

**SINLOON®** 肖特基貼片二極管  
**Chip Schottky Barrier Diode**

**CDB0230L**  
**0402 30V 0.2A**

**FEATURE**

- Low reverse current
- Surface mount pattern , available in various dimension 0402
- Lead free and RoHS compliance components.
- Extremely thin & leadless package, suit for small space mounting

**MECHANICAL CHARACTERISTICS**

- Size : 0402 (DFN1006) Case
- Weight: Approx 1.0mg.
- Marking: Cathode terminal; BA as 200mA 30V Low  $V_F$
- Terminal: Gold plated, solderability per MIL-STD-750 method 2026

**Application**

- For switching power supply
- Adapter
- Inverter

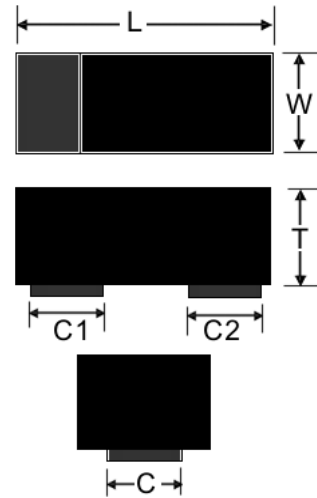
**DIMENSION**

Dimension (mm)	0402 (DNF1006)
L	1.00 ± 0.05
W	0.60 ± 0.05
T	0.50 ± 0.05
C	0.50 ± 0.05
C1	0.30 ± 0.1
C2	0.30 ± 0.1

Figure



Cathode terminal



**ELECTRICAL CHARACTERISTICS<sup>(1)</sup>**

Parameter at $T_{amb} = 25^{\circ}C^{(1)}$	Symbol	Value	Unit
Forward Voltage at $I_F=200mA$ ( $T_{amb}=25^{\circ}C^{(1)}$ )	$V_F$	0.5 max.	V
Leakage Current at $V_R=10V$ ( $T_{amb}=25^{\circ}C^{(1)}$ )	$I_R$	30 max.	$\mu A$

<sup>(1)</sup> Valid provided that electrodes are kept at ambient temperature.

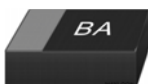
**MAXIMUM RATING<sup>(1)</sup>**

Parameter at $T_{amb} = 25^{\circ}C^{(1)}$	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	35	V
Reverse Voltage	$V_R$	30	V
Average Rectified Current	$I_O$	200	mA
Non-Repetitive Surge Forward Current at 8.3ms single half sine-wave superimposed on rate load (JEDEC method)	$I_{FSM}$	1	A
Power Dissipation	$P_D$	125	mW
Storage Temperature	$T_{STG}$	-40 to 125	$^{\circ}C$
Junction Temperature	$T_J$	125	$^{\circ}C$

<sup>(1)</sup> Valid provided that electrodes are kept at ambient temperature.

**DEVICE OUTLOOK**

Plant front side:



Plan back side



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TEST CHARACTERISTICS:

Test Item	Test Condition	Requirement
Solder ability	Sn bath at 245±5°C for 2±0.5s	>95% area tin covered
Resistance to Soldering Heat	Sn bath at 260±5°C for 10±0.5s	V <sub>F</sub> , V <sub>Z</sub> , & I <sub>R</sub> Within spec, no mechanical damage
Humidity Steady State	At 85°C 85%RH for 168hrs	V <sub>F</sub> , V <sub>Z</sub> , & I <sub>R</sub> Within spec
Continue Forward Operating Life	At 25°C I <sub>F</sub> = 1.1 I <sub>F</sub> for 1000hrs	V <sub>F</sub> , V <sub>Z</sub> , & I <sub>R</sub> Within spec
Hi-Temperature Reverse Bias	At 150°C V <sub>R</sub> = 0.8V <sub>R</sub> rated for 1000hrs	V <sub>F</sub> , V <sub>Z</sub> , & I <sub>R</sub> Within spec
Thermal Shock	-55±5°C/5min to 150±5°C/5min for 10cycles	V <sub>F</sub> , V <sub>Z</sub> , & I <sub>R</sub> Within spec
Bending Strength	Bending up to 2mm for 1 cycle	V <sub>F</sub> , V <sub>Z</sub> , & I <sub>R</sub> Within spec, no mechanical damage

