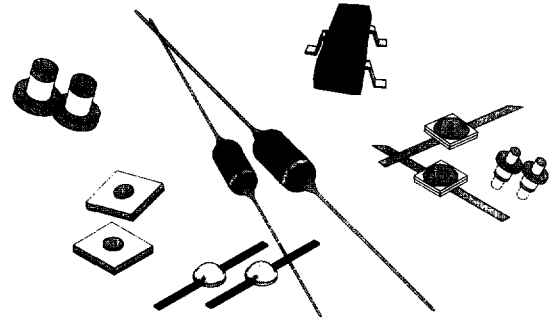


Features

- Extremely High Frequency Operation
- Capacitance Values of 20 pF to 200 pF at 4 Volts
- Octave Tuning from 4 to 20 Volts
- Linear Frequency vs Voltage Characteristics



Maximum Ratings

Reverse Voltage, V_R :	Same as V_{BR}
Forward Current, I_F :	100 mA
Power Dissipation at 25°C:	250 mW
Operating Temperature:	-55 to 150°C
Storage Temperature:	-65 to 200 °C

Description

Alpha uses Ion implantation to provide this hyperabrupt tuning diodes with closely controlled characteristics. The highly reproducible capacitance versus voltage behavior of this family permits Alpha to supply matched sets and also assures the customer of a long-term availability of parts having uniform electrical properties. Passivated, hermetically-sealed construction allows their use



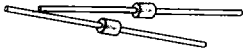

under the most adverse conditions, both in commercial equipment and high reliability space and military applications.

Hyperabrupt diodes are offered in various package styles to suit current applications. Capacitance values change slightly due to variations in package parasitics.

CKV2020 Series

Electrical Specifications

Reverse Breakdown Voltage, VBR (10 uA): 22 V Minimum
 Reverse Leakage Current, IR (17.6 V): 50 nA Maximum

Catalog Part Number	Cpack (pF)	Capacitance @ 4V (pF)		Capacitance @ 8V (pF)		Capacitance @ 20V (pF)		Tuning Ratio @ 4V/8V		Tuning Ratio @ 4V/20V		Q @ 4V, 50 MHz	Previous Catalog Part Number
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	
Square Passivated Silicon Chip													
													
CKV2020-18	-	17.9	21.9	7.4	10.4	3.0	3.8	1.7	3.0	4.7	7.3	300	CKV2020-18
CKV2020-20	-	18.9	20.9	7.7	9.1	3.0	3.8	2.0	2.7	4.9	7.0	300	CKV2020-20
CKV2020-23	-	44.9	54.9	17.9	24.9	7.2	9.1	1.8	3.1	4.9	7.7	200	CKV2020-23
CKV2020-25	-	47.4	52.4	18.3	21.5	7.2	9.1	2.2	2.9	5.2	7.3	200	CKV2020-25
CKV2020-28	-	100	120	38.9	54.9	15.9	19.9	1.8	3.1	5.0	7.6	125	CKV2020-28
CKV2020-30	-	104.5	115.5	41.3	48.5	15.9	19.9	2.1	2.8	5.2	7.3	125	CKV2020-30
CKV2020-33	-	140	170	54.9	79.9	22.4	27.9	1.7	3.1	5.0	7.6	100	CKV2020-33
CKV2020-35	-	147	163	59.7	70.1	22.4	27.9	2.1	2.8	5.2	7.3	100	CKV2020-35
CKV2020-38	-	180	220	69.9	104.9	28.9	35.9	1.7	3.2	5.0	7.6	90	CKV2020-38
CKV2020-40	-	190	210	77.9	91.9	28.9	35.9	2.0	2.7	5.3	7.3	90	CKV2020-40
Axial Leaded Glass Package													
Outline Drawing Number: 099-001 (DO-7) 													
CKV2020-18-099-001	0.10	18.0	22.0	7.5	10.5	3.1	3.9	1.7	2.9	4.6	7.1	300	DKV6520-12
CKV2020-20-099-001	0.10	19.0	21.0	7.8	9.2	3.1	3.9	2.0	2.7	4.8	6.8	300	DKV6520-24
CKV2020-23-099-001	0.10	45.0	55.0	18.0	25.0	7.3	9.2	1.8	3.1	4.9	7.5	200	DKV6522-12
CKV2020-25-099-001	0.10	47.5	52.5	18.4	21.6	7.3	9.2	2.2	2.8	5.2	6.9	200	DKV6522-24
CKV2020-28-099-001	0.10	100	120	39.0	55.0	16.0	20.0	1.8	3.1	5.0	7.5	125	DKV6523-12
CKV2020-30-099-001	0.10	104.5	115.5	41.4	48.6	16.0	20.0	2.15	2.8	5.2	7.3	125	DKV6523-24
CKV2020-33-099-001	0.10	140	170	55.0	80.0	22.5	28.0	1.7	3.1	5.0	7.6	100	DKV6524-12
CKV2020-35-099-001	0.10	147	163	59.8	70.2	22.5	28.0	2.1	2.8	5.2	7.2	100	DKV6524-24
CKV2020-38-099-001	0.10	180	220	70.0	105.0	29.0	36.0	1.7	3.1	5.0	7.6	90	DKV6525-12
CKV2020-40-099-001	0.10	190	210	78.0	92.0	29.0	36.0	2.0	2.7	5.3	7.3	90	DKV6525-24
Axial Leaded Glass Package													
Outline Drawing Number: 075-001 													
CKV2020-18-075-001	0.10	18.0	22.0	7.5	10.5	3.1	3.9	1.7	3.0	4.6	7.1	300	DKV3801-18
CKV2020-20-075-001	0.10	19.0	21.0	7.8	9.2	3.1	3.9	2.0	2.7	4.8	6.8	300	DKV3801-20
CKV2020-23-075-001	0.10	45.0	55.0	18.0	25.0	7.3	9.2	1.8	3.1	4.9	7.6	200	DKV3801-23
CKV2020-25-075-001	0.10	47.5	52.5	18.4	21.6	7.3	9.2	2.2	2.9	5.1	7.2	200	DKV3801-25
Coaxial Ceramic Package													
Outline Drawing Number: 168-001 													
CKV2020-18-168-001	0.18	18.1	22.1	7.6	10.6	3.2	4.0	1.7	2.9	4.5	7.0	300	DKV3802-18
CKV2020-20-168-001	0.18	19.1	21.1	7.9	9.3	3.2	4.0	2.0	2.7	4.8	6.7	300	DKV3802-20
CKV2020-23-168-001	0.18	45.1	55.1	18.1	25.1	7.4	9.3	1.8	3.1	4.8	7.5	200	DKV3802-23
CKV2020-25-168-001	0.18	47.6	52.6	18.5	21.7	7.4	9.3	2.2	2.9	5.1	7.1	200	DKV3802-25
CKV2020-28-168-001	0.18	100	120	39.1	55.1	16.1	20.1	1.8	3.1	5.0	7.5	125	DKV3802-28
CKV2020-30-168-001	0.18	104.5	115.5	41.5	48.7	16.1	20.1	2.1	2.8	5.2	7.2	125	DKV3802-30
CKV2020-33-168-001	0.18	140	170	55.1	80.1	22.6	28.1	1.7	3.1	5.0	7.6	100	DKV3802-33
CKV2020-35-168-001	0.18	147	163	59.9	70.3	22.6	28.1	2.1	2.8	5.2	7.2	100	DKV3802-35
CKV2020-38-168-001	0.18	180	220	70.1	105.1	29.1	36.1	1.7	3.2	5.0	7.6	90	DKV3802-38
CKV2020-40-168-001	0.18	190	210	78.1	92.1	29.1	36.1	2.0	2.7	5.2	7.2	90	DKV3802-40

