

PD020065L2C / PD020065L2C_G

650V Silicon Carbide Diode

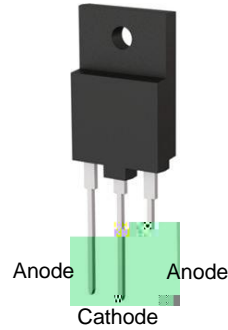
Features

- 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

Package Outline



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 $T_C = 25^\circ\text{C}$ $T_C = 100^\circ\text{C}$	15 / 30 10 / 20	A
I_{FRM}	Repetitive Peak Forward Current $T_C = 110^\circ\text{C}$	38 / 76	A
I_{FSM}	Non-Repetitive Forward Surge Current (PW=10ms sinusoidal) $T_C = 25^\circ\text{C}$ $T_C = 110^\circ\text{C}$	100 / 200 80 / 160	A
P_D	Power Dissipation $T_C = 25^\circ\text{C}$	31 / 62	W
T_J, T_{stg}	Operating Junction and Storage Temperature	-55 to +175	$^\circ\text{C}$

* Per Leg / Per Device

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
V _F	Forward Voltage	I _F = 10A, T _C = 25 °C I _F = 10A, T _C = 175 °C	--	1.35 1.65	1.65 1.95	V
I _R	Reverse Current	V _R = 650V T _C = 25 °C V _R = 650V T _C = 175 °C	--	20 40	50 500	uA
Q _C	Total Capacitive Charge	V _R = 400V	--	27	--	nC
C	Total Capacitance	V _R = 1V, T _J = 25 °C, f = 1MHz V _R = 520V, T _J = 25 °C, f = 1MHz	--	467 67	--	3 pF

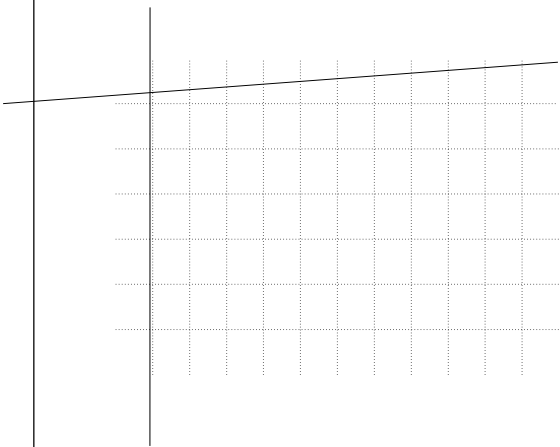
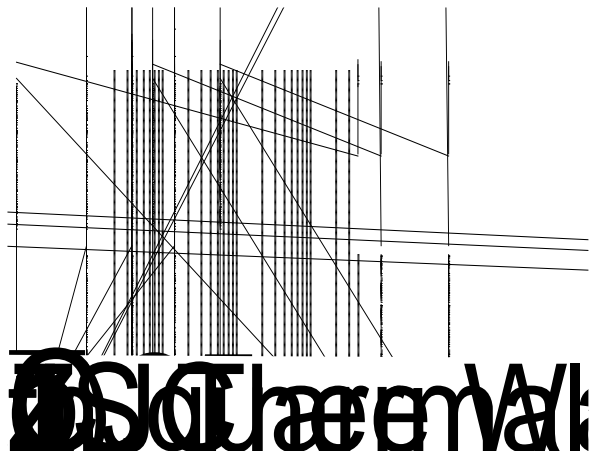
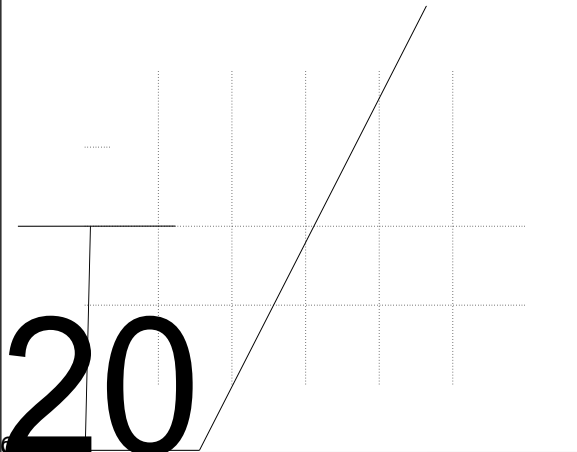
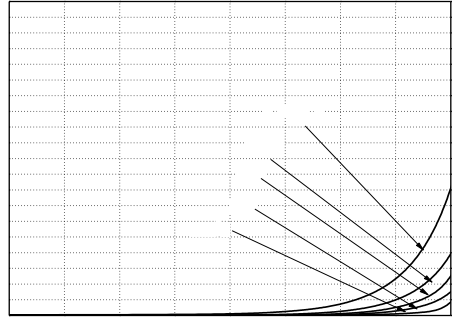
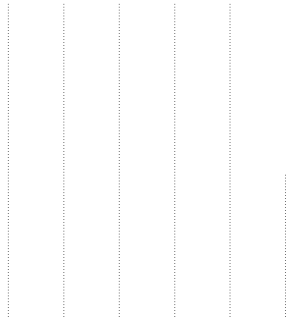
Thermal Characteristics / **Package Marking and Ordering Information**

