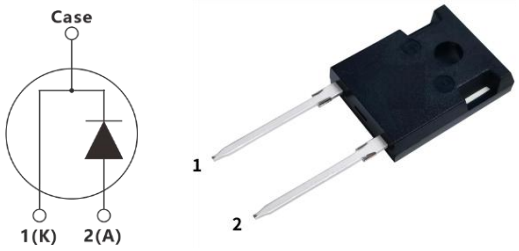
Silicon Carbide Schottky Diode

Parameter	Value	Unit
V_{RRM}	1200	V
I_F	40	A
Q_C	205	nC



TO-247-2L

Features

- Zero reverse recovery current
- Zero forward recovery voltage
- Temperature independent switching behavior
- High temperature operation
- High frequency operation

Applications

- Switched-Mode Power Supply
- Power Factor Correction
- Uninterruptible Power Supply
- Photovoltaic inverters
- Motor drives
- High-power adapters

Maximum Ratings (at T_J=25℃ unless otherwise specified)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	1200	V
Surge Peak Reverse Voltage	V_{RSM}	1200	V
Continuous Forward Current T_C=25℃ T_C=148℃	I_F	 107 40	A
Non-Repetitive Forward Surge Current T_C = 25℃,tp=10ms, Half Sine Pulse	I_{FSM}	300	A
Power dissipation T_C = 25℃, T_j = 175℃	P_{tot}	395	W
Operating junction Range	T_j	-55 to +175	℃
Storage temperature Range	T_{stg}	-55 to +175	℃

Thermal Characteristics

Parameter	Symbol	Typ.	Unit
Thermal resistance, junction – case.	R_{thJC}	0.38	℃/W

Electrical Characteristics(at T_J=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Value			Unit
			Min.	Typ.	Max.	
DC blocking voltage	V_{DC}		1200			V
Diode forward voltage	V_F	I_F=40A ,T_j=25℃ I_F=40A ,T_j=175℃		1.45 1.88	1.61	V
Reverse current	I_R	V_R=1200V, T_j=25℃ V_R=1200V ,T_j=175℃			75 200	μA
Total capacitive charge	Q_C	V_R=1000V, T_j=25℃		205		nC
Total capacitance	C	Tj=25℃ V_R=1V , f=1MHz V_R=400V , f=1MHz V_R=800V , f=1MHz		3350 160 118		pF

