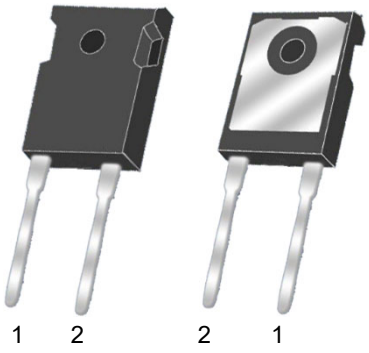
Prisemi®

PSICS2TAF1200V50N

Schoktty Barrier Diode

Feature

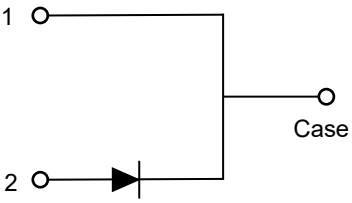
- Low conduction loss due to low V_F
- Extremely low switching loss by tiny Q_C
- Negligible reverse recovery
- Positive Temperature Coefficient
- Pb-free / RoHS compliant
- Highly rugged due to better surge current
- High-reliability



TO-247-2L

Applications

- Solar inverters
- Uninterruptable power supplies
- Motor drives
- Power Factor Correction



Circuit Diagram

Absolute maximum rating@25℃

Parameter		Symbol	Value	Units
Repetitive Peak Reverse Voltage		V_{RRM}	1200	V
Continuous Forward Current	T_c=145℃	$I_{F(AVG)}$	50*	A
Non-repetitive Forward Surge Current	T_c=25℃,t_p=10ms,Half Sine Pulse	I_{FSM}	280	A
Power Dissipation	T_c=25℃	P_{tot}	457*	W
	T_c=110℃		198*	
Operating Junction Range		T_J	-55~+175	℃
Storage Temperature Range		T_{STG}	-55~+175	℃

* Assumes thermal resistance of 0.328°C/W or less

Electrical characteristics per line@25℃ (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
DC blocking voltage	V_{DC}	T_J=25℃	1200	-	-	V
Forward Voltage	V_F	I_F = 50A, T_J=25℃	-	1.48	-	V
		I_F = 50A, T_J=175℃	-	2.17	-	
Reverse Current	I_R	V_R = 1200V, T_J=25℃	-	8	-	μA
		V_R = 1200V, T_J=175℃	-	54	-	
Total Capacitive Charge	Q_C	V_R = 800V, T_j=25℃, $Q_C=\int_0^{V_R} C(V)dV$	-	326	-	nC
Total Capacitance	C	V_R = 1V,f = 1MHz	-	3571	-	pF
		V_R = 400V,f = 1MHz	-	307	-	
		V_R = 800V,f = 1MHz	-	231	-	
Capacitance stored energy	E_C	V_R = 800V	-	93	-	μJ

