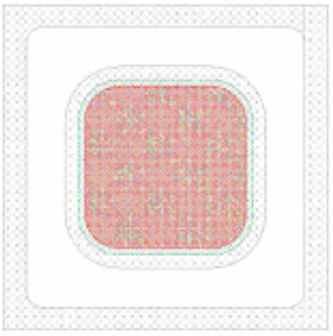
2CW032XXXYQ SERIES ZENER DIODE CHIPS FOR GLASS SEAL

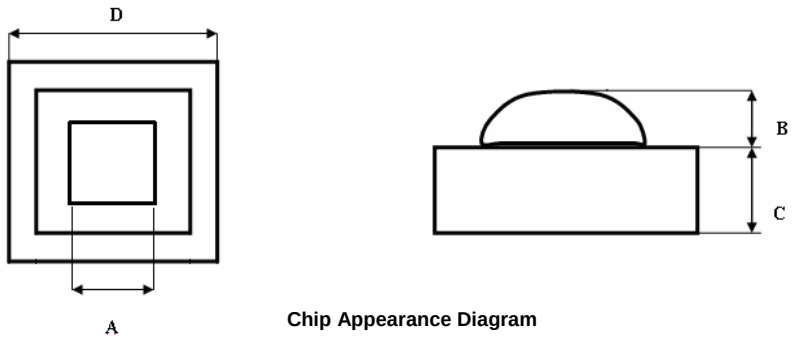
DESCRIPTION

- 2CW032XXXYQ series are low-power zener diode chips for glass seal that fabricated in silicon epitaxial planar technology.
- The series can provide three precision voltage chips for different regulator voltage.
- The chip thickness is 140μm. The top electrode material is Ag bump, and the back-side electrode material is Ag.
- Chip size: 0.32 X 0.32 (mm)2.



2CW032XXXYQ CHIP TOPOGRAPHY

2CW032XXXYQ APPEARANCE



Chip Appearance Diagram

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

Ordering Specification

Series	Specification
2CW032XXXYQ-2	2% tolerance
2CW032XXXYQ-5	5% tolerance
2CW032XXXYQ	Normal, Approximately 5% tolerance

ABSOLUTE MAXIMUM RATINGS

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

Electrical characteristics (For packaged diodes, Tamb=25°C)

1. 2CW032XXXYQ-2 series(2% tolerance)

Type	*Working Voltage @ Iz=5mA	*Dynamic resistance		Reverse leakage current@ Tamb=25°C@ VR	
2CW032XXXYQ-2	Vz(V)	Zzk(Ω)@ Izk=1mA	Zzt(Ω)@ Izt=5mA	IR(μA)	VR(V)
	Vmin-Vmax	max	max	max	
2CW032036YQ-2	3.53~3.67	600	85	2	1.0
2CW032039YQ-2	3.82~3.98	600	85	2	1.0
2CW032043YQ-2	4.21~4.39	600	80	1	1.0
2CW032047YQ-2	4.61~4.79	600	70	0.5	1.0
2CW032051YQ-2	5.00~5.20	550	50	0.1	1.0
2CW032056YQ-2	5.49~5.71	450	30	0.1	1.0
2CW032062YQ-2	6.08~6.32	200	10	0.1	2.0
2CW032068YQ-2	6.66~6.94	150	8	0.1	3.0
2CW032075YQ-2	7.35~7.65	50	7	0.1	5.0
2CW032082YQ-2	8.04~8.36	50	7	0.1	6.1
2CW032091YQ-2	8.92~9.28	50	10	0.1	6.8
2CW032100YQ-2	9.80~10.20	70	15	0.1	7.5
2CW032110YQ-2	10.78~11.22	70	20	0.1	8.2
2CW032120YQ-2	11.76~12.24	90	20	0.1	9.0
2CW032130YQ-2	12.74~13.26	110	26	0.1	9.7
2CW032150YQ-2	14.70~15.30	110	30	0.1	11
2CW032160YQ-2	15.68~16.32	170	40	0.1	12
2CW032180YQ-2	17.64~18.36	170	50	0.1	14
2CW032200YQ-2	19.60~20.40	220	55	0.1	15
2CW032220YQ-2	21.56~22.44	220	55	0.1	17
2CW032240YQ-2	23.52~24.48	220	80	0.1	18
2CW032270YQ-2	26.46~27.54	220	80	0.1	20
2CW032300YQ-2	29.40~30.60	220	80	0.1	22
2CW032330YQ-2	32.34~33.66	220	80	0.1	24
2CW032360YQ-2	35.28~36.72	220	80	0.1	27
2CW032390YQ-2	38.22~39.78	500	90	0.1	29
2CW032430YQ-2	42.14~43.86	600	90	0.1	32
2CW032470YQ-2	46.06~47.94	700	110	0.1	35
2CW032510YQ-2	49.98~52.02	700	125	0.1	38
2CW032560YQ-2	54.88~57.12	1000	135	0.1	42
2CW032620YQ-2	60.76~63.24	1000	150	0.1	46.5
2CW032680YQ-2	66.64~69.36	1000	200	0.1	51
2CW032750YQ-2	73.5~76.5	1500	250	0.1	56

