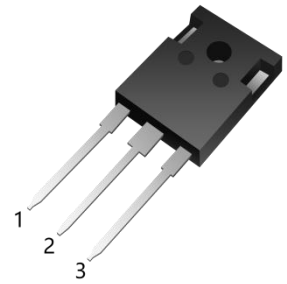
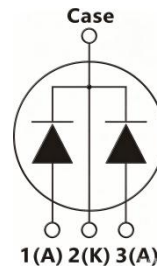


Silicon Carbide Schottky Diode

Parameter	Value	Unit
V_{RRM}	1200	V
I_F	30*	A
Q_C	159*	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 $T_J=25^{\circ}C$ 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 $T_C=25^{\circ}C$ $T_C=150^{\circ}C$	I_F	84* 30*	A
Non-Repetitive Forward Surge Current $T_C = 25^{\circ}C, t_p=10ms$, Half Sine Pulse	I_{FSM}	225*	A
Power dissipation $T_C = 25^{\circ}C, T_J = 175^{\circ}C$	P_{tot}	312*	W
Operating junction Range	T_j	-55 to +175	$^{\circ}C$
Storage temperature Range	T_{stg}	-55 to +175	$^{\circ}C$

* Per leg; **Per device

Thermal Characteristics

Parameter	Symbol	Typ.	Unit
Thermal resistance, junction – case.	R_{thJC}	0.48* 0.24**	°C/W

Electrical Characteristics(at $T_j=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Value			Unit
			Min.	Typ.	Max.	
DC blocking voltage	V_{DC}		1200			V
Diode forward voltage	V_F	$I_F=30A, T_j=25^\circ\text{C}$ $I_F=30A, T_j=175^\circ\text{C}$		1.45 1.88	1.61	V
Reverse current	I_R	$V_R=1200V, T_j=25^\circ\text{C}$ $V_R=1200V, T_j=175^\circ\text{C}$			50 200	μA
Total capacitive charge	Q_C	$V_R=1000V, T_j=25^\circ\text{C}$		159		nC
Total capacitance	C	$T_j=25^\circ\text{C}$ $V_R=1V, f=1\text{MHz}$ $V_R=400V, f=1\text{MHz}$ $V_R=800V, f=1\text{MHz}$		2490 125 93		pF

