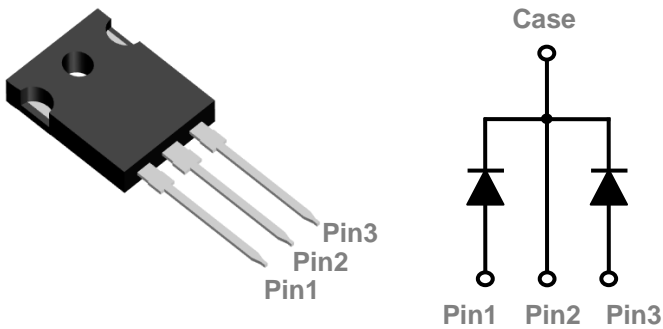


**General Description**

These 1200V high performance series of SiC schottky diodes are using the most advanced technology to suit for high frequency and high efficiency power systems with extreme low reverse recovery charge and can be stand up to 175°C maximum junction temperature.

$V_{BR}$	$I_F (T_C = 149^\circ\text{C})$	$Q_C$
1200V	40A	196nC

**TO247-3L Pin Configuration**

**Features**

- 1200V , 40A , 175°C junction temperature
- Extremely fast switching
- Ultra Low Reverse Recovery Current
- Positive temperature coefficient
- Green device available

**Applications**

- Switching mode power supplies
- Motor drives
- Power Converters
- PFC, Power factor correction

**Absolute Maximum Ratings** ( $T_C=25^\circ\text{C}$  unless otherwise noted)

Symbol	Parameter	Rating (leg/device)	Units
$V_R$	DC Peak Reverse Voltage, $T_J=25^\circ\text{C}$	1200	V
$V_{RRM}$	Repetitive Peak Reverse Voltage, $T_J=25^\circ\text{C}$	1200	V
$V_{RSM}$	Surge Peak Reverse Voltage, $T_J=25^\circ\text{C}$	1200	V
$I_F$	Continuous Forward Current, $T_C=25^\circ\text{C}$	57 / 114	A
	Continuous Forward Current, $T_C=149^\circ\text{C}$	20 / 40	A
$I_{FSM}$	Non-Repetitive Forward Surge current $T_C = 25^\circ\text{C}$ , $T_P=10\text{ms}$ Half Sine Pulse	115 / 230	A
$T_J$	Maximum operating Junction Temperature Range	175	$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range	-55 to 175	$^\circ\text{C}$

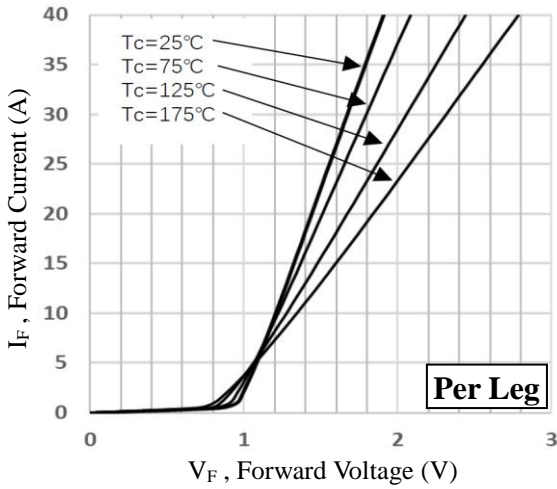
**Thermal Characteristics**

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JC}$	Thermal Resistance Junction to Case (Per Leg)	0.58	---	$^\circ\text{C} / \text{W}$
$R_{\theta JC}$	Thermal Resistance Junction to Case (Device)	0.29	---	$^\circ\text{C} / \text{W}$

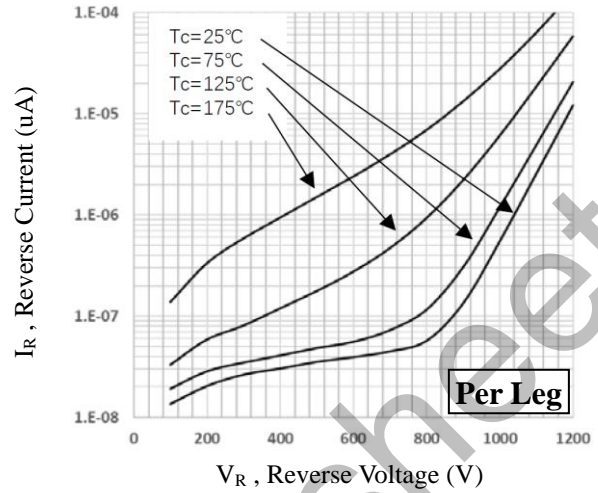
**Electrical Characteristics – Per Leg ( $T_J=25\text{ }^\circ\text{C}$ , unless otherwise noted)**

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
VDC	DC Blocking Voltage		1200	---	---	V
V <sub>F</sub>	Forward Voltage	I <sub>F</sub> =20A , T <sub>J</sub> =25°C	---	1.45	1.7	V
		I <sub>F</sub> =20A , T <sub>J</sub> =175°C	---	1.9	---	V
I <sub>R</sub>	Reverse Current	V <sub>R</sub> =1200V , T <sub>J</sub> =25°C	---	20	200	uA
		V <sub>R</sub> =1200V , T <sub>J</sub> =175°C	---	160	---	uA
Q <sub>C</sub>	Total Capacitive Charge	V <sub>R</sub> =800V	---	98	---	nC
C	Total Capacitance	V <sub>R</sub> =1V, f=1MHz	---	1178	---	pF
		V <sub>R</sub> =400V, f=1MHz	---	87	---	
		V <sub>R</sub> =800V, f=1MHz	---	62	---	