Forward Voltage VF= 1.0 V Maximum @ IF = 100 mA for all 2CW032XXXYQ-2 series.

*Note: from 39V up to 75V Vz@Iz=2.5mA, Zzt@Iz=2.5mA,Zzk@Iz=0.5mA.

2. 2CW032XXXYQ-5 series(5% tolerance)

Type	*Working Voltage@Iz =5mA	*Dynamic resistance		Reverse leakage current @ Tamb=25°C@ VR	
2CW032XXXYQ-5	Vz(V)	Zzk(Ω)@ Izk=1mA	Zzt(Ω)@ Izt=5mA	IR(μA)	VR(V)
	Vmin-Vmax	max	max	max	
2CW032020YQ-5	1.9-2.1	600	85	100	1.0
2CW032022YQ-5	2.09-2.31	600	85	75	1.0
2CW032024YQ-5	2.28~2.52	600	85	50	1.0
2CW032027YQ-5	2.57~2.84	600	85	10	1.0
2CW032030YQ-5	2.85~3.15	600	85	4	1.0
2CW032033YQ-5	3.14~3.47	600	85	2	1.0
2CW032036YQ-5	3.42~3.78	600	85	2	1.0
2CW032039YQ-5	3.71~4.10	600	85	2	1.0
2CW032043YQ-5	4.09~4.52	600	80	1	1.0
2CW032047YQ-5	4.47~4.94	600	70	0.5	1.0
2CW032051YQ-5	4.85~5.36	550	50	0.1	1.0
2CW032056YQ-5	5.32~5.88	450	30	0.1	1.0
2CW032062YQ-5	5.89~6.51	200	10	0.1	2.0
2CW032068YQ-5	6.46~7.14	150	8	0.1	3.0
2CW032075YQ-5	7.13~7.88	50	7	0.1	5.0
2CW032082YQ-5	7.79~8.61	50	7	0.1	6.1
2CW032091YQ-5	8.65~9.56	50	10	0.1	6.8
2CW032100YQ-5	9.50~10.50	70	15	0.1	7.5
2CW032110YQ-5	10.45~11.55	70	20	0.1	8.2
2CW032120YQ-5	11.40~12.60	90	20	0.1	9.0
2CW032130YQ-5	12.40~13.65	110	26	0.1	9.7
2CW032150YQ-5	14.25~15.60	110	30	0.1	11
2CW032160YQ-5	15.30~16.80	170	40	0.1	12
2CW032180YQ-5	17.10~18.90	170	50	0.1	14
2CW032200YQ-5	19.00~21.00	220	55	0.1	15
2CW03220YQ-5	20.90~23.10	220	55	0.1	17
2CW032240YQ-5	22.80~25.20	220	80	0.1	18
2CW032270YQ-5	25.65~28.35	220	80	0.1	20
2CW032300YQ-5	28.50~31.50	220	80	0.1	22
2CW032330YQ-5	31.35~34.65	220	80	0.1	24
2CW032360YQ-5	34.20~37.80	220	80	0.1	27
2CW032390YQ-5	37.05~40.95	500	90	0.1	29
2CW032430YQ-5	40.85~45.15	600	90	0.1	32
2CW032470YQ-5	44.65~49.35	700	110	0.1	35
2CW032510YQ-5	48.45~53.55	700	125	0.1	38

2CW032560YQ-5	53.2~58.8	1000	135	0.1	42
2CW032620YQ-5	58.9~65.1	1000	150	0.1	46.5
2CW032680YQ-5	64.6~71.4	1000	200	0.1	51
2CW032750YQ-5	71.25~78.75	1500	250	0.1	56

Forward Voltage VF= 1.0 V Maximum @ IF = 100 mA for all 2CW032XXXYQ-5 series.