Catalog Part Number	Cpack (pF)	Capacitance @ 4V (pF)		Capacitance @ 8V (pF)		Capacitance @ 20V (pF)		Tuning Ratio @ 4V/8V		Tuning Ratio @ 4V/20V		Q @ 4V, 50 MHz	Previous Catalog Part Number	
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min		
Stripline Hermetic Ceramic Package Outline Drawing Number: 325-011														
CKV2020-18-325-011	0.12	18.0	22.0	7.5	10.5	3.1	3.9	1.7	3.0	4.6	7.1	300	DKV3803-18	
CKV2020-20-325-011	0.12	19.0	21.0	7.8	9.2	3.1	3.9	2.0	2.7	4.8	6.8	300	DKV3803-20	
CKV2020-23-325-011	0.12	45.0	55.0	18.0	25.0	7.3	9.2	1.8	3.1	4.9	7.5	200	DKV3803-23	
CKV2020-25-325-011	0.12	47.5	52.5	18.4	21.6	7.3	9.2	2.2	2.9	5.1	7.2	200	DKV3803-25	
CKV2020-28-325-011	0.12	100	120	39.0	55.0	16.0	20.0	1.8	3.1	5.0	7.5	125	DKV3803-28	
CKV2020-30-325-011	0.12	104.5	115.5	41.4	48.6	16.0	20.0	2.1	2.8	5.2	7.2	125	DKV3803-30	
CKV2020-33-325-011	0.12	140	170	55.0	80.0	22.5	28.0	1.7	3.1	5.0	7.6	100	DKV3803-33	
CKV2020-35-325-011	0.12	147	163	59.8	70.2	22.5	28.0	2.1	2.8	5.2	7.3	100	DKV3803-35	
Stripline Epoxy Encapsulated Ceramic Package Outline Drawing Number: 130-011														
CKV2020-18-130-011	0.15	18.05	22.05	7.55	10.55	3.15	3.95	1.7	3.0	4.5	7.0	300	DKV3804-18	
CKV2020-20-130-011	0.15	19.05	21.05	7.85	9.25	3.15	3.95	2.0	2.7	4.8	6.7	300	DKV3804-20	
CKV2020-23-130-011	0.15	45.05	55.05	18.05	25.05	7.35	9.25	1.8	3.1	4.8	7.5	200	DKV3804-23	
CKV2020-25-130-011	0.15	47.55	52.55	18.45	21.65	7.35	9.25	2.2	2.9	5.1	7.2	200	DKV3804-25	
CKV2020-28-130-011	0.15	100	120	39.05	55.05	16.05	20.05	1.8	3.1	5.0	7.5	125	DKV3804-28	
CKV2020-30-130-011	0.15	104.5	115.5	41.45	48.65	16.05	20.05	2.1	2.8	5.2	7.2	125	DKV3804-30	
CKV2020-33-130-011	0.15	140	170	55.05	80.05	22.55	28.05	1.7	3.1	5.0	7.6	100	DKV3804-33	
CKV2020-35-130-011	0.15	147	163	59.85	70.25	22.55	28.05	2.1	2.8	5.2	7.3	100	DKV3804-40	
Surface Mountable SOT-23 Package														
SMV1202-03	0.13	18	22	--	--	3.1	3.9	--	--	4.6	--	300	SMV1202-03	
SMV1202-08	0.13	45	55	--	--	7.3	9.2	--	--	5.0	--	200	SMV1202-08	
SMV1202-12	0.13	100	120	--	--	16.0	20.0	--	--	5.2	--	125	SMV1202-12	