

## PD020120EB(Bare Chip) / PD020120EW(Wafer) 1200V Silicon Carbide Diode

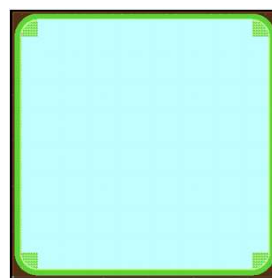
### Features

- 1200-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
- Power Factor Correction
- Motor Drives
- HID Lighting

### Chip Outline



- Wafer Size 100mm
- Thickness 370±25 um
- Chip Size 3,430um X 3,430um
- Anode Pad Size 2,830um X 2,830um
- Anode Metalization Al 3um
- Cathode Metalization Ni/Ag 0.5um

### Absolute Maximum Ratings

Symbol	Parameter	Value	Units
V <sub>RRM</sub>	Repetitive Peak Reverse Voltage	1200	V
V <sub>RSM</sub>	Surge Peak Reverse Voltage	1200	V
V <sub>DC</sub>	DC Blocking Voltage	1200	V
I <sub>F</sub>	Continuous forward current T <sub>C</sub> = 25°C	20	A
I <sub>FSM</sub>	Non-Repetitive Forward Surge Current T <sub>C</sub> = 25°C (PW=10ms sinusoidal)	100	A
T <sub>J</sub> , T <sub>stg</sub>	Operating Junction and Storage Temperature	-55 to +175	°C

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

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
$V_F$	Forward Voltage	$I_F = 20\text{A}, T_C = 25^\circ\text{C}$	--	1.5	1.8	V
$I_R$	Reverse Current	$V_R = 1200\text{V}, T_C = 25^\circ\text{C}$	--	30	70	$\mu\text{A}$
$Q_C$	Total Capacitive Charge	$V_R = 800\text{V}$	--	66	--	nC
C	Total Capacitance	$V_R = 1\text{V}, T_J = 25^\circ\text{C}, f = 1\text{MHz}$ $V_R = 800\text{V}, T_J = 25^\circ\text{C}, f = 1\text{MHz}$	--	1275 83	--	pF

