

## PD010065LB(Bare Chip) / PD010065LW(Wafer) 650V Silicon Carbide Diode

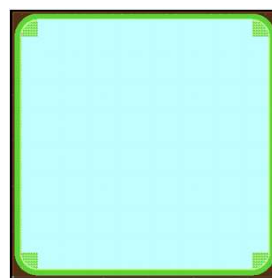
### Features

- 650-Volt Schottky Rectifier
- Shorter recovery time
- High-speed switching possible
- High-Frequency Operation
- Temperature-Independent Switching Behavior
- Extremely Fast Switching
- Positive Temperature Coefficient on VF
- RoHS Compliant

### Applications

- Switch Mode Power Supplies
- Server/Telecom Power Supplies
- Industrial Power Supplies
- Solar Inverter
- Uninterruptible Power Supply

### Chip Outline



- Wafer Size 100mm
- Thickness 370±25 um
- Chip Size 2,030um X 2,030um
- Anode Pad Size 1,700um X 1,700um
- Anode Metalization Al 3.0um
- Cathode Metalization Ni/Ag 0.5um

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

Symbol	Parameter	Value	Units
$V_{RRM}$	Repetitive Peak Reverse Voltage	650	V
$V_{RSM}$	Surge Peak Reverse Voltage	650	V
$V_{DC}$	DC Blocking Voltage	650	V
$I_F$	Continuous forward current $T_C = 25^\circ\text{C}$	18	A
$I_{FSM}$	Non-Repetitive Forward Surge Current $T_C = 25^\circ\text{C}$ (PW=10ms sinusoidal)	100	A
$T_J, T_{stg}$	Operating Junction and Storage Temperature	-55 to +175	$^\circ\text{C}$

### Electrical Characteristics

$T_C = 25^{\circ}\text{C}$  unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
$V_F$	Forward Voltage	$I_F = 10\text{A}, T_C = 25^{\circ}\text{C}$	--	1.35	1.65	V
$I_R$	Reverse Current	$V_R = 650\text{V}, T_C = 25^{\circ}\text{C}$	--	20	50	$\mu\text{A}$
$Q_C$	Total Capacitive Charge	$V_R = 400\text{V}$	--	27	--	nC
C	Total Capacitance	$V_R = 1\text{V}, T_J = 25^{\circ}\text{C}, f = 1\text{MHz}$ $V_R = 500\text{V}, T_J = 25^{\circ}\text{C}, f = 1\text{MHz}$	--	467 67	--	pF

