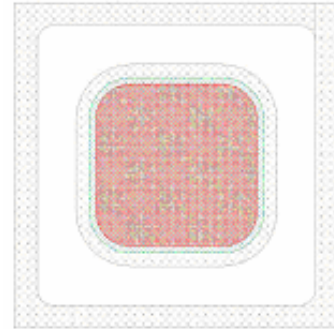


## 2CW032XXXQ-PX SERIES ZENER DIODE CHIPS FOR GLASS SEAL WITH ASYMMETRY LIMITS

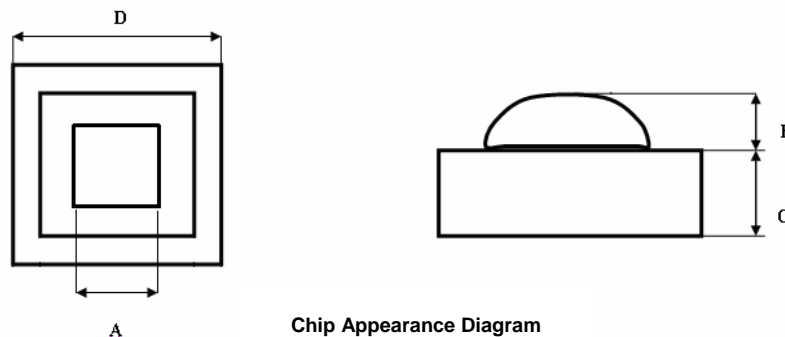
### DESCRIPTION

- 2CW032XXXQ-PX series are low-power zener diode chips for glass seal that fabricated in silicon epitaxial planar technology.
- The series is asymmetrical regulator voltage chips, that is the upper limit and lower limit is asymmetrical, e.g.  $V_z=3.0V$  chips: the upper limit is 3.25V, the lower limit is 2.95V, the specification design is better suitable for user's using habit
- For user convenient choice regulator voltage in narrow limit. The series divided into 4 types in given regulator voltage and named PA, PB, PC and PD.
- The chip thickness is  $140\mu m$ . The top electrode material is Ag bump, and the backside electrode material is Ag.
- Chip size:  $0.32 \times 0.32 (mm)^2$ .



2CW032XXXQ-PX CHIP TOPOGRAPHY

### 2CW032XXXQ-PX APPEARANCE



Chip Appearance Diagram

Parameter	Symbol	Min.	Type	Max.	Unit
Chip Size	D	290	--	310	$\mu m$
Chip Thickness	C	120	--	160	$\mu m$
Bump Size	A	196	--	240	$\mu m$
Bump Height	B	25	--	55	$\mu m$
Scribe Line Width	/	--	40	--	$\mu m$

### ABSOLUTE MAXIMUM RATINGS

Characteristics	Symbol	Test conditions	Value	Unit
Junction Temperature	$T_j$	----	175	$^{\circ}C$
Storage Temperature	$T_{stg}$	----	-50~+175	$^{\circ}C$

**ELECTRICAL CHARACTERISTICS (For packaged diodes, T<sub>amb</sub>=25°C)**

Type	Working Voltage V <sub>Z</sub> @I <sub>Z</sub> =5mA	Dynamic resistance		Reverse leakage current @T <sub>amb</sub> =25@ V <sub>R</sub>	
		Z <sub>zk</sub> (Ω) @ I <sub>zk</sub> =1mA	Z <sub>zt</sub> (Ω) @ I <sub>zt</sub> =5mA	I <sub>R</sub> (uA)	V <sub>R</sub> (V)
2CW032XXX1YQ-PX	V <sub>Zmin</sub> -V <sub>Zmax</sub> (V)	max	max	max	
2CW032036YQ-PA	3.47~3.68	120	1100	10	1
2CW032036YQ-PB	3.62~3.83				
2CW032039YQ-PA	3.77~3.98	120	1200	5	1
2CW032039YQ-PB	3.92~4.14				
2CW032043YQ-PA	4.05~4.26	120	1200	5	1
2CW032043YQ-PB	4.2~4.4				
2CW032043YQ-PC	4.34~4.53				
2CW032047YQ-PA	4.47~4.65	100	1200	5	1
2CW032047YQ-PB	4.59~4.77				
2CW032047YQ-PC	4.71~4.91				
2CW032051YQ-PA	4.85~5.03	70	1200	5	1.5
2CW032051YQ-PB	4.97~5.18				
2CW032051YQ-PC	5.12~5.35				
2CW032056YQ-PA	5.29~5.52	40	900	5	2.5
2CW032056YQ-PB	5.46~5.7				
2CW032056YQ-PC	5.64~5.88				
2CW032062YQ-PA	5.81~6.06	30	500	5	3
2CW032062YQ-PB	5.99~6.24				
2CW032062YQ-PC	6.16~6.4				
2CW032068YQ-PA	6.32~6.59	25	150	2	3.5
2CW032068YQ-PB	6.52~6.79				
2CW032068YQ-PC	6.7~6.97				
2CW032075YQ-PA	6.88~7.19	25	120	0.5	4
2CW032075YQ-PB	7.11~7.41				
2CW032075YQ-PC	7.33~7.64				
2CW032082YQ-PA	7.56~7.9	20	120	0.5	5
2CW032082YQ-PB	7.82~8.15				
2CW032082YQ-PC	8.07~8.41				
2CW032091YQ-PA	8.33~8.7	20	120	0.5	6
2CW032091YQ-PB	8.61~8.99				
2CW032091YQ-PC	8.89~9.29				