Package Marking and Ordering Information

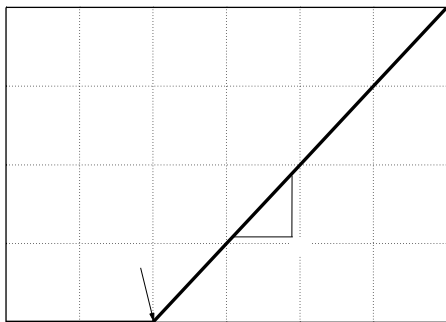
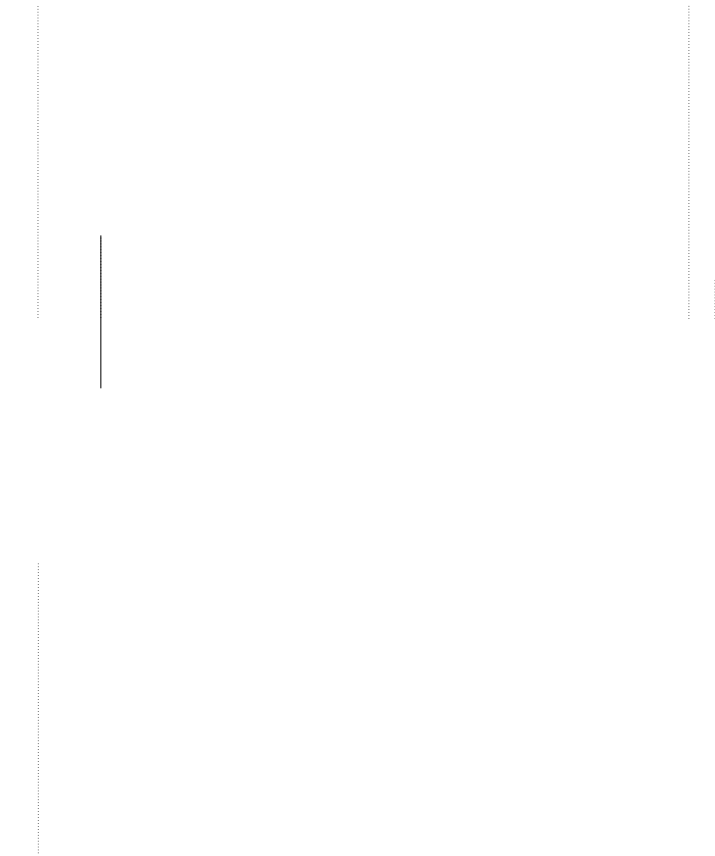
Device Marking	Device	Package	Reel Size	Tape Width	Quantity
PD020065L2C	PD020065L2C	TO-3PF_3L	-	-	30
PD020065L2C_G	PD020065L2C_G	TO-3PF_3L	-	-	30

* PD020065L2C_G : RoHS Compliant

Typical Characteristics (Per Leg)



Typical Characteristics (Per Leg)