Soldering Condition & Caution:

Recommended Soldering Condition (Refer to IPC/JEDEC J-STD-020D 4-1&5.2)

Recommended Profile Condition	Sn-Pb Soldering	Lead-free Soldering	Wave Soldering
Ramp-up rate (from pre-heat stage)	<3°C/s	<3°C/s	ΔT<150°C
Pre-heat Temperature & Time	100-150°C, 60~120s	150-200°C, 60~120s	100-150°C, 60~120s
Soldering Temperature & Time	183°C, 60~150s	217°C, 60~150s	260±5°C, 5±2s
Peak Temperature	230±5°C, <260°C	245±5°C, <260°C	260±5°C
Time within 5°C of peak temperature	10~20s	20~30s	-
Ramp-down rate	<6°C/s	<6°C/s	<6°C/s
Time 25°C to peak temperature	<6min	<8min	-

Manual Soldering: Approx. 350°C for 3s, avoid solder iron tip direct touch the components body.

TYPICAL CHARACTERISTICS (at Tamb=25°C)

Fig. 1 - Forward characteristics

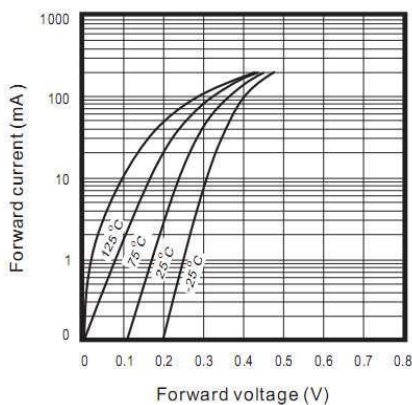


Fig. 2 - Reverse characteristics

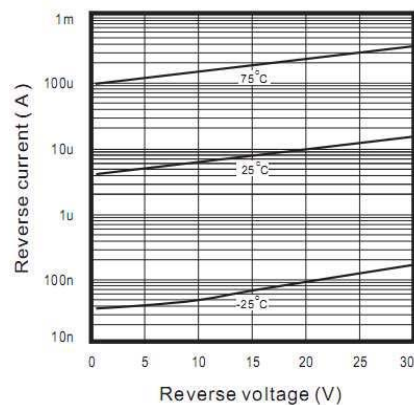


Fig. 3 - Capacitance between terminals characteristics

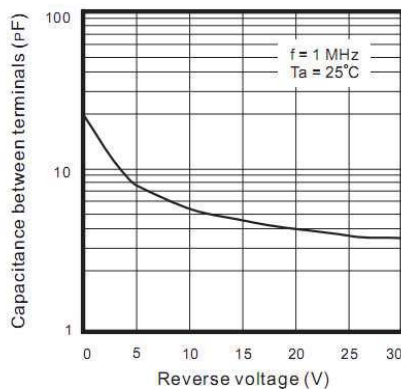
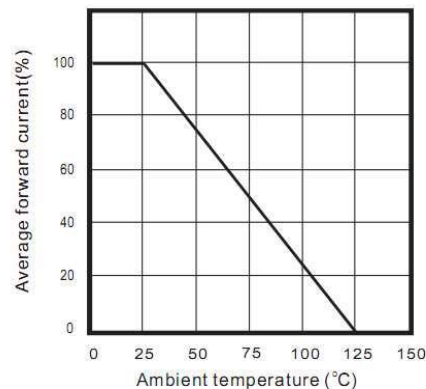


Fig. 4 - Current derating curve



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□ TYPICAL CHARACTERISTICS (at Tamb=25°C)

