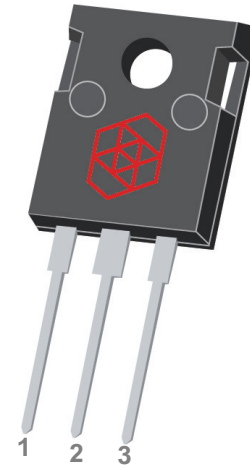
XD1210T4

1200V10A SiC Schottky Barrier Diode

Features

V_{CE}	I_F 135°C	I_F 155°C
1200V	14A	10A

- No reverse recovery
- High speed switching
- Low switching losses
- Positive temperature coefficient



Applications

- Switching Power Supplies
- Adapters, Quick Chargers
- Power Factor Corrections
- Motor Drives

Description

- These devices are 1200 SiC Schottky Barrier Diodes (SBD) with zero reverse recovery that allows systems to operate at higher switching frequencies. Lower heat dissipation requirements and higher system efficiency can be achieved in this TO-247-3L package.

Type	Package	Qty
XD1210T4	TO-247-3L	300

Device Characteristics

Static Parameters				Test data			
	Sym.	Parameters	Conditions	Min	Typical	Max	Unit
1	V _{DC}	DC Blocking Voltage	I _R =100 μA	1200	/	/	V
2	V _F	Forward Voltage	I _F =5A, T _j =25°C	/	1.4	1.8	V
			I _F =5A, T _j =175°C	/	2.1	2.7	
3	I _R	Reverse Current	V _R =1200V, T _j =25°C	/	3	15	μA
			V _R =1200V, T _j =175°C	/	15	100	
4	C	Total Capacitance	V _R =0V, f=1MHz	/	353	/	pF
			V _R =400V, f=1MHz	/	25.8	/	
			V _R =800V, f=1MHz	/	20.0	/	
5	Q _C	Total capacitive charge	V _R =800V	/	27.0	/	nC
6	E _C	Capacitance Stored Energy	V _R =800V	/	7.9	/	μJ
Thermal Parameters				Test data			
	Sym.	Parameters	Conditions	Min	Typical	Max	Unit
1	R _{th(j-c)}	Thermal resistance	Per device	/	1.6*/0.8**	/	°C/w

** Per device * Per leg

XD1210T4

1200V SiC SBD

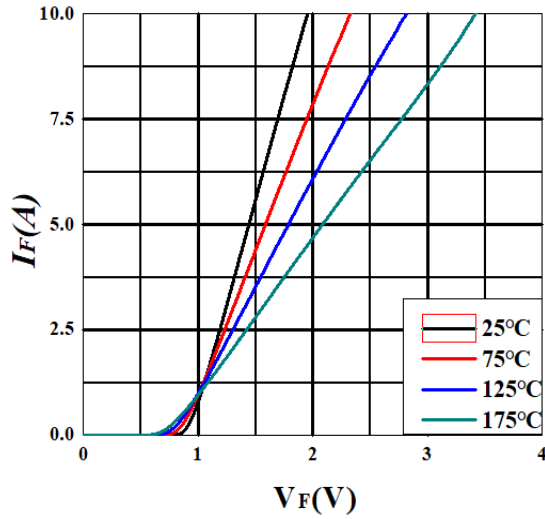
Absolute Max. Ratings

	Symbols	Parameters	Test Conditions	Value	Unit
1	V_{RR-max}	Reverse Voltage (Repetitive Peak)	$T_C = 25^{\circ}C$	1200	V
2	V_{RS-max}	Reverse Voltage (Surge Peak)	$T_C = 25^{\circ}C$	1200	V
3	V_{dc-max}	Reverse Voltage (DC)	$T_C = 25^{\circ}C$	1200	A
4	I_{F-max}	Continuous Forward Current	$T_C = 25^{\circ}C$	15/30	A
			$T_C = 135^{\circ}C$	7.3/14	
			$T_C = 155^{\circ}C$	5.0/10	
5	I_{FS-max}	Non-repetitive Forward Current (Surge)	$T_C = 25^{\circ}C$ $t_p = 10ms$ Half Sine Pulse	63*	A
6	$P_{total-max}$	Total Power Dissipation	$T_C = 25^{\circ}C$	91*	W
7	$\int i^2 dt_{-max}$	i^2t value	$T_C = 25^{\circ}C$ $t_p = 10ms$	20*	A ² s
8	T_{o-max}	Operation Temperature	/	-55 to 175	°C
9	$T_{s-storage}$	Storage temperature	/	-55 to 175	°C
10	M	Mounting Torque	M3 Screw	1	Nm

