PD020065EB(Bare Chip) / PD020065EW(Wafer)
650V Silicon Carbide Diode

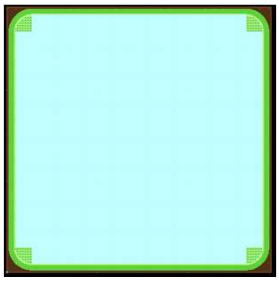
Features

- 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
- Power Factor Correction
- Motor Drives
- HID Lighting

Chip Outline



- **Wafer Size** **100mm**
- **Thickness** **370±25 um**
- **Chip Size** **3,000um X 3,000um**
- **Anode Pad Size** **2,500um X 2,500um**
- **Anode Metalization** **Al 3um**
- **Cathode Metalization** **Ni/Ag 0.5um**

Absolute Maximum Ratings

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˚C	20	A
I_{FSM}	Non-Repetitive Forward Surge Current T_C = 25˚C (PW=10ms sinusoidal)	100	A
T_J, Tstg	Operating Junction and Storage Temperature	-55 to +175	℃

Electrical Characteristics

T_C = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
V_F	Forward Voltage	I_F = 20A, T_C = 25°C	--	1.5	1.8	V
I_R	Reverse Current	V_R = 650V T_C = 25°C	--	30	70	uA
Q_C	Total Capacitive Charge	V_R = 400V	--	45	--	nC
C	Total Capacitance	V_R = 1V, T_J = 25°C, f = 1MHz V_R = 520V, T_J = 25°C, f = 1MHz	--	850 113	--	pF