(To be continued)

(Continued)

Type	Working Voltage Vz@Iz=5mA	Dynamic resistance		Reverse leakage current @Tamb=25@ VR	
		Zzk(Ω) @ Izk=1mA	Zzt(Ω) @ Izt=5mA	IR(μA)	VR(V)
2CW032XXXQ-PX	VZmin-Vzmax(V)	max	max	max	
2CW032100YQ-PA	9.19~9.59	20	120	0.2	7
2CW032100YQ-PB	9.48~9.9				
2CW032100YQ-PC	9.82~10.3				
2CW032110YQ-PA	10.18~10.63	20	110	0.2	8
2CW032110YQ-PB	10.5~10.95				
2CW032110YQ-PC	10.82~11.26				
2CW032120YQ-PA	11.13~11.63	25	110	0.2	9
2CW032120YQ-PB	11.5~11.92				
2CW032120YQ-PC	11.8~12.3				
2CW032130YQ-PA	12.18~12.71	25	110	0.2	10
2CW032130YQ-PB	12.59~13.16				
2CW032130YQ-PC	13.03~13.62				
2CW032150YQ-PA	13.48~14.09	25	110	0.2	11
2CW032150YQ-PB	13.95~14.56				
2CW032150YQ-PC	14.42~15.02				
2CW032160YQ-PA	14.87~15.5	25	150	0.2	12
2CW032160YQ-PB	15.33~15.96				
2CW032160YQ-PC	15.79~16.5				
2CW032180YQ-PA	16.34~17.06	30	150	0.2	13
2CW032180YQ-PB	16.9~17.67				
2CW032180YQ-PC	17.51~18.3				
2CW032200YQ-PA	18.14~18.96	30	200	0.2	15
2CW032200YQ-PB	18.8~19.68				
2CW032200YQ-PC	19.52~20.45				
2CW032220YQ-PA	20.23~21.08	30	200	0.2	17
2CW032220YQ-PB	20.76~21.65				
2CW032220YQ-PC	21.22~22.09				
2CW032220YQ-PD	21.68~22.61				
2CW032240YQ-PA	22.26~23.12	35	200	0.2	19
2CW032240YQ-PB	22.75~23.73				
2CW032240YQ-PC	23.29~24.27				
2CW032240YQ-PD	23.81~24.81				

(To be continued)

(Continued)

Type	Working Voltage Vz@Iz=5mA	Dynamic resistance		Reverse leakage current @Tamb=25@ VR	
		Zzk(Ω)@ Izk=1mA	Zzt(Ω)@ Izt=5mA	IR(μA)	VR(V)
2CW032XXX1YQ-PX	VZmin-Vzmax(V)	max	max	max	
2CW032270YQ-PA	24.26~25.52	45	250	0.2	21
2CW032270YQ-PB	24.97~26.26				
2CW032270YQ-PC	25.63~26.95				
2CW032270YQ-PD	26.29~27.64				
2CW032300YQ-PA	26.99~28.39	55	250	0.2	23
2CW032300YQ-PB	27.7~29.13				
2CW032300YQ-PC	28.36~29.82				
2CW032300YQ-PD	29.02~30.51				
2CW032330YQ-PA	29.68~31.22	65	250	0.2	25
2CW032330YQ-PB	30.32~31.88				
2CW032330YQ-PC	30.9~32.5				
2CW032330YQ-PD	31.49~33.11				
2CW032360YQ-PA	32.14~33.79	75	250	0.2	27
2CW032360YQ-PB	32.79~34.49				
2CW032360YQ-PC	33.4~35.13				
2CW032360YQ-PD	34.01~35.77				

Forward Voltage VF= 1.0 V Maximum @ IF = 100 mA for all 2CW032XXX1YQ-PX series.