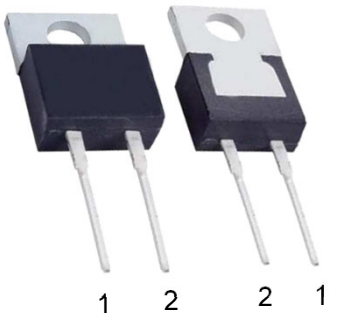
Prisemi®

PSICS2TO1200V5N

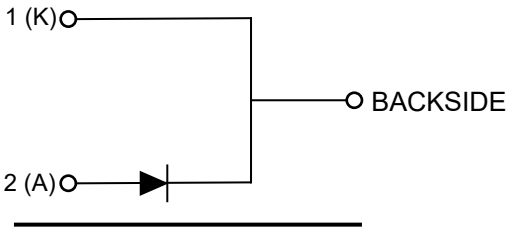
Schoktty Barrier Diode

Feature

- Negligible reverse recovery
- Positive Temperature Coefficient
- Temperature-Independent Switching
- Fast switching
- Pb-free / RoHS compliant
- Low switching loss
- Higher frequency
- Low heat dissipation requirements
- Reduce size and cost of the system
- High-reliability



TO-220-2L



Circuit Diagram

Applications

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

Absolute maximum rating@25℃

Parameter		Symbol	Value	Units
Repetitive Peak Reverse Voltage		V_{RRM}	1200	V
Continuous Forward Current	T_c=25℃	I_F	18	A
	T_c=155℃		5	
Non-repetitive Forward Surge Current	T_c=25℃,t_p=10ms,Half Sine Pulse	I_{FSM}	60	A
i^2t Value	T_c=25℃,t_p=10ms	$\int i^2 dt$	18	A^2s
Power Dissipation	T_c=25℃	P_{tot}	114	W
	T_c=110℃		49	
Operating Junction Range		T_J	-55~+175	℃
Storage Temperature Range		T_{STG}	-55~+175	℃

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 = 5A, T_J=25℃	-	1.4	1.58	V
		I_F = 5A, T_J=175℃	-	2.11	2.70	
Reverse Current	I_R	V_R = 1200V, T_J=25℃	-	1	200	μA
		V_R = 1200V, T_J=175℃	-	2	400	
Total Capacitive Charge	Q_C	V_R = 800V, T_j=25 ℃, $Q_C=\int_0^{V_R} C(V)dV$	-	31	-	nC
Total Capacitance	C	V_R = 1V,f = 1MHz	-	288	-	pF
		V_R = 400V,f = 1MHz	-	31	-	
		V_R = 800V,f = 1MHz	-	25	-	
Capacitance stored energy	E_C	V_R = 800V	-	9.5	-	μJ

Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Units
Thermal Resistance（Junction to case）	$R_{\theta JC}$	-	1.315	-	℃/W

