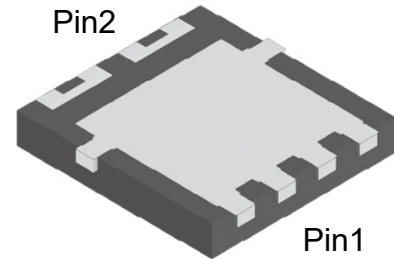
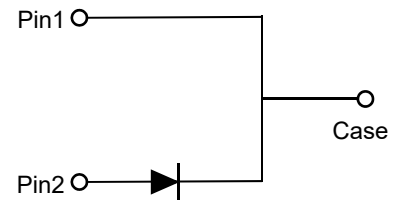


**Feature**

- 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


**DFN5060-8L  
Bottom View**
**Applications**

- Power inverters
- Uninterruptable power supplies
- High performance SMPS
- Power Factor Correction


**Circuit Diagram**
**Absolute maximum rating@25°C**

Parameter		Symbol	Value	Units
Repetitive Peak Reverse Voltage		$V_{RRM}$	650	V
Surge Peak Reverse Voltage		$V_{RSM}$	650	V
DC Peak Reverse Voltage		$V_R$	650	V
Continuous Forward Current	$T_c=25^\circ\text{C}$	$I_F$	32	A
	$T_c=135^\circ\text{C}$		16	
	$T_c=159^\circ\text{C}$		10	
Repetitive Peak Forward Surge Current	$T_c=25^\circ\text{C}, t_p=10\text{ms}, \text{Half Sine Pulse}$	$I_{FRM}$	45	A
	$T_c=110^\circ\text{C}, t_p=10\text{ms}, \text{Half Sine Pulse}$		27	
Non-repetitive Forward Surge Current	$T_c=25^\circ\text{C}, t_p=10\text{ms}, \text{Half Sine Pulse}$	$I_{FSM}$	80	A
	$T_c=110^\circ\text{C}, t_p=10\text{ms}, \text{Half Sine Pulse}$		70	
$i^2t$ Value	$T_c=25^\circ\text{C}, t_p=10\text{ms}$	$\int i^2 dt$	31.7	$\text{A}^2\text{s}$
	$T_c=110^\circ\text{C}, t_p=10\text{ms}$		24.3	
Power Dissipation	$T_c=25^\circ\text{C}$	$P_{tot}$	83	W
	$T_c=110^\circ\text{C}$		36	
Operating Junction Range		$T_J$	-55~+175	$^\circ\text{C}$
Storage Temperature Range		$T_{STG}$	-55~+150	$^\circ\text{C}$

## Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Forward Voltage	$V_F$	$I_F = 10A, T_J=25^\circ C$	-	1.3	1.5	V
		$I_F = 10A, T_J=175^\circ C$	-	1.5	-	
Reverse Current	$I_R$	$V_R = 650V, T_J=25^\circ C$	-	-	50	$\mu A$
		$V_R = 650V, T_J=175^\circ C$	-	-	200	
Total Capacitive Charge	$Q_C$	$V_R = 400V$	-	27	-	nC
Total Capacitance	C	$V_R = 0V, f = 1MHz$	-	561	-	pF
		$V_R = 200V, f = 1MHz$	-	55	-	
		$V_R = 400V, f = 1MHz$	-	43	-	

## Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Units
Thermal Resistance ( Junction to case )	$R_{\theta JC}$	-	1.8	-	$^\circ C/W$