Typical Characteristics

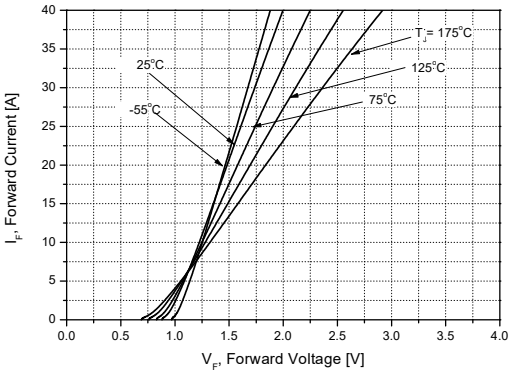


Figure 1. Forward Characteristics

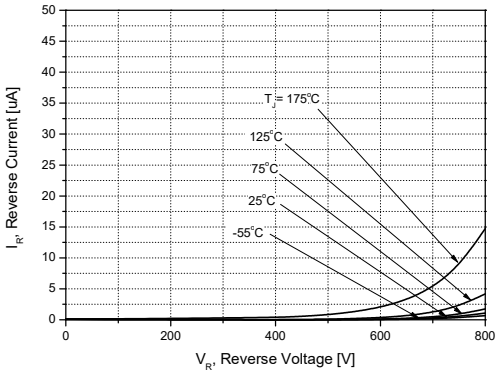


Figure 2. Reverse Characteristics

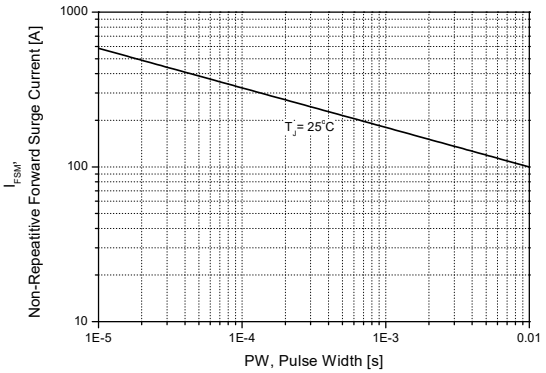


Figure 3. Non-Repetitive Peak Forward Surge Current vs. Pulse Duration

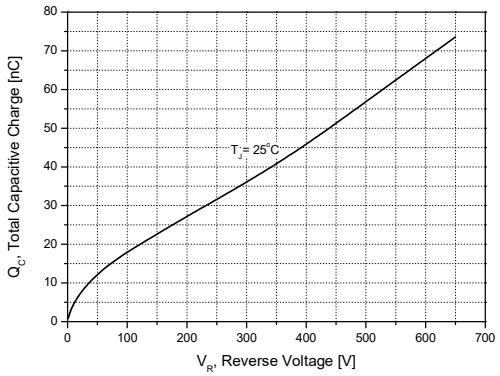


Figure 4. Total Capacitive Charge

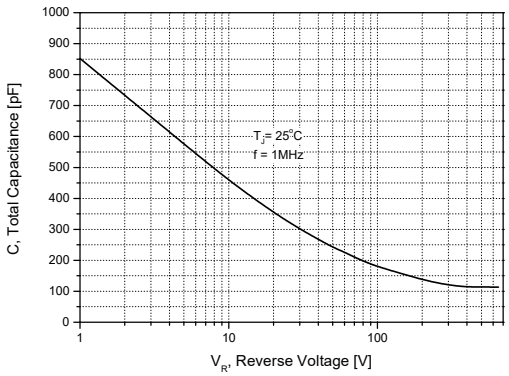


Figure 5. Total Capacitance

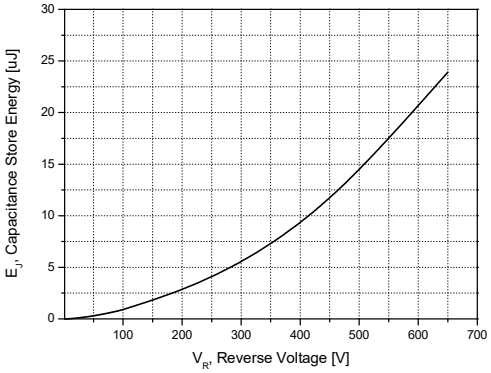
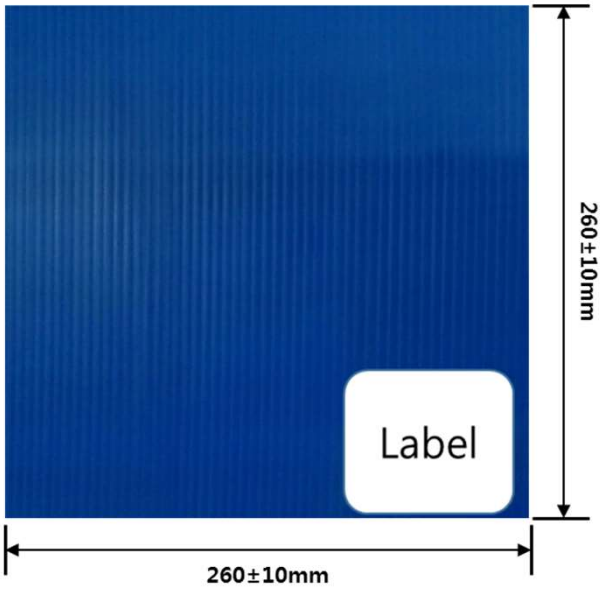


Figure 6. Capacitance Store Energy

Packing Information

Inner : Plastic PVC Sheet (Dicing Wafer)

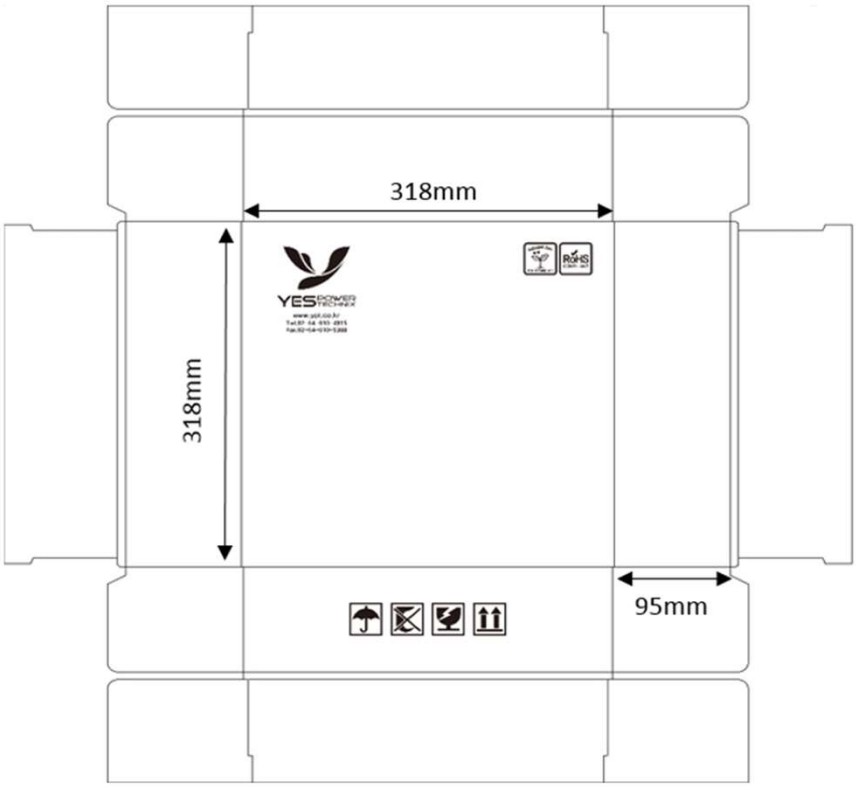


*** Label information**

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

YESPowertechnix.

Outer Box



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