3300V Planar SiC SBD

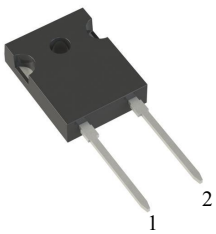
Para.	Value	Unit
V_{RRM}	3300	V
I_F (Tc=165℃)	10	A
Qc (V_{BR}=2000V)	209	nC

Features

- Low reverse recovery
- Low forward voltage drop
- Low reverse leakage current
- Highly rugged due to better surge current

Benefits

- Higher system efficiency
- Reduced switching loss
- Increased power density
- High-reliability



Applications

- Switch Mode Power Supplies
- DC/DC Converters
- Battery Charges
- Motor Drivers
- Pulsed Power Applications



Part Number	Marking	Package	Packaging Method
CI10S330D3L2	CI10S330D3L2	/	Tape

Maximum Ratings

Symbol	Parameter	Test Conditions	Value	Unit	Note
V_{RRM}	Repetitive Peak Reverse Voltage		3300	V	
V_{RSM}	Surge Peak Reverse Voltage		3300	V	
V_R	DC Peak Reverse Voltage		3300	V	
I_F	Continuous drain current	Tc= 25℃， D= 1	40	A	Fig3.
		Tc= 165℃， D= 1	10	A	
I_{FSM}	Non-Repetitive Peak Forward Surge Current,Half Sine Wave	Tc= 25℃， tp = 10ms	160	A	
P_{tot}	Power Dissipation	Tc= 25℃	440	W	Fig4.
T_j	Operation junction		-55~+175	℃	
T_{stg}	Storage temperature		-55~+175	℃	

Thermal Characteristics

Para.	Symbol	Value			Unit
Thermal Resistance From Junction to Case	$R_{th\ (j-c)}$		0.34		℃/W

Electrical Characteristics

Symbol	Parameter	Test Conditions	Value			Unit	Note
			Min.	Typ.	Max.		
V_F	Diode Forward Voltage	I_F= 10A, Tj= 25℃	1.3	1.5	2.0	V	Fig1.
I_R	Reverse Voltage	V_R= 3300V, Tj= 25℃		5	50	uA	Fig2.
		V_R= 3300V, Tj= 175℃		30	100		
Qc	Total Capacitance Charge	V_R= 2000V		209		nC	Fig5.
C	Total Capacitance	V_R=1V, f= 1MHz		4600		pF	Fig6.
		V_R=2000V, f= 1MHz		45			