### Typical Characteristics

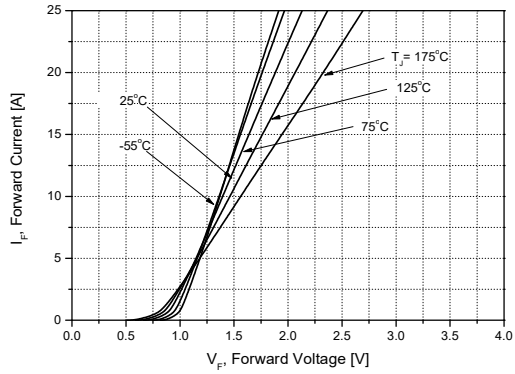


Figure 1. Forward Characteristics

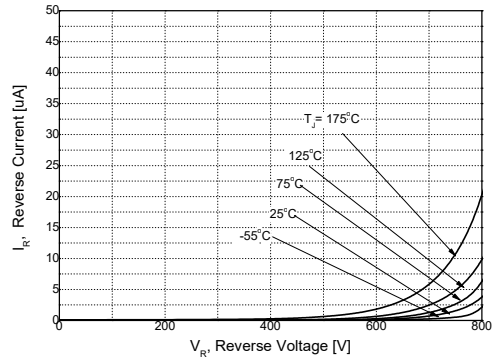


Figure 2. Reverse Characteristics

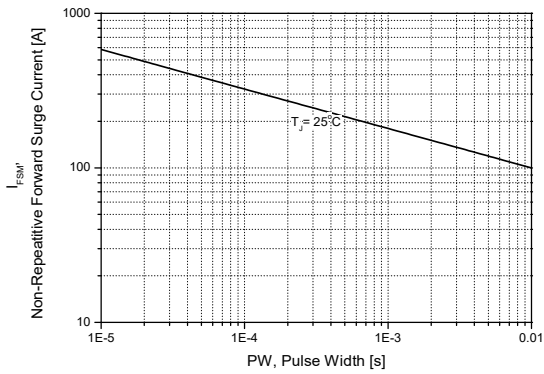


Figure 3. Non-Repetitive Peak Forward Surge Current vs. Pulse Duration

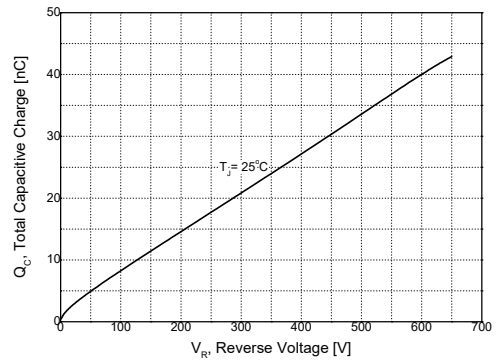


Figure 4. Total Capacitive Charge

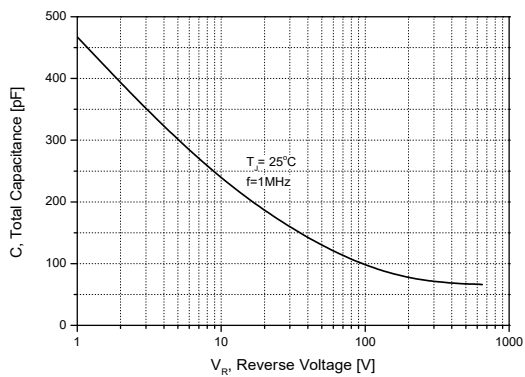


Figure 5. Total Capacitance

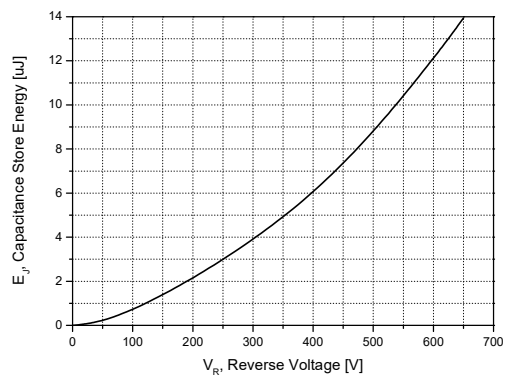
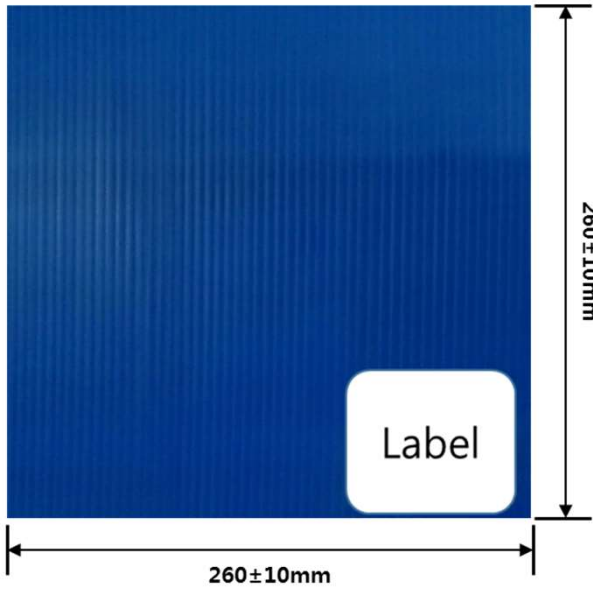


Figure 6. Capacitance Store Energy

**Packing Information**

**Inner : Plastic PVC Sheet (Dicing Wafer)**



**\* Label information**

Product Code	PDXXXXXXLB
Chip [ea]	XXX
Date	20XX . XX . XX .

**YESPowertechnix.**

**Outer Box**



## Notes

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