## Typical Characteristics

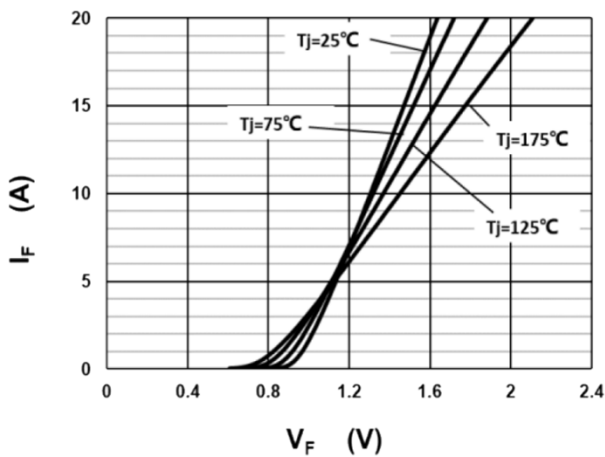


Fig.1 Forward Characteristics

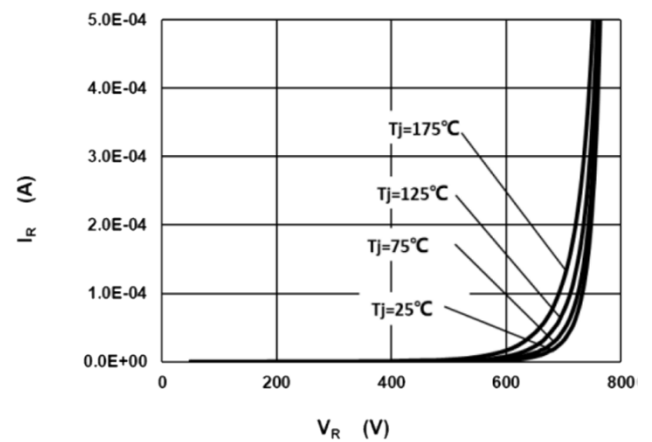


Fig.2 Reverse Characteristics

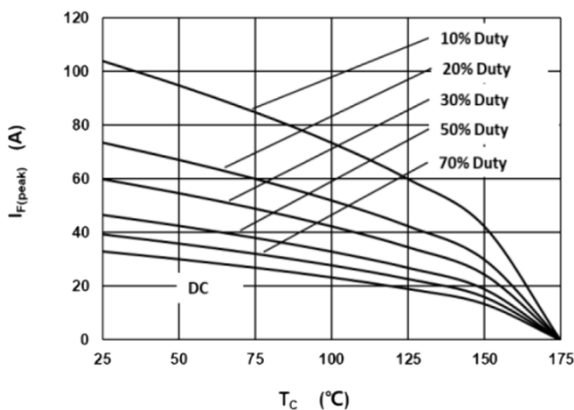


Fig.3 Current Derating

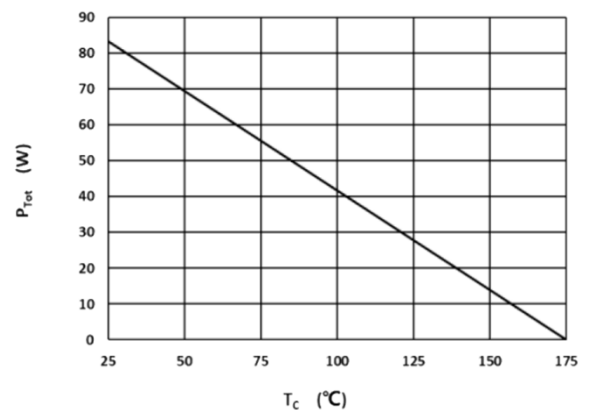


Fig.4 Power Derating

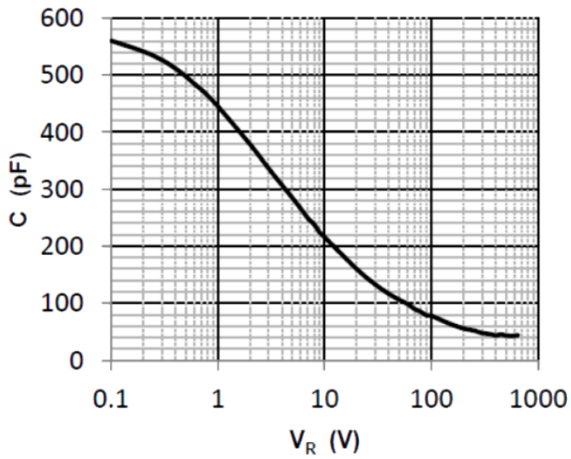


Fig.5 Capacitance vs. Reverse Voltage