$$V_{TH}(T_j) = -0.001 \times (T_j) + 0.950 \text{ [V]}$$

$$R_{DIFF}(T_j) = A \times T_j^2 + B \times T_j + C \text{ [} \]$$

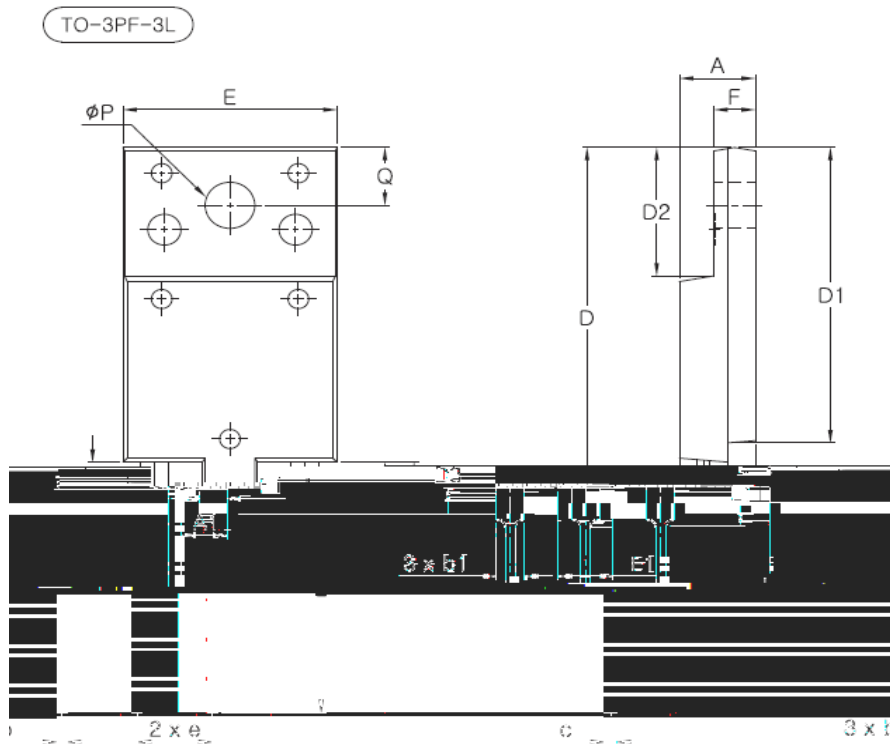
$$A = 7.50 \times 10^{-7}$$

$$B = 9.16 \times 10^{-5}$$

$$C = 4.19 \times 10^{-2}$$

$$[T_j \text{ [}^\circ\text{C]}; -55 \text{ }^\circ\text{C} \leq T_j \leq 175 \text{ }^\circ\text{C}; IF \leq 10 \text{ A}]$$

Package Information



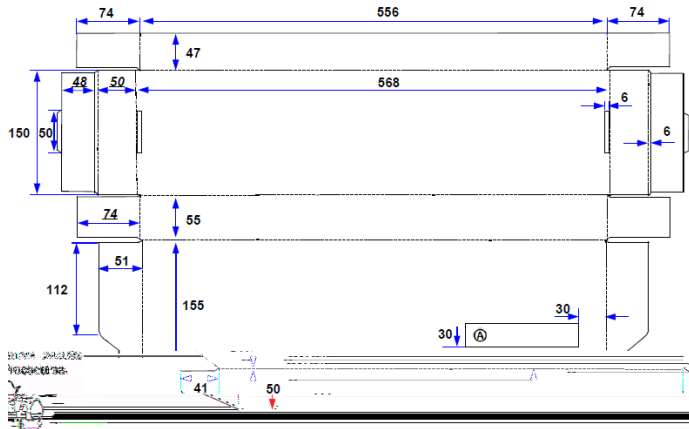
SYMBOL	MIN	NOM	MAX
A	5.30	5.50	5.70
A1	3.10	3.30	3.50
b	0.65	0.75	0.85

SYMBOL	MIN	NOM	MAX
b1	1.80	3.00	3.30
D	1.50	1.80	2.00
D1	1.80	2.10	2.30
D2	1.50	1.80	2.00
F	1.50	1.80	2.00
E	1.50	1.80	2.00
Q	1.50	1.80	2.00
ØP	0.65	0.75	0.85
Ø x b1	1.80	3.00	3.30

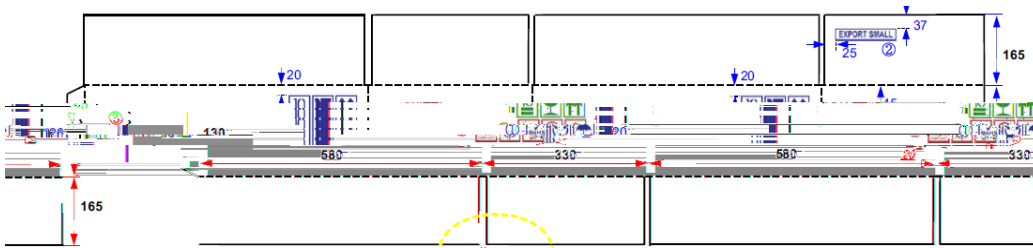
NOTE

1. THESE DIMENSIONS DO NOT INCLUDE PROTRUSIONS OF THE MOUNTING HOLES.
2. THE "(*)" MARK IS THE REFERENCE DIMENSION.

Packing Information Inner Box



Outer Box



[BOX PRINTING MARKING]

<p>② EXPORT SMALL MARKING SIZE (14?20) COLOR (DARK BLUE)</p> <p>③</p> <p>ROHS COMPLIANT</p> <p>DESIGNER</p> <p>COLOR (DARK BLUE)</p>	<p>[NOTE]</p> <p>1. MATERIAL : KLB175*K180*KLB175*K180*KLB175 (SUK175*K200*K200*K200*SUK175)</p> <p>2. NAIL QTY : 3 PCS</p>	<p>①</p> <p>EXPORT SMALL</p> <p>37</p> <p>25</p>
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Notes

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