Typical Characteristics

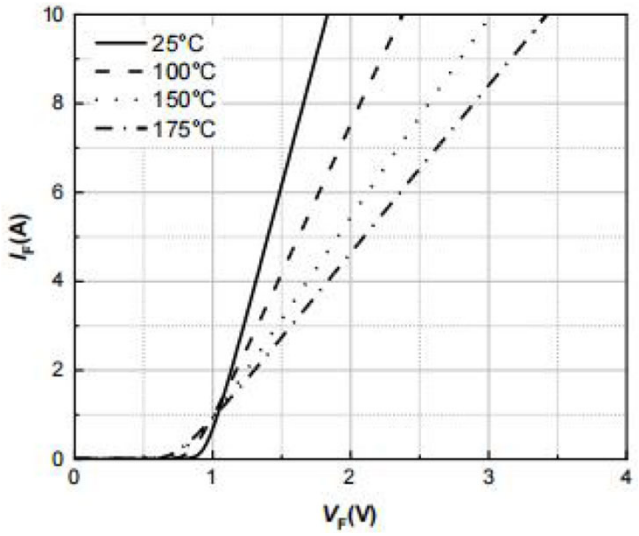


Fig.1 Forward Characteristics

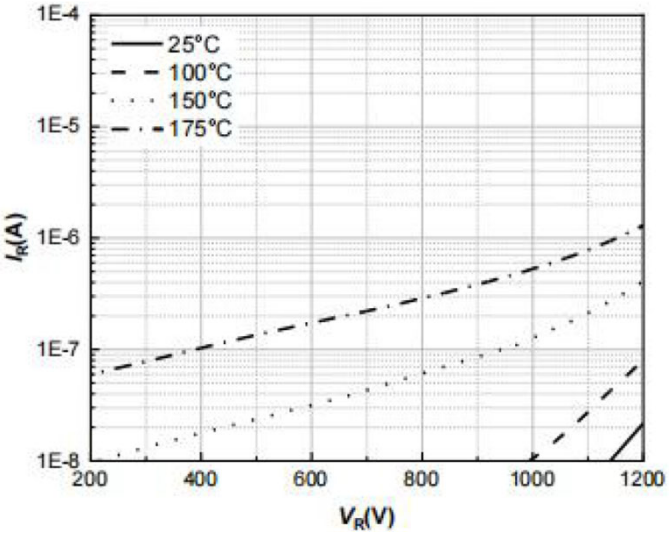


Fig.2 Reverse Characteristics

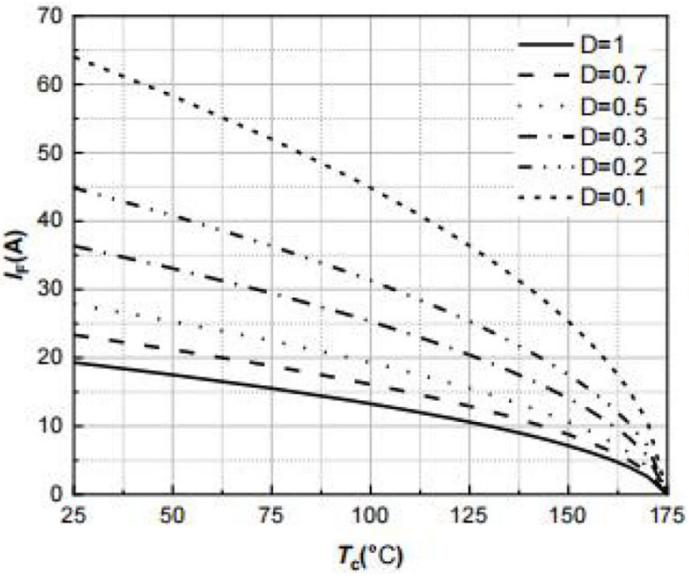


Fig.3 Current Derating

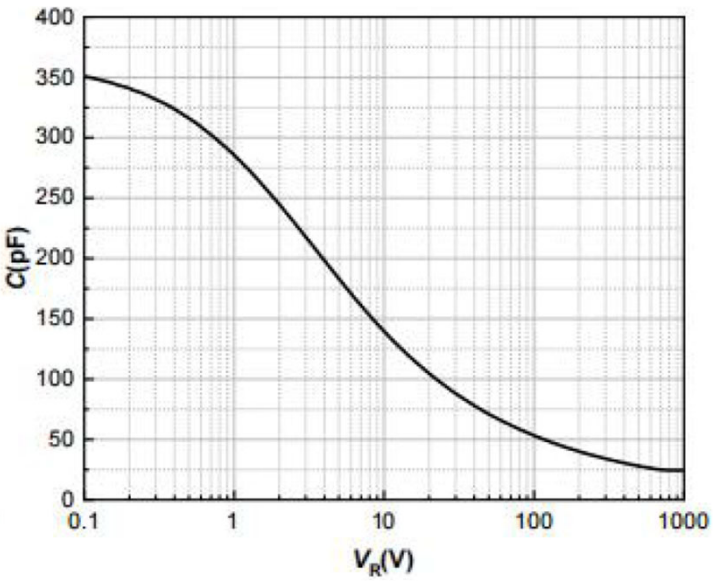


Fig.4 Capacitance vs. Reverse Voltage

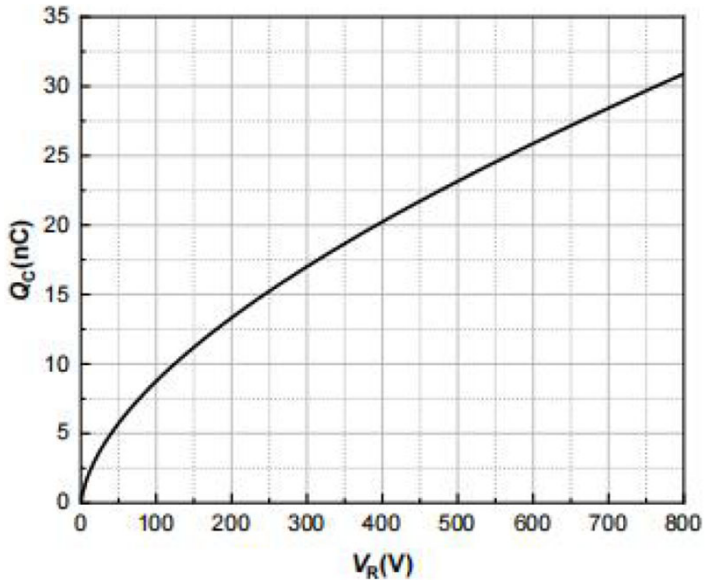


