

TOKO

SEMICONDUCTORS

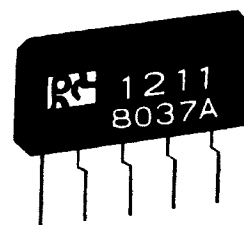
Z-14903E
CATALOG NO.

Variable Capacitance Diodes for AM Radios KV1210/KV1220 Series

General Description

The KV1210/KV1220 Series have been specially developed for use in the electronic tuning of AM radio receivers. These are respectively designed for 9V and 25V power supplies.

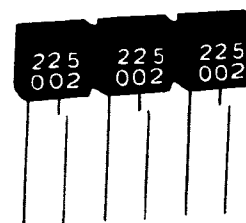
The diodes are manufactured with the ion implantation process to achieve high capacitance and minimum deviation in the capacitance curve. They are most suitable for use in car radios, portable and home radios.



1 Package Model

Features

1. The diodes have good capacitance matching.
and are available in two or three unit structures.
2. Superior frequency linearity characteristics.
3. High maximum capacitance, C_{1V} —
9 V Series: 440-560pF
25V Series: 510-620pF
4. High capacitance ratio—
9 V Series: Over X15 (C_{1V}/C_{9V})
25V Series: Over X20 (C_{1V}/C_{25V})
5. High figure of merit, Q.
6. Oscillator reference stage is indicated in the
"Choco-break" model (break-off type).
7. Two package structures— 1-package and the choco-break—
depending on requirements.



Choco-Break Model

Absolute Maximum Ratings (T_a 25°C)

Item	9 V Series	25V Series
Reverse Voltage	$V_R = 20V$	$V_R = 30V$
Forward Current	$I_F = 50mA$	$I_F = 50mA$
Power Dissipation	$P_D = 100mW$	$P_D = 100mW$
Operating Temp.	$T_{opr} = -55 \sim +80^\circ C$	$T_{opr} = -55 \sim +80^\circ C$
Storage Temp.	$T_{stg} = -55 \sim +125^\circ C$	$T_{stg} = -55 \sim +125^\circ C$

Packaging

Structure	9 V Series	25V Series
3 Diode/Package	KV1210	KV1220
2 Diode/Package	KV1211	KV1221
3 Choco-Break	KV1215	KV1225
2 Choco-Break	KV1216	KV1226

Electrical Characteristics

9 V Series (Ta 25°C)

Item	Symbol	Characteristics			Unit	Condition
		Min.	Typ.	Max.		
Reverse Voltage	V _{BR}	20	—	—	Vdc	I _R =10μA
Leakage Current	I _R	—	—	100	nAdc	V _R =15V
Capacitance	C _{1V}	440	500	560	pF	V _R =1V f=1MHz
Capacitance	C _{9V}	—	—	35	pF	V _R =9V f=1MHz
Cap. Ratio	C _{1V} /C _{9V}	15	—	—		f=1MHz
Q	Q	200	—	—		V _R =1V f=1MHz
Temp. Coef.	TC _Q	—	500	—	PPM/°C	V _R =5V f=1MHz

25V Series (Ta 25°C)

Item	Symbol	Characteristics			Unit	Condition
		Min.	Typ.	Max.		
Reverse Voltage	V _{BR}	30	—	—	Vdc	I _R =10μA
Leakage Current	I _R	—	—	100	nAdc	V _R =25V
Capacitance	C _{1V}	510	—	620	pF	V _R =1V f=1MHz
Capacitance	C _{25V}	16	21	26	pF	V _R =25V f=1MHz
Cap. Ratio	C _{1V} /C _{25V}	20	—	—		f=1MHz
Q	Q	200	—	—		V _R =1V f=1MHz
Temp. Coef.	TC _Q	—	130	—	PPM/°C	V _R =13V f=1MHz

When Customers order AM var-cap diode of KV 1210, KV 1211, KV 1215, KV 1221, KV 1225, KV 1226, they must appoint capacitance address of each serial three or more or All.

We can supply as according to address table. (See 1 or 2)

1. For 9 volt model

C 9v C 1v pF	24.0 - 30.5 pF		28.5 - 35.0 pF	
	KV1210,1211	KV1215	KV1210,1211	KV1215
465 - 494.5	13	D	33	N
475.5 - 506	14	E	34	O
487 - 518	15	F	35	P
499 - 530.5	16	G	36	Q
510.5 - 542.5	17	H	37	R
522.5 - 555	18	I	38	S

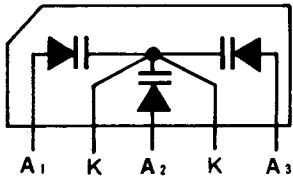
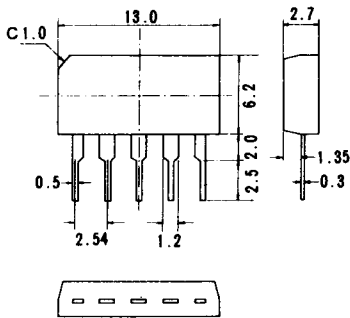
2. For 25 volt model

C 25v C 1v pF	16.0 -- 26.0 pF
	KV1221,1225,1226
510 - 580	X
550 - 620	Y

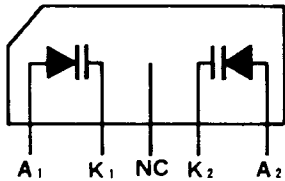
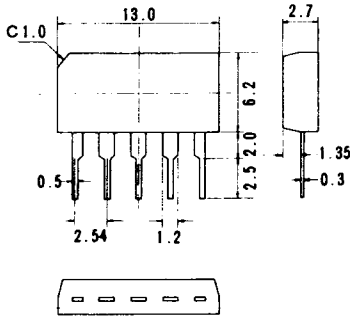
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Pin Assignment and Connections