Fig. 5 - VF Dispersion map

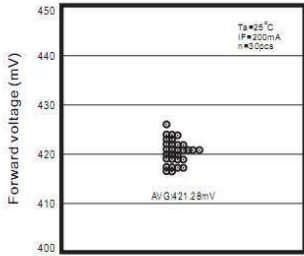


Fig. 6 - IR Dispersion map

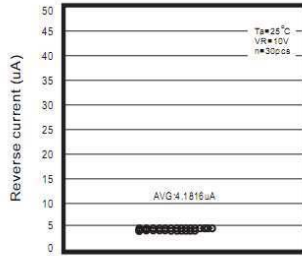
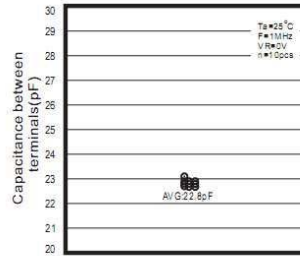


Fig. 7 - CT Dispersion map



□ RECOMMENDED SOLDERING PROFILE:

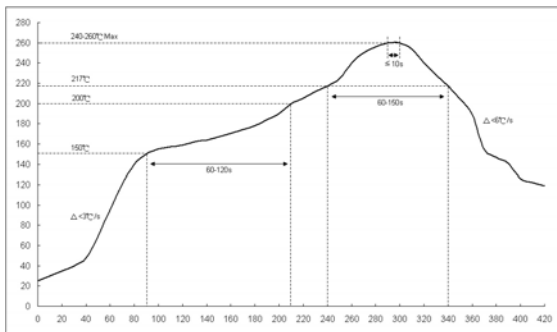


Fig 1: Reflow soldering profile for lead-free solder (SnAgCu)

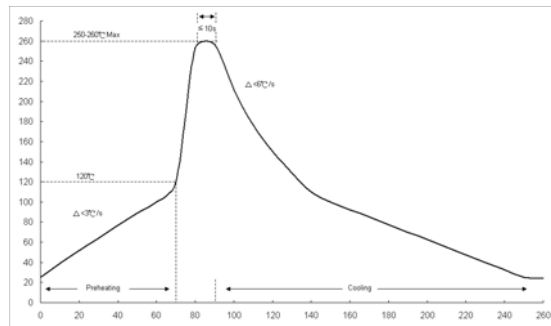


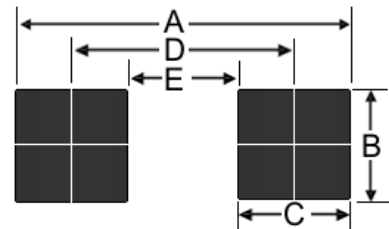
Fig 2: Wave soldering profile.

■ RECOMMENDED SOLDERING FOOTPRINT

Reflow/Wave Soldering:

Size:	Dimension				
CDB0230M	A	B	C	D	E
mm	1.250	0.700	0.500	0.750	0.250
Inch	0.049	0.02	0.5	0.03	0.01

Mounting Pad Layout



■ ENVIRONMENTAL CHARACTERISTICS

Product	Hazardous Substance or Element / ppm					
	Pd	Cd	Hg	Cr <sup>6+</sup>	PBB	PBDE
CDB0230	<1000	<100	<1000	<1000	<1000	<1000

■ PACKING METHOD:

Product	Quantity / Reel	Reel Size	Tape	Approx Gross Weigh
CDB0230M	5000	7"	Emboss tape	10.5 Kgs/300K Ctn

■ DISCLAIMERS

These products are not designed use in application where any failure or malfunction may resulted in personal injury, death or severe property or environmental damage such as medical, military, aircraft, space or life support equipments.