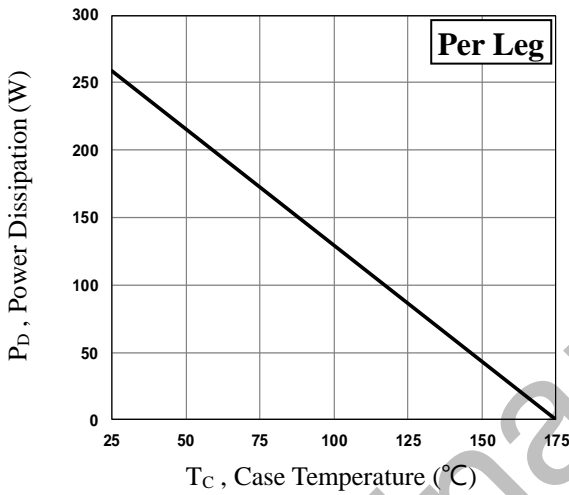
Preliminary Datasheet



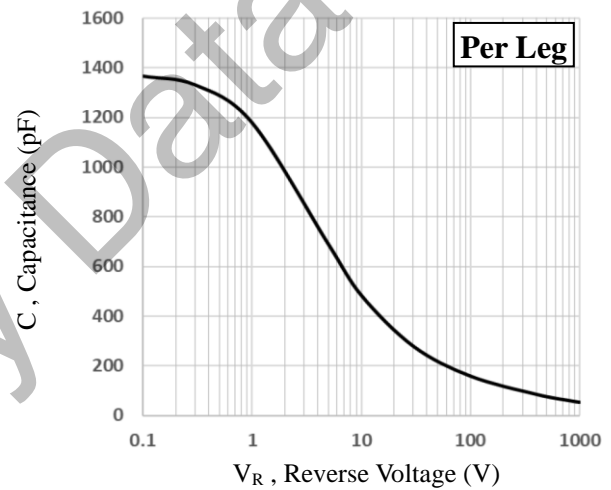
**Fig.1 Forward Characteristics**



**Fig.2 Reverse Characteristics**

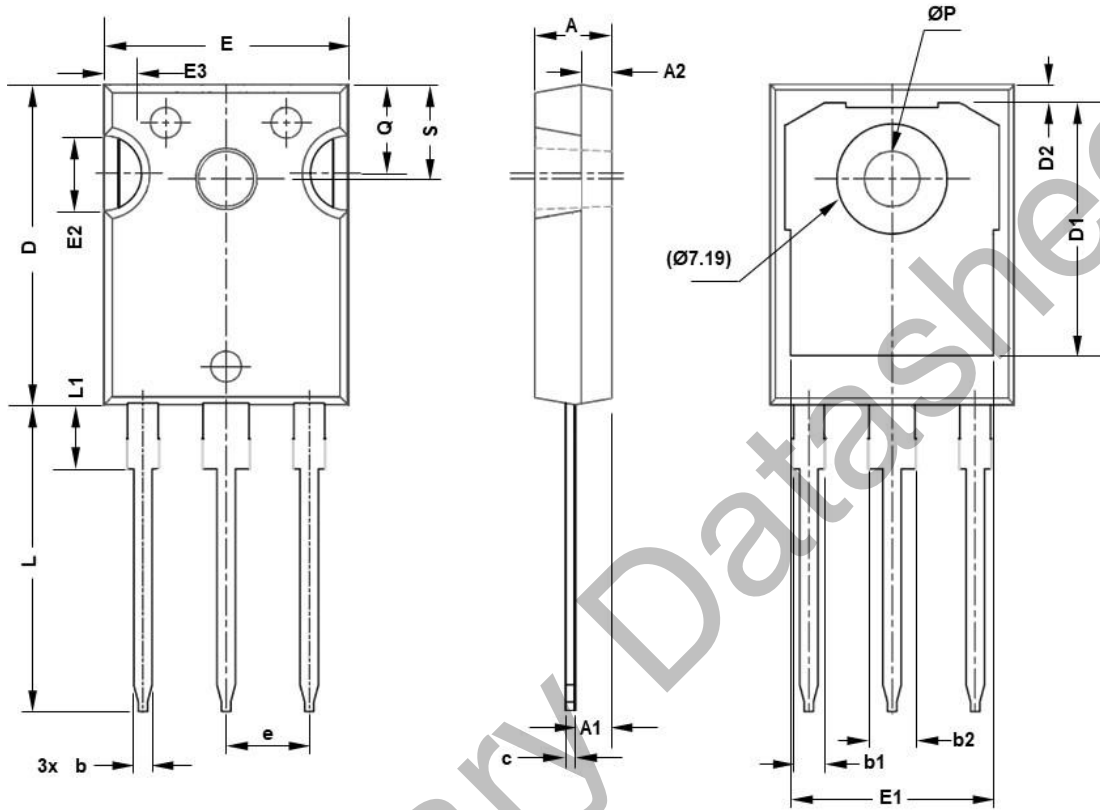


**Fig.3 Power Dissipation**



**Fig.4 Capacitance Characteristics**

TO247 PACKAGE INFORMATION



SYMBOL	mm		SYMBOL	mm	
	MIN	MAX		MIN	MAX
A	4.83	5.21	E2	4.32	5.49
A1	2.29	2.55	E3	2.15	2.80
A2	1.50	2.49	e	5.44BSC	
b	1.12	1.33	L	19.81	20.32
b1	1.91	2.39	L1	4.10	4.40
b2	2.87	3.22	ΦP	3.56	3.65
C	0.55	0.69	Q	5.39	6.20
D	20.80	21.10	S	6.04	6.30
D1	16.25	17.65			
D2	0.51	1.35			
E	15.75	16.13			
E1	13.46	14.16			