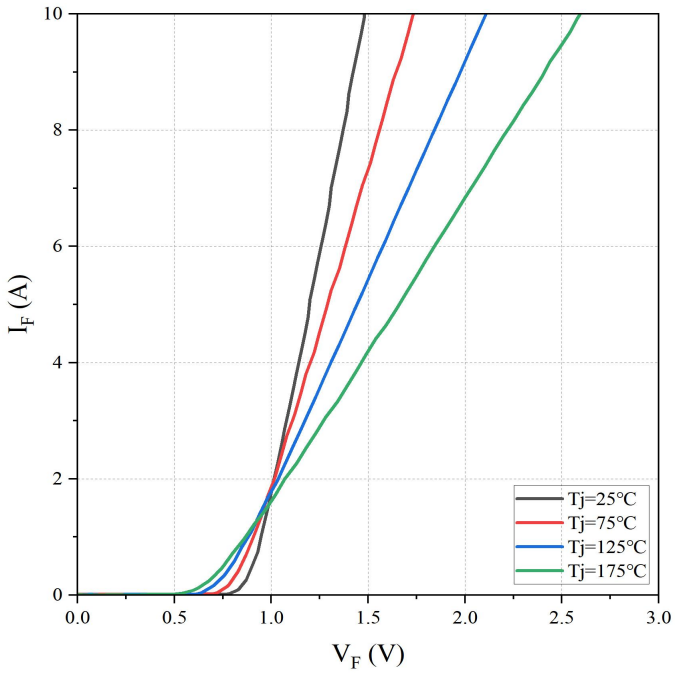


Fig 1. Forward Characteristics

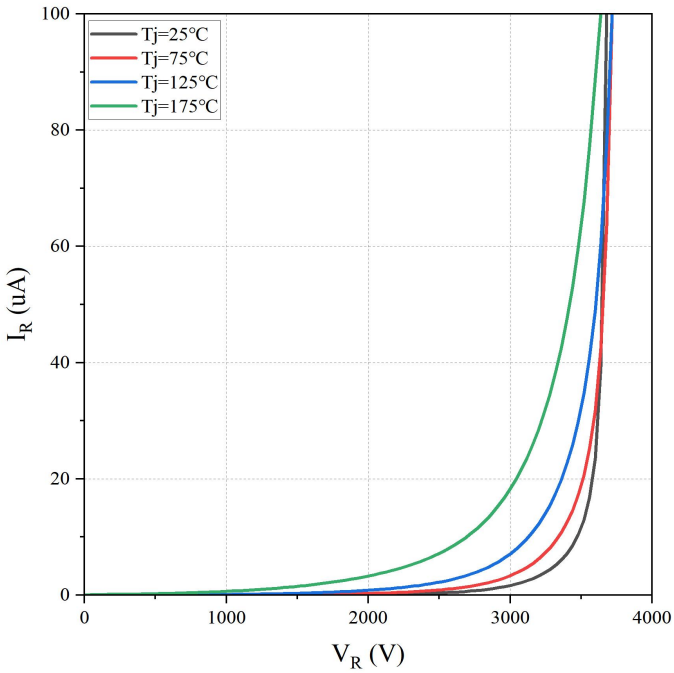


Fig 2. Reverse Characteristics

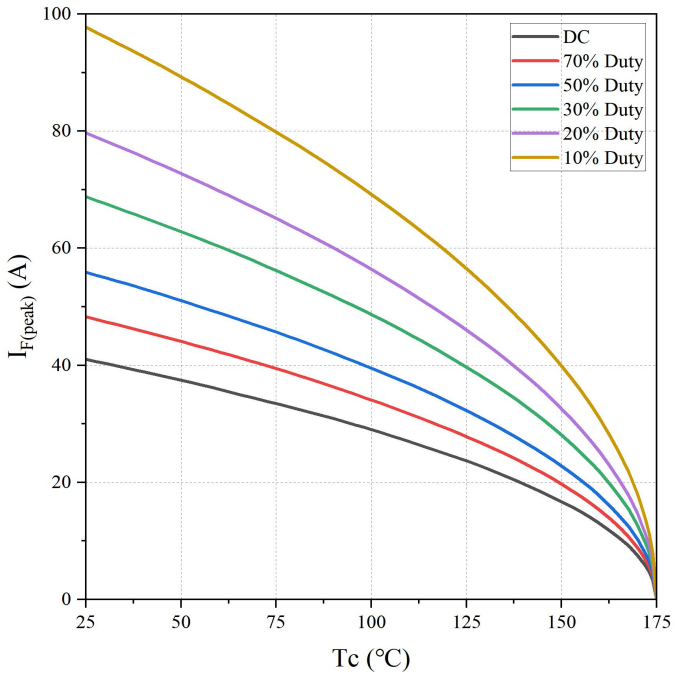


Fig 3. Current Derating

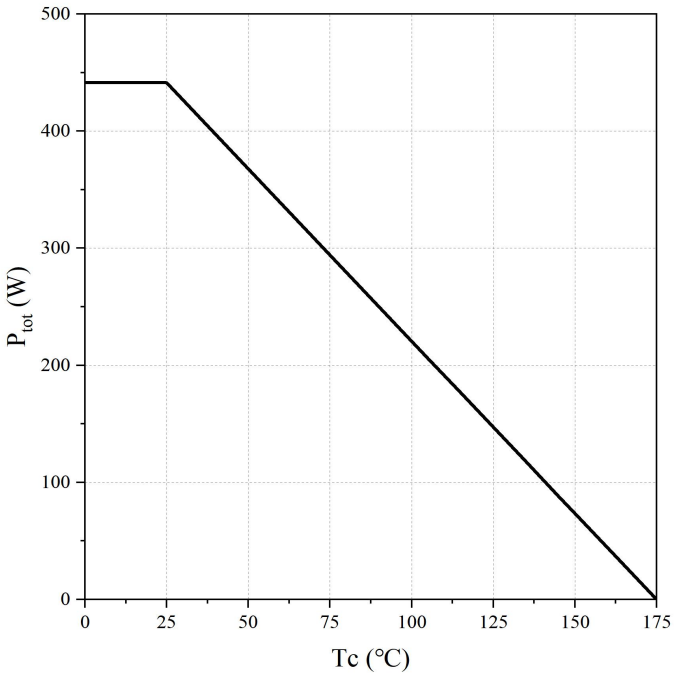


Fig 4. Power Derating

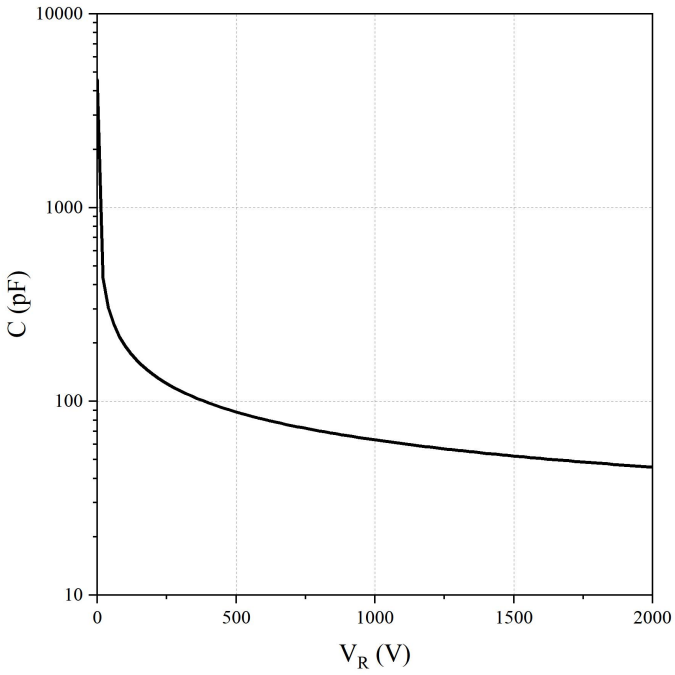