Typical Characteristics

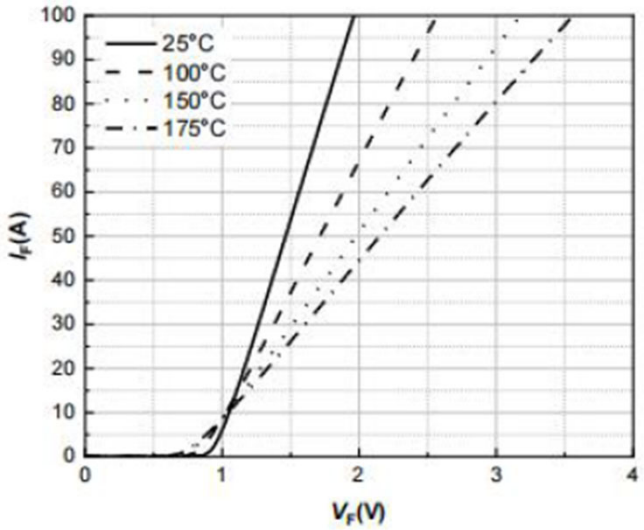


Fig.1 Forward Characteristics

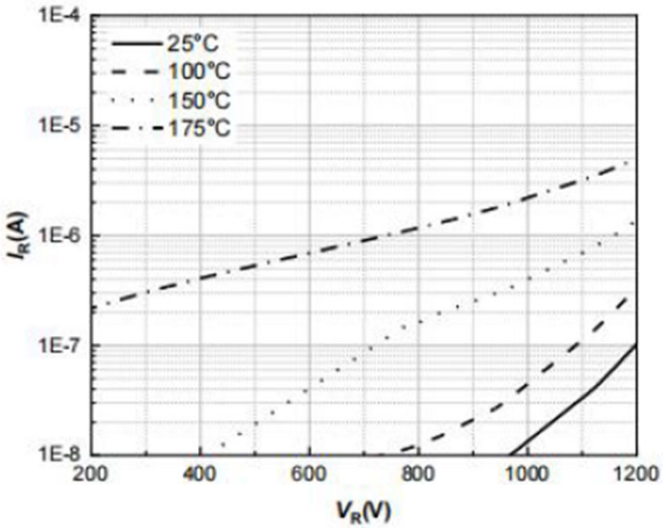


Fig.2 Reverse Characteristics

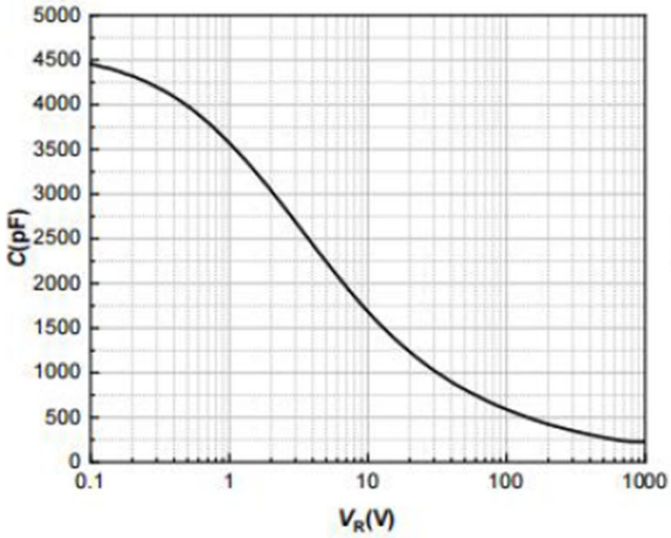


Fig.3 Capacitance Charge vs. Reverse Voltage

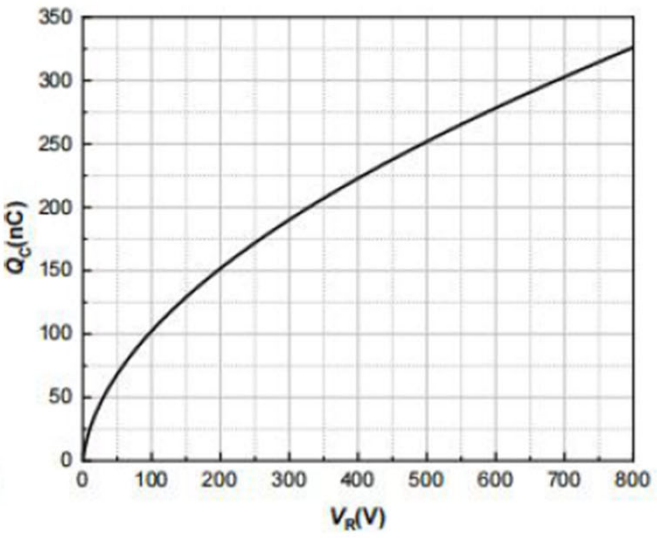
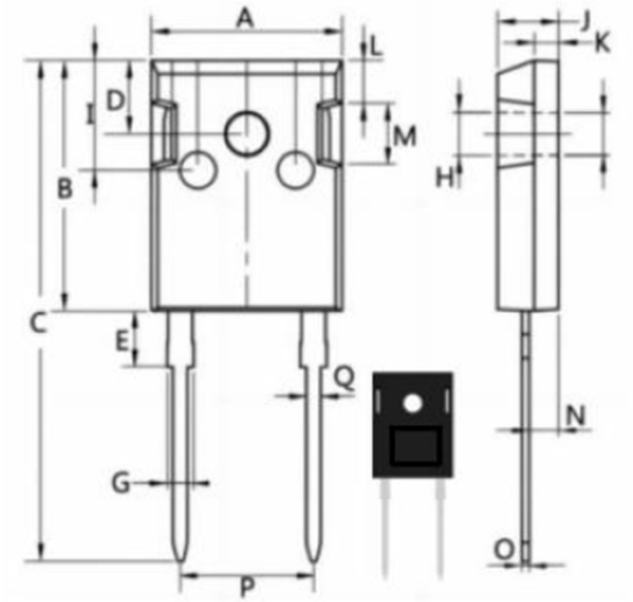


Fig.4 Reverse Charge vs. Reverse Voltage

Product dimension (TO-247-2L)



Dim	Millimeters	
	Min	Max
A	15.5	15.7
B	20.35	20.55
C	20.45	20.85
D	5.89	6.17
E	4.14	4.45
G	1.13	1.19
H	4.45	4.55
I	8.15	8.60
J	4.95	5.05
K	1.96	1.99
L	3.24	3.72
M	4.625	4.725
N	2.35	2.41
O	0.592	0.608
P	1.13	1.18

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