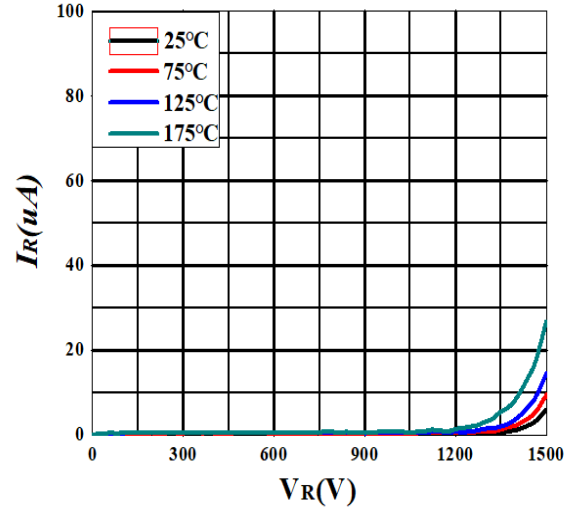
XD1210T4

1200V SiC SBD

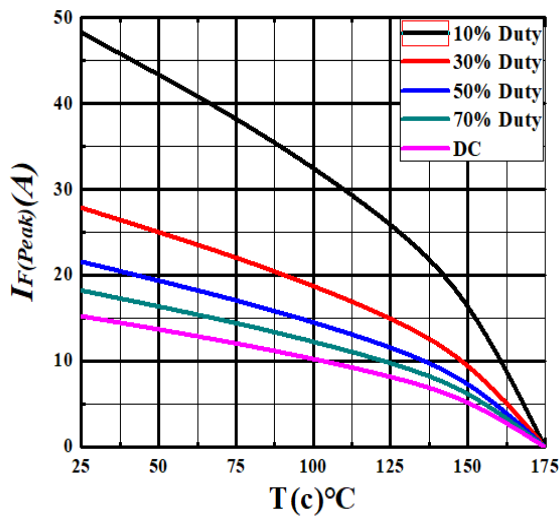
Electrical Performance



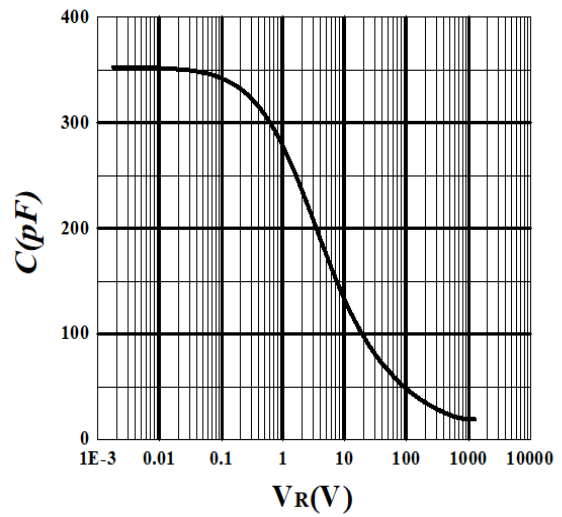
Forward Characteristics



Reverse Characteristics



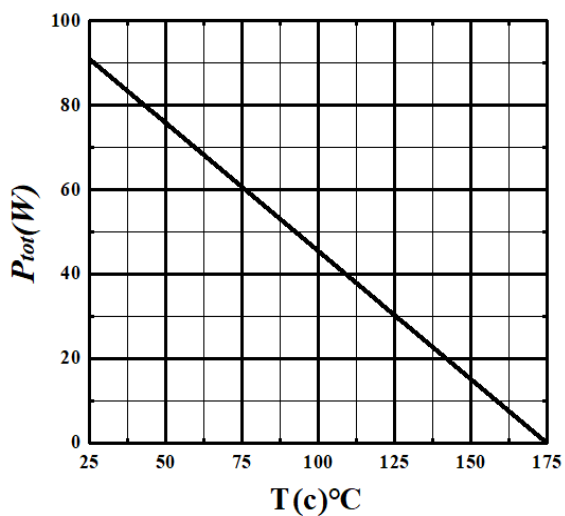
Current Derating



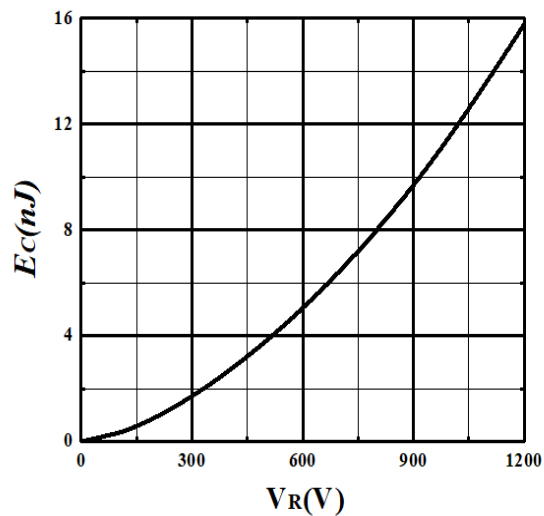
Capacitance vs. V_R

XD1210T4

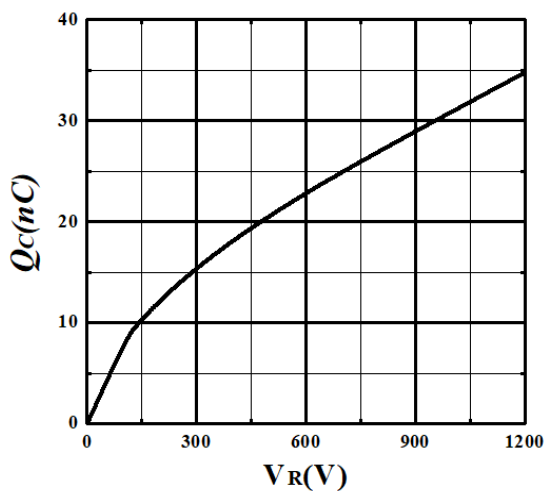
1200V SiC SBD



Power Derating



Capacitance Stored Energy

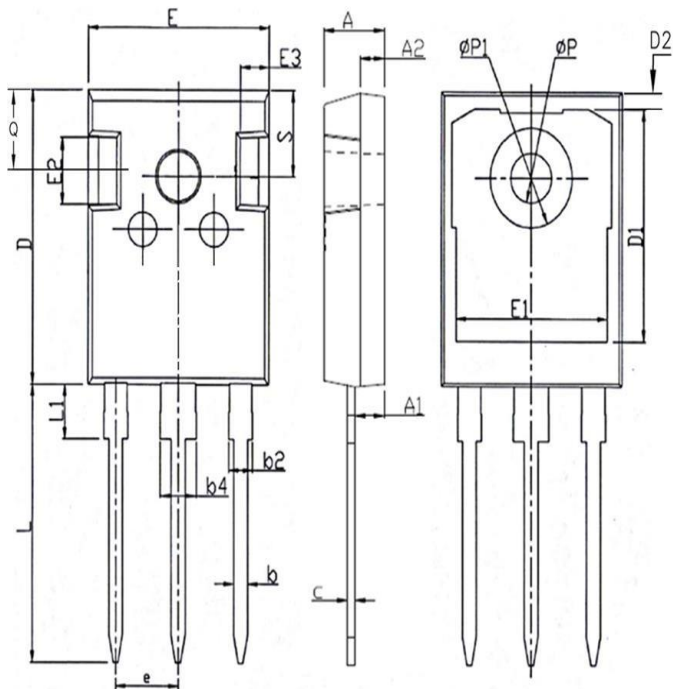


Total Capacitance Charge vs. V_R

XD1210T4

1200V SiC SBD

Package Information



SYMBOL	mm		
	MIN	NOM	MAX
A	4.8	5	5.2
A1	2.21	2.41	2.61
A2	1.85	2	2.15
b	1.11	1.21	1.36
b2	1.91	2.01	2.21
b4	2.91	3.01	3.21
c	0.51	0.6	0.75
D	20.7	21	21.3
D1	16.25	16.55	16.85
D2	1	1.2	1.35
E	15.5	15.8	16.1
E1	13	13.3	13.6
E2	4.8	5	5.2
E3	2.3	2.5	2.7
e	5.44 BSC		
L	19.62	19.92	20.22
L1	-	-	4.3
ϕP	3.4	3.6	3.8
$\phi P1$	-	-	7.3
Q	5.4	5.8	6.2
S	6.20 BSC		

XD1210T4

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Revision History

Revision History

Document revision	Date	Description of changes
2.0	2023.10.11	Target datasheet

Nanjing X-IPM Technologies Co., Ltd.

TEL: 025-51180705

Address: Room 1403, 34th Headquarter Base Park,
70th Phoenix Road, Jiangning Development Zone, Nanjing