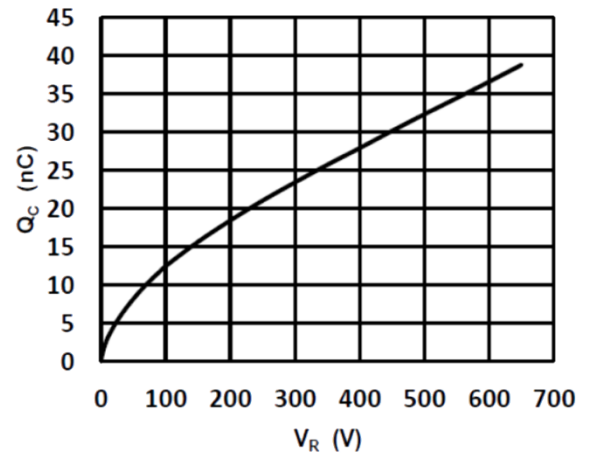


Fig.6 Reverse Charge vs. Reverse Voltage

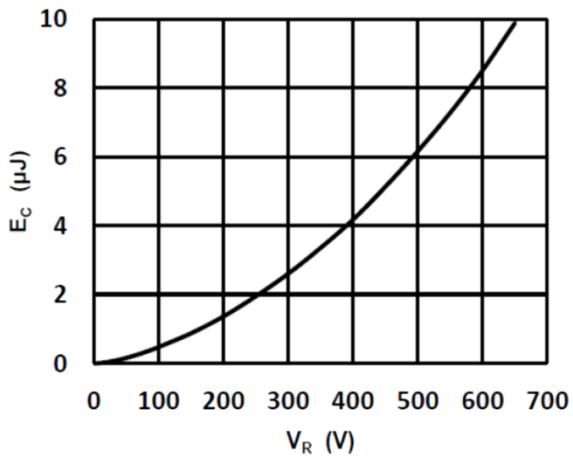


Fig.7 Capacitance Stored Energy

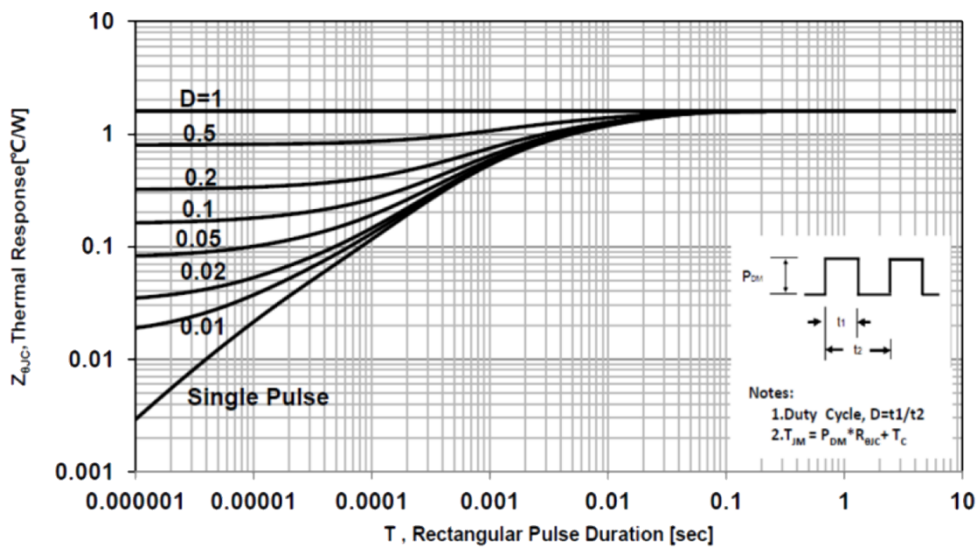
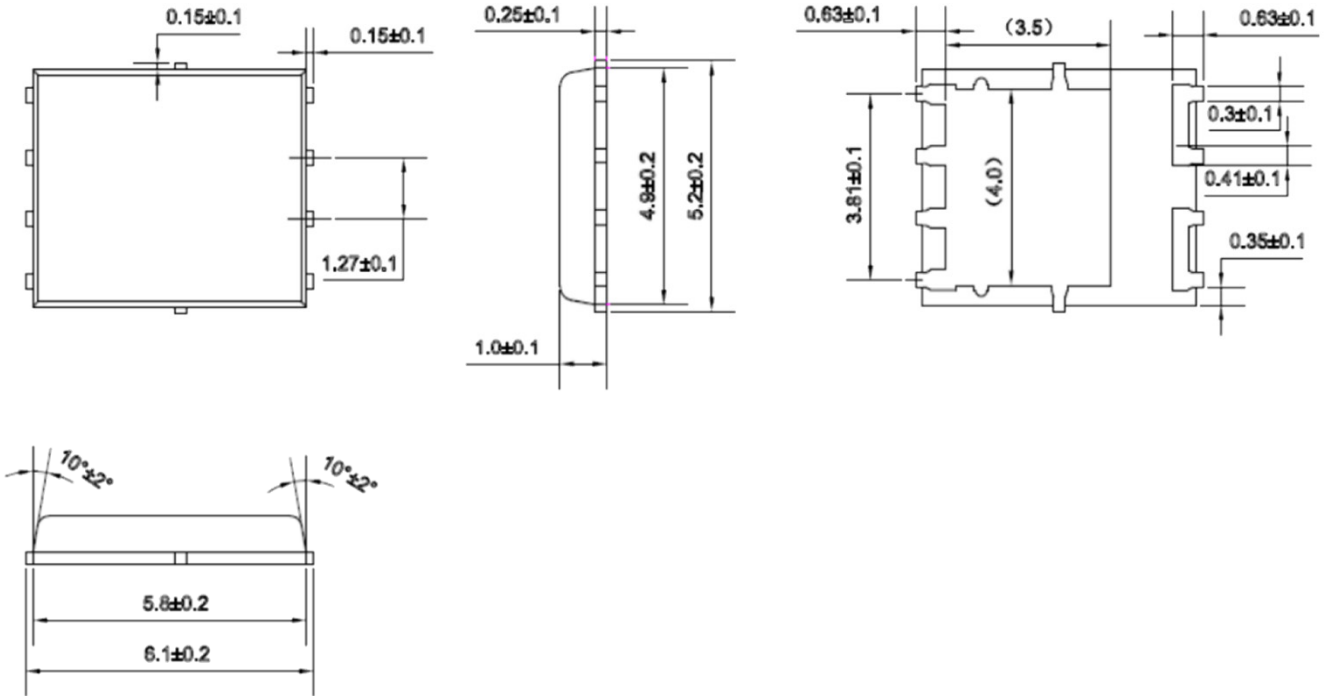


Fig.8 Transient Thermal Impedance


# Schottky Barrier Diode

PSICS8N650V10N

## Product Dimension (DFN5060-8L)




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