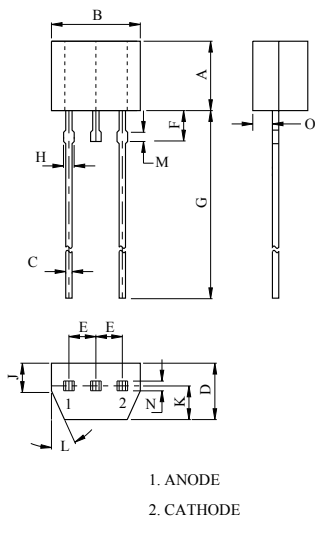
KDV149

VARIABLE CAPACITANCE DIODE
SILICON EPITAXIAL PLANAR DIODE

AM RADIO BAND TUNING APPLICATION.

FEATURES

- High Capacitance Ratio : C_{1V}/C_{8V}=19.5(Typ.).
- High Q : Q=200(Min.).
- Small Package.
- Low Voltage Operation. : 1V ~ 8V.



DIM	MILLIMETERS
A	3.20 MAX
B	4.30 MAX
C	0.55 MAX
D	2.40±0.15
E	1.27
F	2.30
G	14.00± 0.50
H	0.60 MAX
J	1.05
K	1.45
L	25°
M	0.80
N	0.55 MAX
O	0.75

TO-92M

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Reverse Voltage	V_R	15	V
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55 ~ 150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Voltage	V_R	I_R=10μA	15	-	-	V
Reverse Current	I_R	V_R=15V	-	-	50	nA
Capacitance	C_{1V}	V_R=1V, f=1MHz	435	-	540	pF
	C_{8V}	V_R=8V, f=1MHz	21	-	30	
Capacitance Ratio	C_{1V}/C_{8V}		16	19.5	22	
Figure of Merit	Q	V_R=1V, f=1MHz	200	450	-	

Note) $\frac{C(Max.)-C(Min.)}{C(Min.)} \leqq 0.025(V_R=1V\sim8V)$

TEST CONDITION (f=1MHz, Ta=25℃)

Grade	No.	C_{1V}(pF)	No.	C_{1V}/C_{3V}	No.	C_{1V}/C_{5V}	No.	C_{1V}/C_{8V}
A (162 Grade)	1	435～450	1	2.30～2.42	1	5.50～6.52	1	16.0～18.5
	2	445～460	2	2.38～2.52	2	6.48～7.52	2	18.0～20.0
			3	2.48～2.62	3	7.48～8.50	3	19.5～22.0
			4	2.58～2.72				
			5	2.68～2.82				
			6	2.78～2.92				
			7	2.88～3.02				
			8	2.98～3.12				
			9	3.08～3.20				
B (270 Grade)	3	455～470	0	2.20～2.32	1	5.50～6.52	1	16.0～18.5
	4	465～480	1	2.28～2.42	2	6.48～7.52	2	18.0～20.0
	5	475～490	2	2.38～2.52	3	7.48～8.50	3	19.5～22.0
			3	2.48～2.62				
			4	2.58～2.72				
			5	2.68～2.82				
			6	2.78～2.92				
			7	2.88～3.02				
			8	2.98～3.12				
			9	3.08～3.20				
C (162 Grade)	6	485～500	1	2.20～2.32	1	5.50～6.52	1	16.0～18.5
	7	495～510	2	2.28～2.42	2	6.48～7.52	2	18.0～20.0
			3	2.38～2.52	3	7.48～8.50	3	19.5～22.0
			4	2.48～2.62				
			5	2.58～2.72				
			6	2.68～2.82				
			7	2.78～2.92				
			8	2.88～3.02				
			9	2.98～3.10				
D (162 Grade)	8	505～525	1	2.10～2.22	1	5.50～6.52	1	16.0～18.5
	9	520～540	2	2.18～2.32	2	6.48～7.52	2	18.0～20.0
			3	2.28～2.42	3	7.48～8.50	3	19.5～22.0
			4	2.38～2.52				
			5	2.48～2.62				
			6	2.58～2.72				
			7	2.68～2.82				
			8	2.78～2.92				
			9	2.88～3.00				

