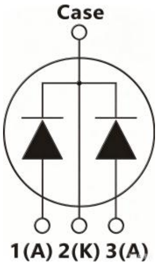
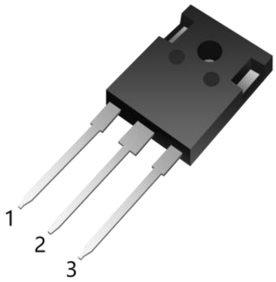
Silicon Carbide Schottky Diode

Parameter	Value	Unit
V_{RRM}	1200	V
I_F	50*	A
Q_C	255*	nC





TO-247-3L

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
- Motor drives
- Photovoltaic inverters
- 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=147℃	I_F	132* 50*	A
Non-Repetitive Forward Surge Current T_C = 25℃,tp=10ms, Half Sine Pulse	I_{FSM}	375*	A
Power dissipation T_C = 25℃,T_j = 175℃	P_{tot}	469*	W
Operating junction Range	T_j	-55 to +175	℃
Storage temperature Range	T_{stg}	-55 to +175	℃

* Per leg;**Per device

Thermal Characteristics

Parameter	Symbol	Typ.	Unit
Thermal resistance, junction – case.	R_{thJC}	0.32* 0.16**	℃/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=50A ,T_j=25℃ I_F=50A ,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℃			100 300	μA
Total capacitive charge	Q_C	V_R=1000V, T_j=25℃		255		nC
Total capacitance	C	T_j =25℃ V_R=1V , f=1MHz V_R=400V , f=1MHz V_R=800V , f=1MHz		4110 198 144		pF

* Per leg **Per device

Typical Characteristics

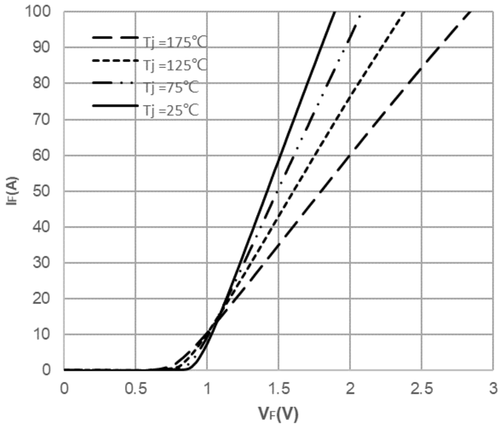


Fig1. Forward Characteristics

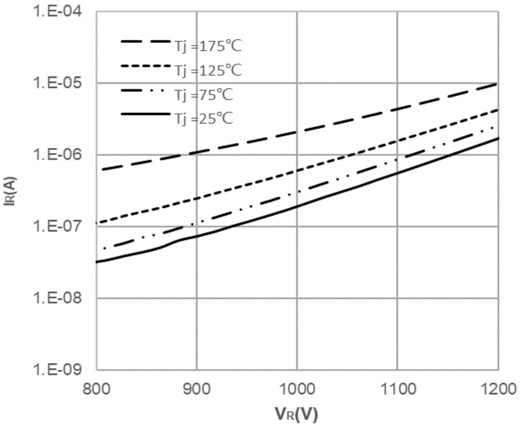


Fig2. Reverse Characteristics

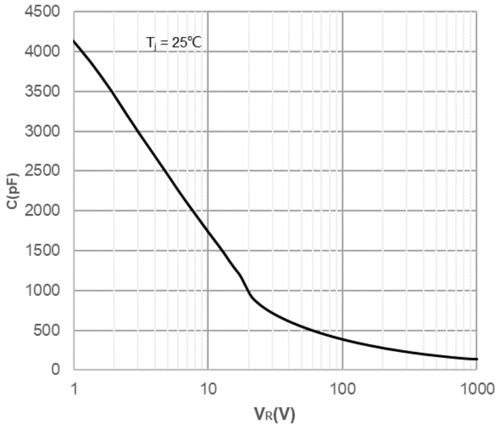


Fig3. Capacitance vs. Reverse Voltage

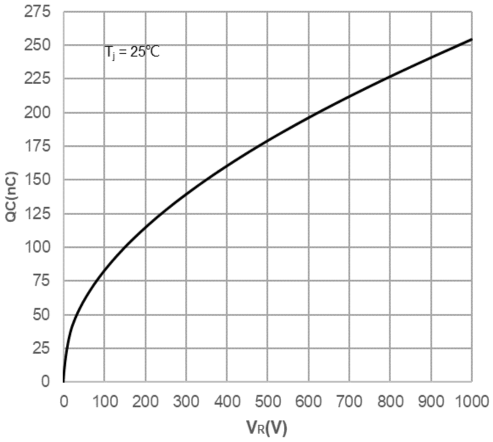
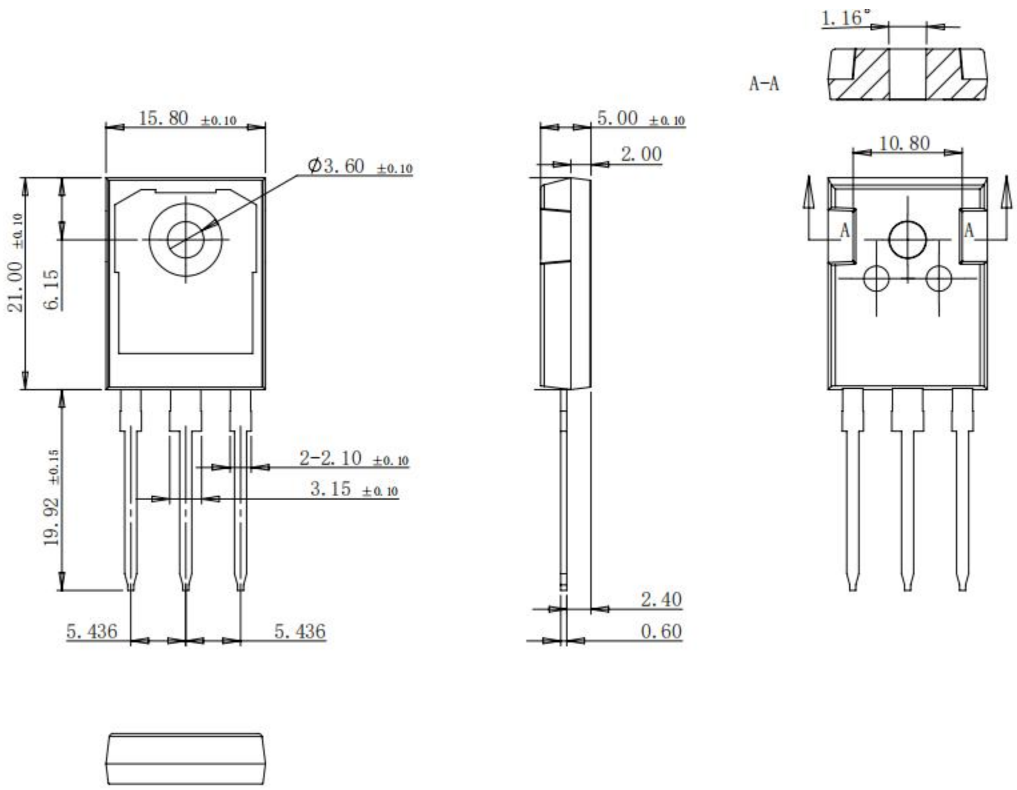


Fig4. Recovery Charge vs. Reverse Voltage

Package Outlines(Unit:mm)

TO-247-3L



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