## Typical Characteristics

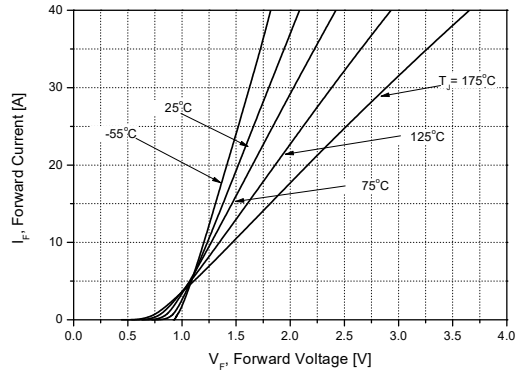


Figure 1. Forward Characteristics

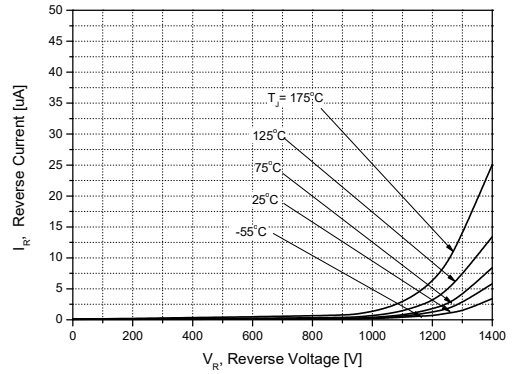


Figure 2. Reverse Characteristics

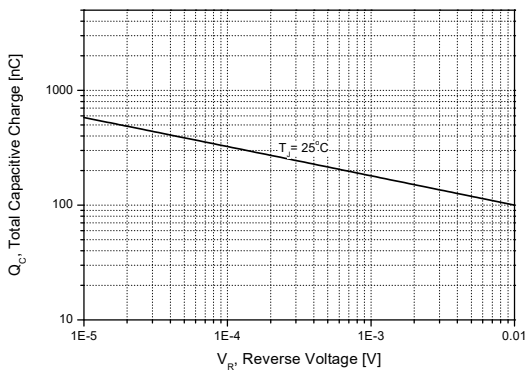


Figure 3. Non-Repetitive Peak Forward Surge Current vs. Pulse Duration

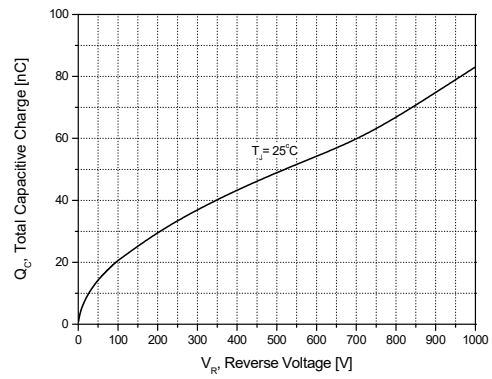


Figure 4. Total Capacitive Charge

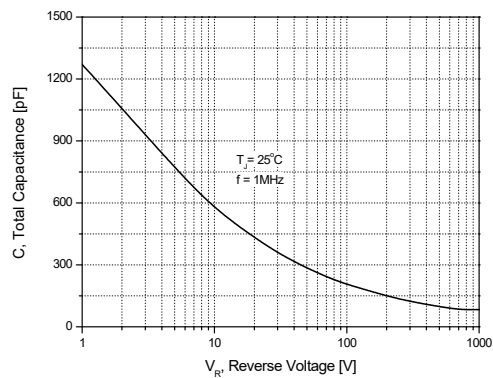


Figure 5. Total Capacitance

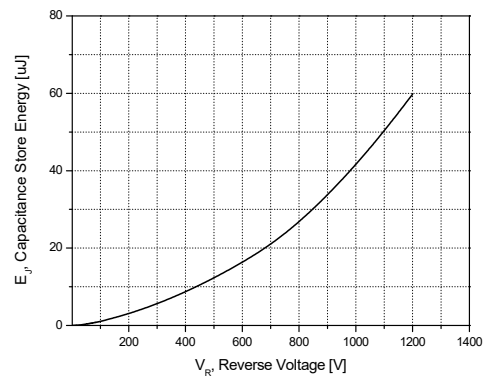
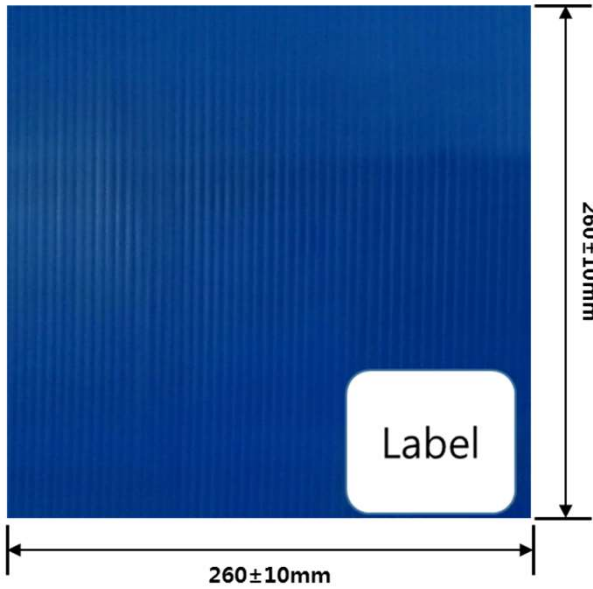


Figure 6. Capacitance Store Energy

**Packing Information**

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



**\* Label information**

<b>Product Code</b>	PDXXXXXXEB
<b>Chip [ea]</b>	XXX
<b>Date</b>	20XX . XX . XX .

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**Outer Box**



## Notes

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