* Per leg **Per device

Typical Characteristics

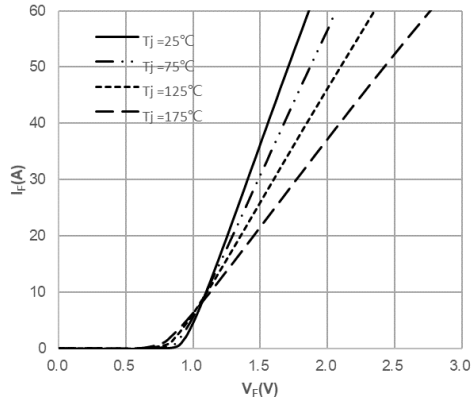


Fig1. Forward Characteristics

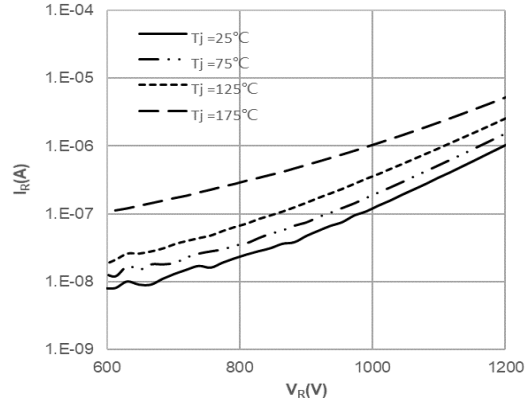


Fig2. Reverse Characteristics

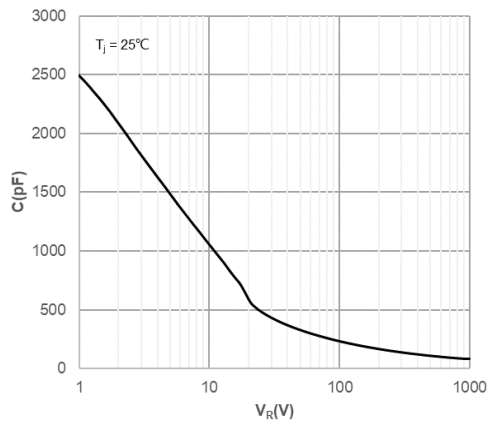


Fig3. Capacitance vs. Reverse Voltage

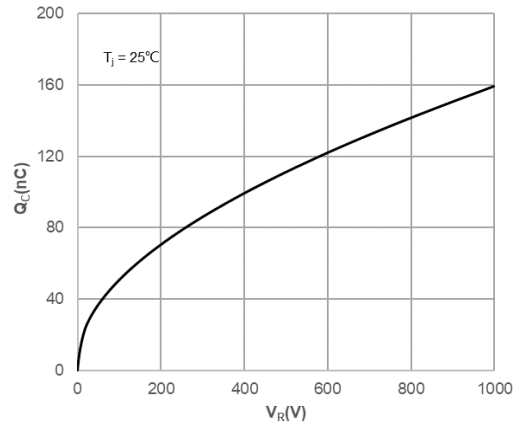
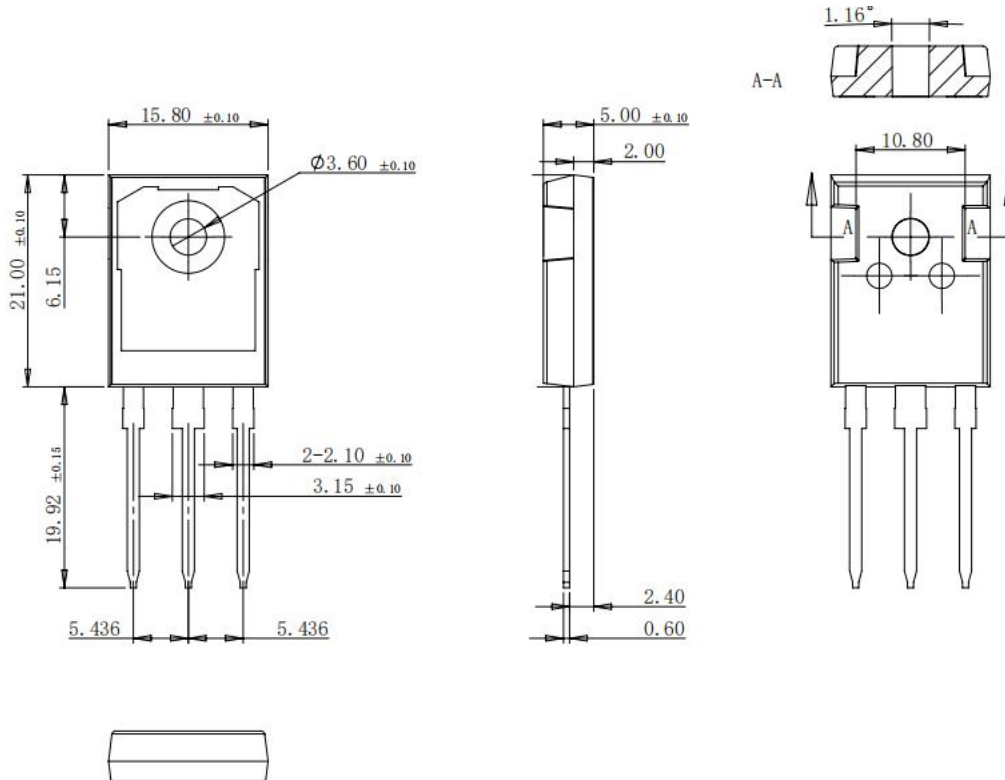


Fig4. Recovery Charge vs. Reverse Voltage

Package Outlines(Unit:mm)

TO-247-3L



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