Fig 5. Capacitance vs. Reverse Voltage

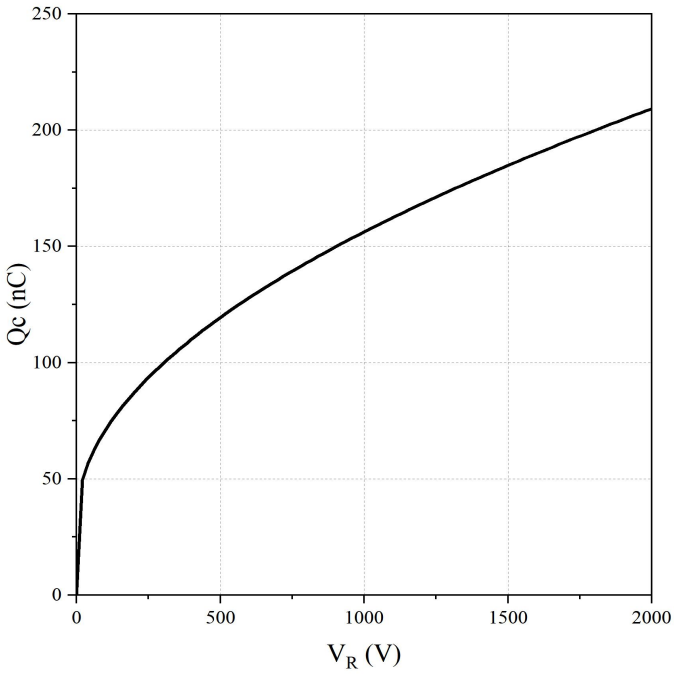


Fig 6. Reverse Charge vs. Reverse Voltage

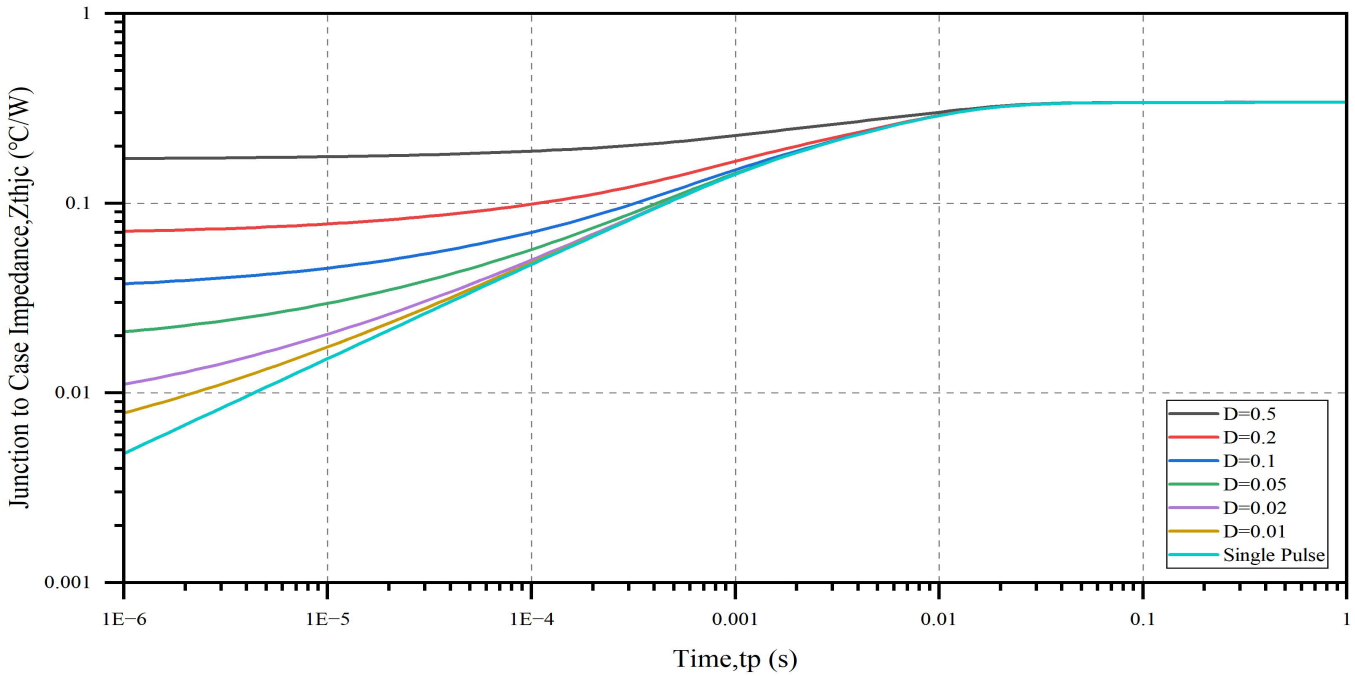
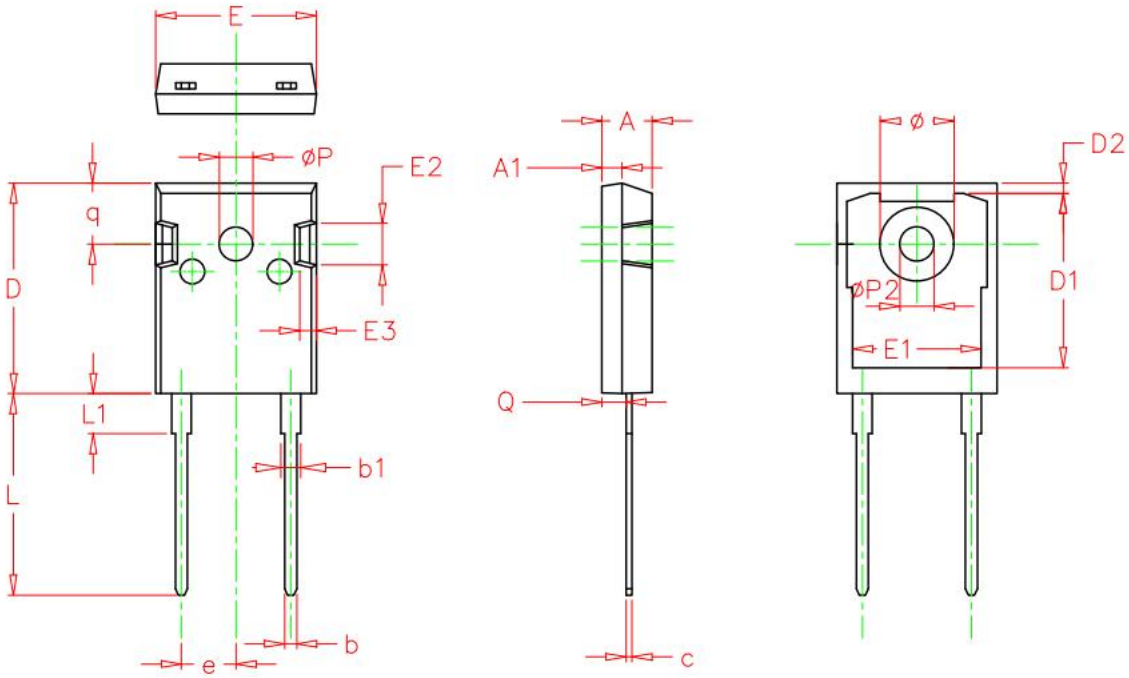


Fig 7. Current Derating



SYMBOL	MILLIMETERS			NOTES	SYMBOL	MILLIMETERS			NOTES
	Normal	MIN.	MAX.			Normal	MIN.	MAX.	
A	4.98	4.68	5.36		øP	3.66	3.45	3.85	
A1	1.99	1.90	2.10		e	5.44	BSC		
Q	2.41	2.30	2.60		q	6.24	5.99	6.58	
c	0.60	0.48	0.72		øP2	3.45	3.24	3.64	
b	1.20	1.00	1.40		ø	7.14	7.10	7.30	
b1	2.07	1.90	2.30		D1	16.56	16.10	17.10	
D	21.10	20.80	21.80		D2	0.98	0.80	1.36	
E	15.98	15.38	16.20		E1	13.30	13.00	13.52	
L	20.28	19.50	20.50		E2	5.64	5.10	6.10	
L1	4.01	3.75	4.35		E3	2.33	1.90	2.70	