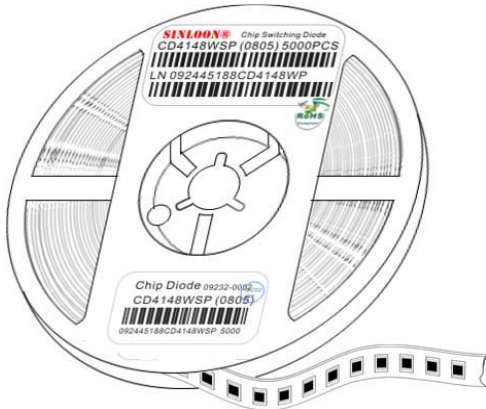


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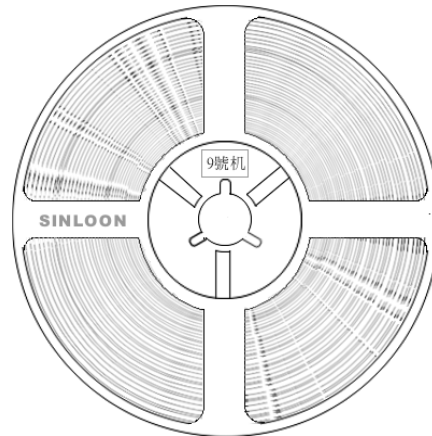
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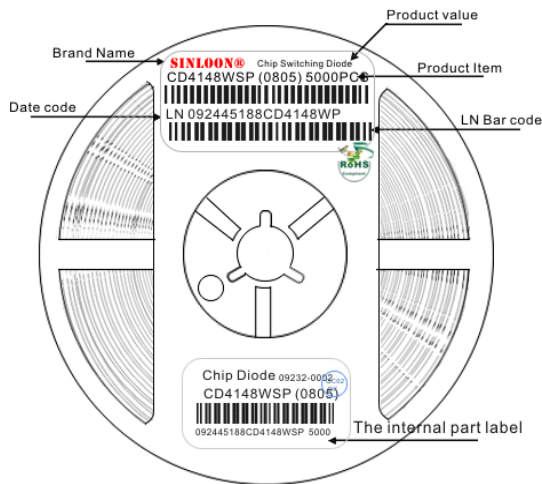
□ PACKAGE



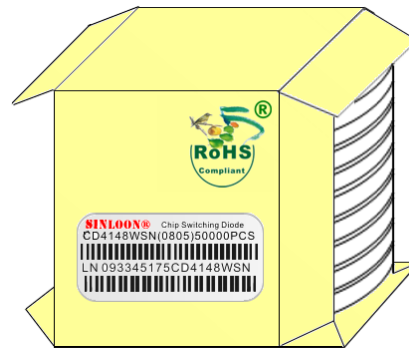
Plastic reel front side



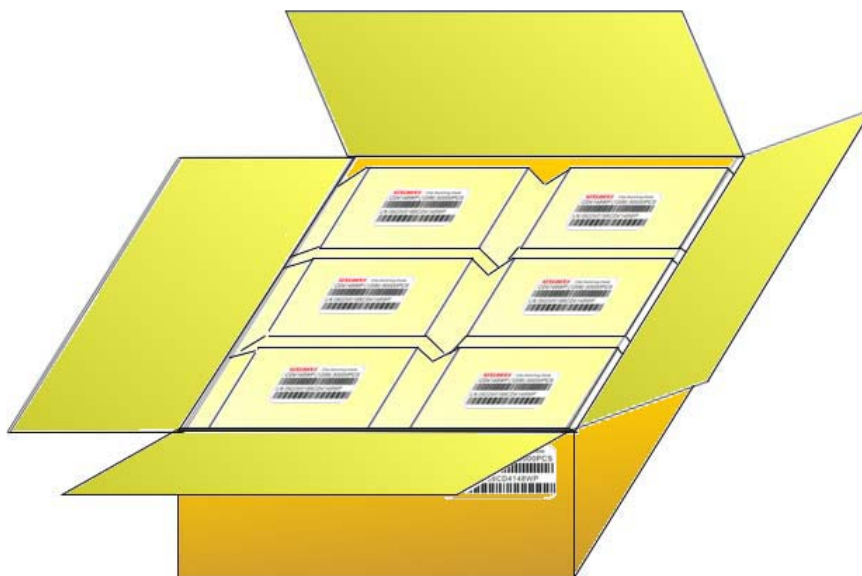
Plastic reel back side



Reel label



Inner box packing



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※Mayloon characteristic parameters of electronic product specification changes or updates without prior notice。