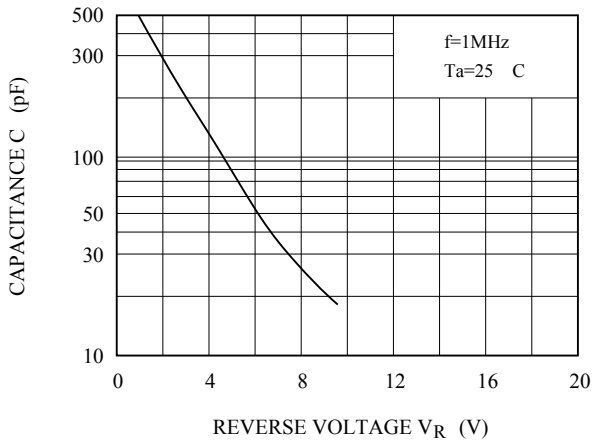
(1) This table is not selection goide, which means only to show the data.

(2) The number on the vinyl package (on the label in the vinyl package) is to show the capacitance data at each voltage in a matched group.

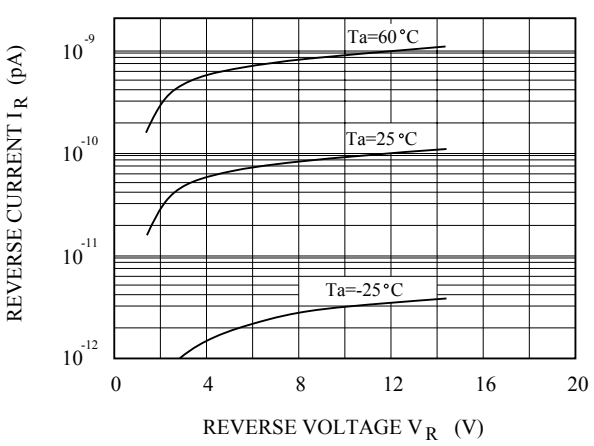
Example : A - 1 - 2 - 3 - 3

(C_{1V}) (C_{1V}/C_{3V}) (C_{1V}/C_{5V}) (C_{1V}/C_{8V})

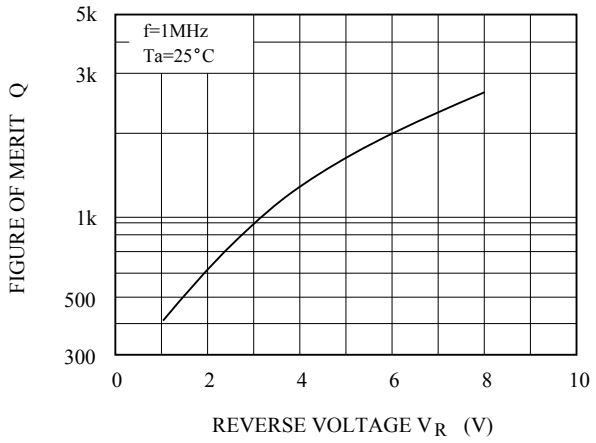
C - V_R



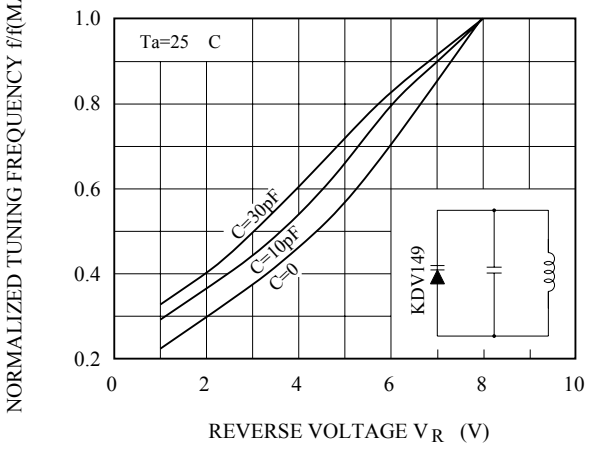
I_R - V_R



Q - V_R



f/f_{MAX} - V_R



C(Temp.)/C(25 °C) - Ta