Typical Characteristics

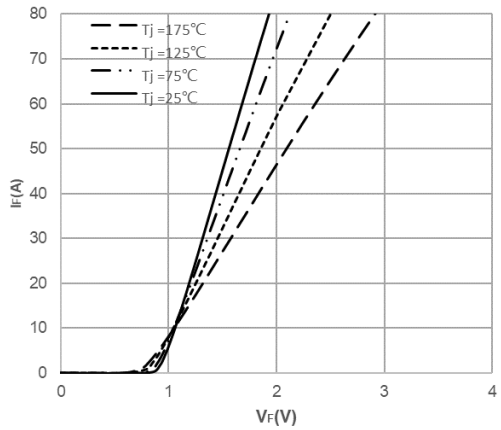


Fig1. Forward Characteristics

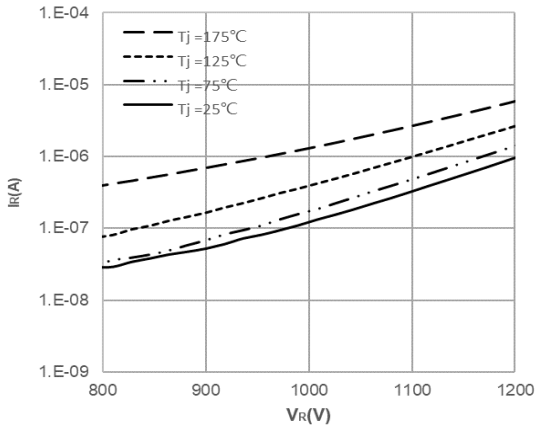


Fig2. Reverse Characteristics

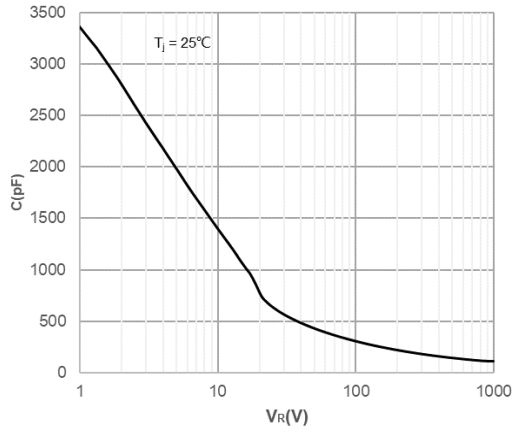


Fig3. Capacitance vs. Reverse Voltage

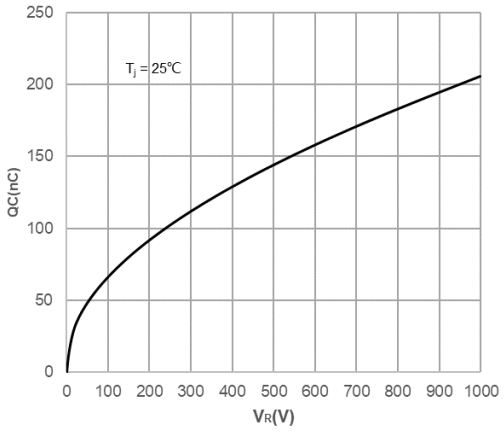
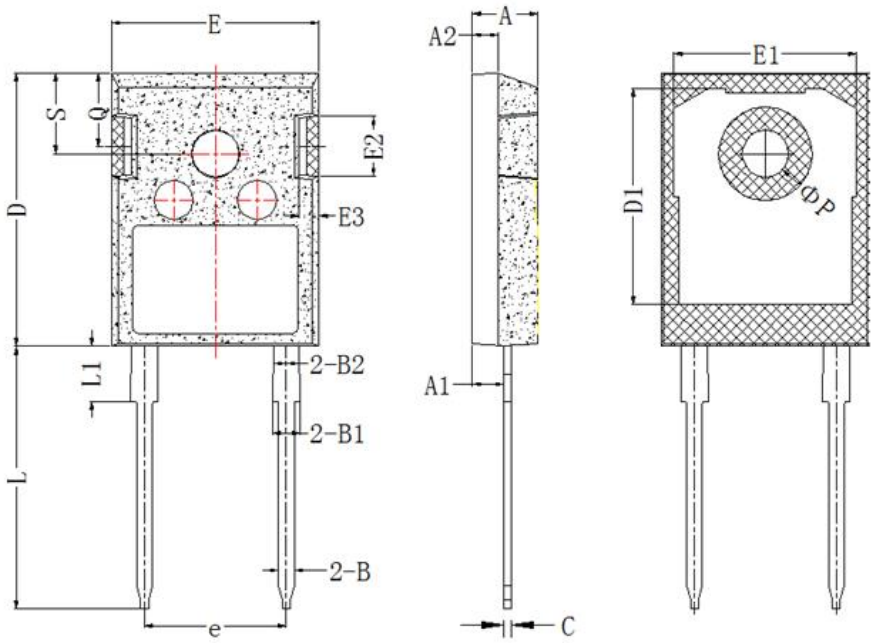


Fig4. Recovery Charge vs. Reverse Voltage

Package Outlines(Unit:mm)

TO-247-2L



Items	Values(mm)	
	MIN	MAX
A	4.85	5.15
A1	2.25	2.55
A2	1.85	2.15
B	1.04	1.33
B1	1.90	2.35
B2	1.90	2.15
C	0.55	0.68
D	20.80	21.10
D1	16.25	17.65
D2	0.95	1.35
E	15.70	16.10
E1	13.50	14.20
E2	3.80	5.00
E3	1.00	2.60
e	10.63	11.13
L	19.80	20.30
L1	4.00	4.50
φP	3.50	3.70
Q	5.40	6.00
S	6.00	6.40

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