Fig.5 Capacitance Charge vs. Reverse Voltage

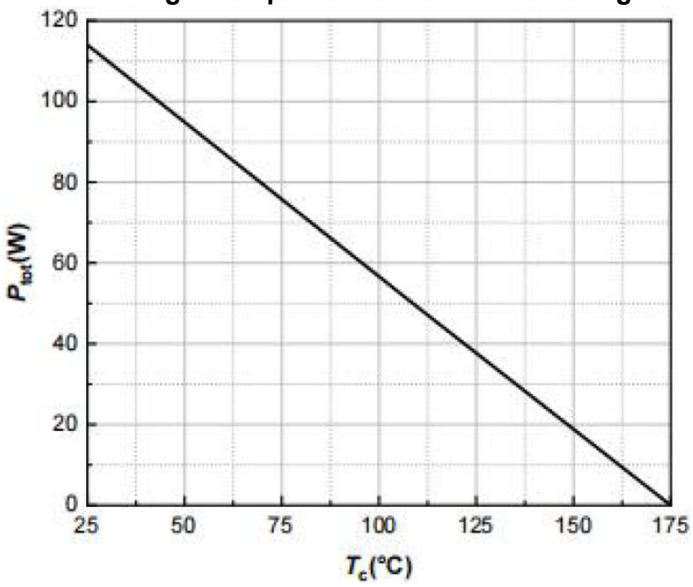


Fig.6 Power Derating

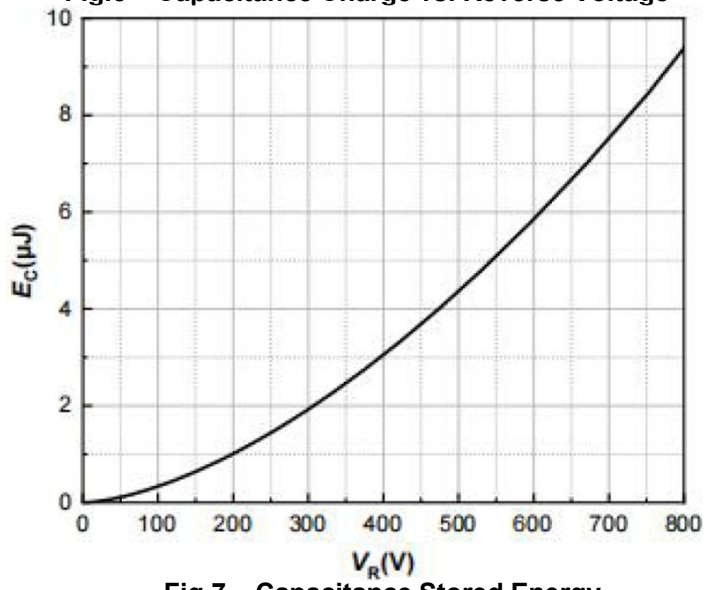


Fig.7 Capacitance Stored Energy

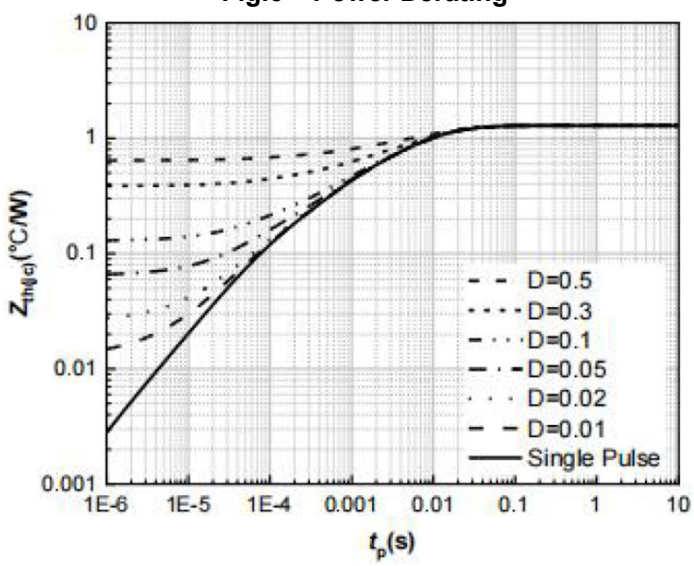
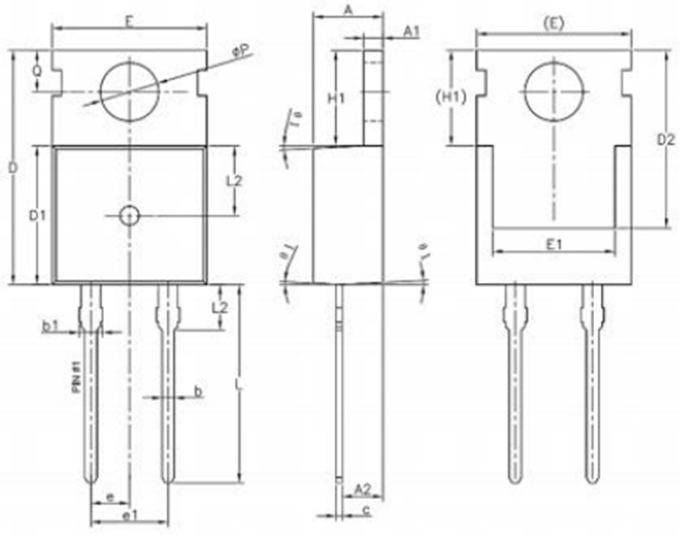


Fig.8 Transient Thermal Impedance

Product dimension (TO-220-2L)



Dim	Millimeters		
	Min	Nom	Max
A	4.40	4.50	4.60
A1	1.27	1.30	1.33
A2	2.30	2.40	2.50
b	0.70	-	0.90
b1	1.42	-	1.57
c	0.45	0.50	0.60
D	15.30	15.70	16.10
D1	9.10	9.20	9.30
D2	13.10	-	13.70
E	9.70	9.90	10.20
E1	7.80	8.00	8.20
e	2.54 BSC		
e1	5.08 BSC		
H1	6.30	6.50	6.70
L	12.78	13.08	13.38
L1	-	-	3.50
L2	4.60 REF		
φP	3.55	3.60	3.65
Q	2.73	-	2.87
Θ1	1°	3°	5°

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