*Note: from 39V up to 75V Vz@Iz=2.5mA, Zzt@Iz=2.5mA,Zzk@Iz=0.5mA.

3. 2CW032XXXYQ series (normal)

Type	*Working Voltage@ Iz=5mA	*Dynamic resistance		Reverse leakage current@ Tamb=25°C@ VR	
2CW032XXXYQ	Vz(V)	Zzk(Ω)@ Izk=1mA	Zzt(Ω)@ Izt=5mA	IR(μA)	VR(V)
	Vmin-Vmax	max	max	max	
2CW032020YQ	1.80-2.15	600	85	100	1.0
2CW032022YQ	2.08-2.33	600	85	75	1.0
2CW032024YQ	2.28-2.56	600	85	50	1.0
2CW032027YQ	2.5-2.9	600	85	10	1.0
2CW032030YQ	2.8-3.2	600	85	4	1.0
2CW032033YQ	3.1-3.5	600	85	2	1.0
2CW032036YQ	3.4-3.8	600	85	2	1.0
2CW032039YQ	3.7-4.1	600	85	2	1.0
2CW032043YQ	4.0-4.6	600	80	1	1.0
2CW032047YQ	4.4-5.0	600	70	0.5	1.0
2CW032051YQ	4.8-5.4	550	50	0.1	1.0
2CW032056YQ	5.2-6.0	450	30	0.1	1.0
2CW032062YQ	5.8-6.6	200	10	0.1	2.0
2CW032068YQ	6.4-7.2	150	8	0.1	3.0
2CW032075YQ	7.0-7.9	50	7	0.1	5.0
2CW032082YQ	7.7-8.7	50	7	0.1	6.1
2CW032091YQ	8.5-9.6	50	10	0.1	6.8
2CW032100YQ	9.4-10.6	70	15	0.1	7.5
2CW032110YQ	10.4-11.6	70	20	0.1	8.2
2CW032120YQ	11.4-12.7	90	20	0.1	9.0
2CW032130YQ	12.4-14.1	110	26	0.1	9.7
2CW032150YQ	13.8-15.6	110	30	0.1	11
2CW032160YQ	15.3-17.1	170	40	0.1	12
2CW032180YQ	16.8-19.1	170	50	0.1	14
2CW032200YQ	18.8-21.2	220	55	0.1	15
2CW032220YQ	20.8-23.3	220	55	0.1	17
2CW032240YQ	22.8-25.6	220	80	0.1	18
2CW032270YQ	25.1-28.9	220	80	0.1	20
2CW032300YQ	28.0-32.0	220	80	0.1	22
2CW032330YQ	31.0-35.0	220	80	0.1	24
2CW032360YQ	34.0-38.0	220	80	0.1	27
2CW032390YQ	37.0~41.0	500	90	0.1	29
2CW032430YQ	40.0~46.0	600	90	0.1	32

2CW032470YQ	44.0~50.0	700	110	0.1	35
2CW032510YQ	48.0~54.0	700	125	0.1	38
2CW032560YQ	52.0~60.0	1000	135	0.1	42
2CW032620YQ	58.0~66.0	1000	150	0.1	46.5
2CW032680YQ	64.0~72.0	1000	200	0.1	51
2CW032750YQ	70.0~79.0	1500	250	0.1	56

Forward Voltage VF= 1.0 V Maximum @ IF = 100 mA for all 2CW032XXXYQ series.

*Note: from 39V up to 75V Vz@Iz=2.5mA, Zzt@Iz=2.5mA,Zzk@Iz=0.5mA.