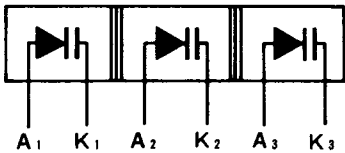
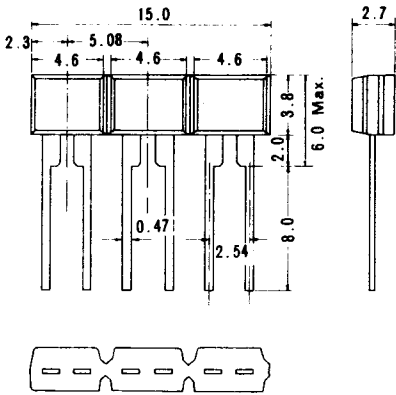
KV1210/KV1220



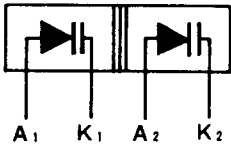
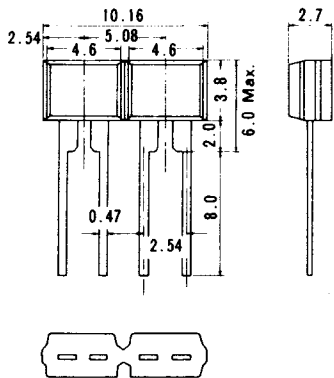
KV1211/KV1221



KV1215/KV1225

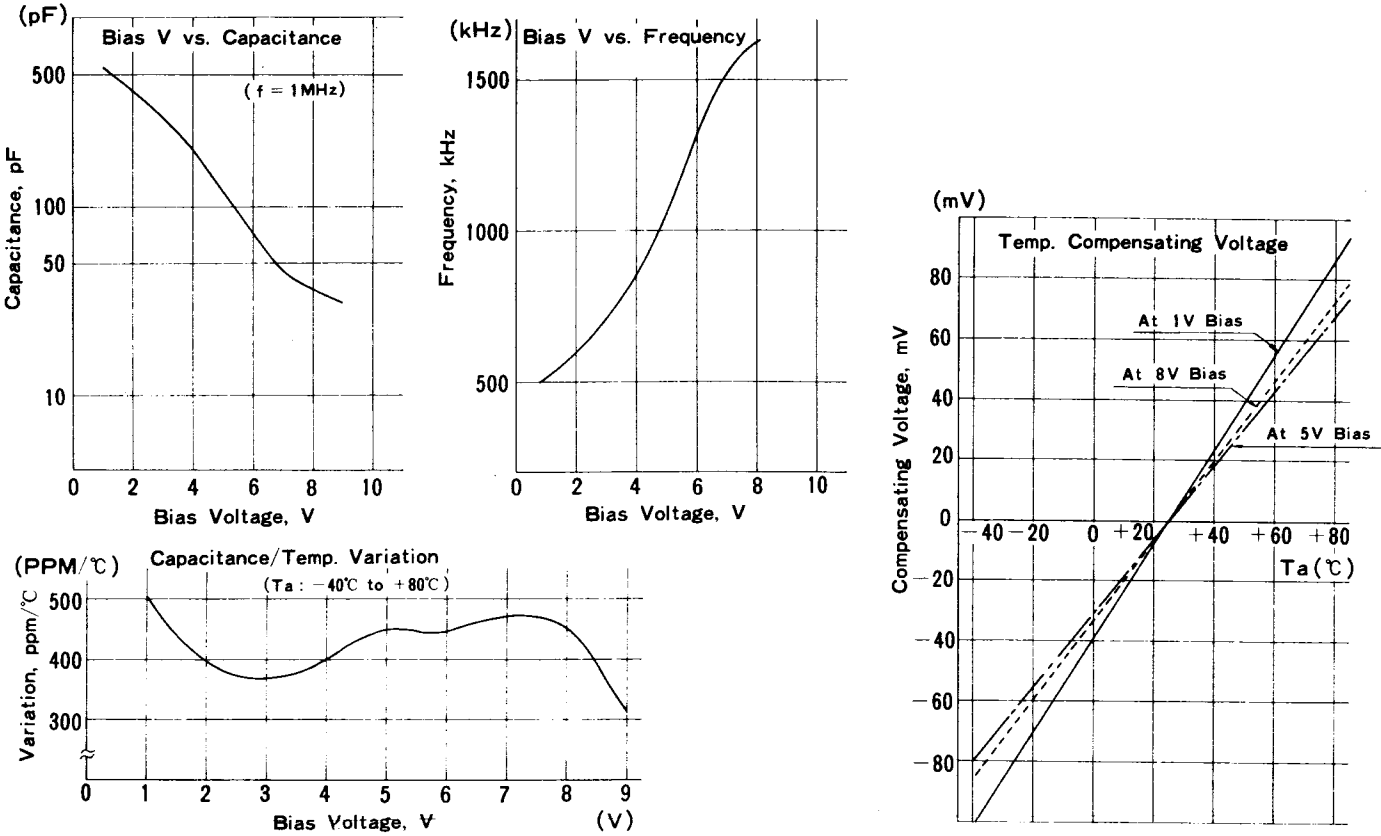


KV1216/KV1226



Electrical Characteristic Datas (Ta=25°C unless otherwise noted)

1. 9 V Series



2. 25V Series

