



# SVC333

## Diffused Junction Type Silicon Diode Varactor Diode (IOCAP) for AM Receiver Electronic Tuning

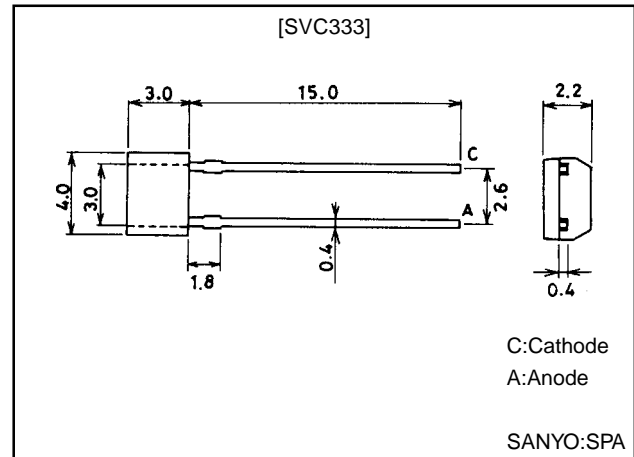
### Features

- The SVC333 is a small sized variable capacitance diode designed for AM electronic tuning. This diode works at high tuning voltage and has the high Q and the sufficiently high capacitance ratio and approximately linear change of log C with  $V_R$ .

### Package Dimensions

unit:mm

1184



### Specifications

#### Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Reverse Voltage	$V_R$		32	V
Forward Current	$I_F$		100	mA
Allowable Power Dissipation	$P_D$		100	mW
Junction Temperature	$T_j$		125	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +125	$^\circ\text{C}$

#### Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Breakdown Voltage	$V_{(BR)R}$	$I_R=10\mu\text{A}$	32			V
Reverse Current	$I_R$	$V_R=30\text{V}$			100	nA
Interterminal Capacitance	$C_{3.0V}$	$V_R=3.0\text{V}$ , $f=1\text{MHz}$ , $v_i=20\text{Vrms}$	345.0		408.4	pF
	$C_{10V}$	$V_R=10\text{V}$ , $f=1\text{MHz}$ , $v_i=20\text{Vrms}$	85.12		127.9	pF
	$C_{18V}$	$V_R=18\text{V}$ , $f=1\text{MHz}$ , $v_i=20\text{Vrms}$	35.36		53.91	pF
	$C_{25V}$	$V_R=25\text{V}$ , $f=1\text{MHz}$ , $v_i=20\text{Vrms}$	18.92		25.61	pF
Quality Factor	Q	$V_R=3.0\text{V}$ , $f=1\text{MHz}$	300			
Capacitance Ratio	CR	$C_{3.0V}/C_{25V}$	15.00		19.00	
Matching Tolerance	$\Delta C_m$	$(C_{\text{max}}-C_{\text{min}})/C_{\text{min}}$ , $V_R=2.0$ to $25\text{V}$			0.02	

\*:The SVC333 is classified by  $C_{3.0V}$ ,  $C_{25V}$  as follow:

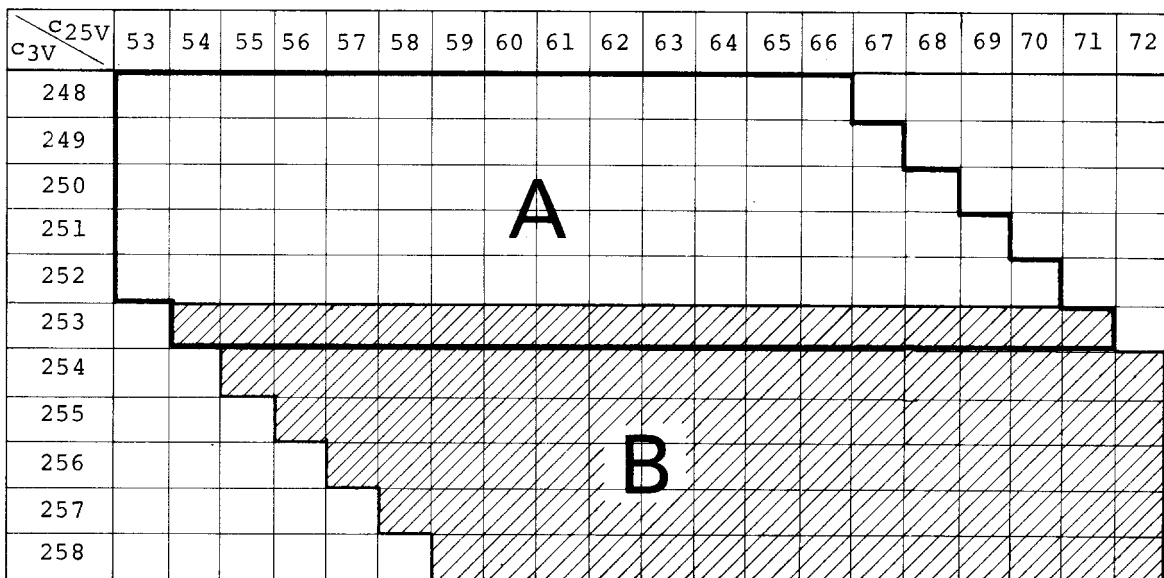
Rank	$C_{3.0V}$ (pF)	$C_{25V}$ (pF)
A	345.0 to 379.1	18.92 to 25.23
B	371.7 to 408.4	19.20 to 25.61

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## Address and Capacitance Value

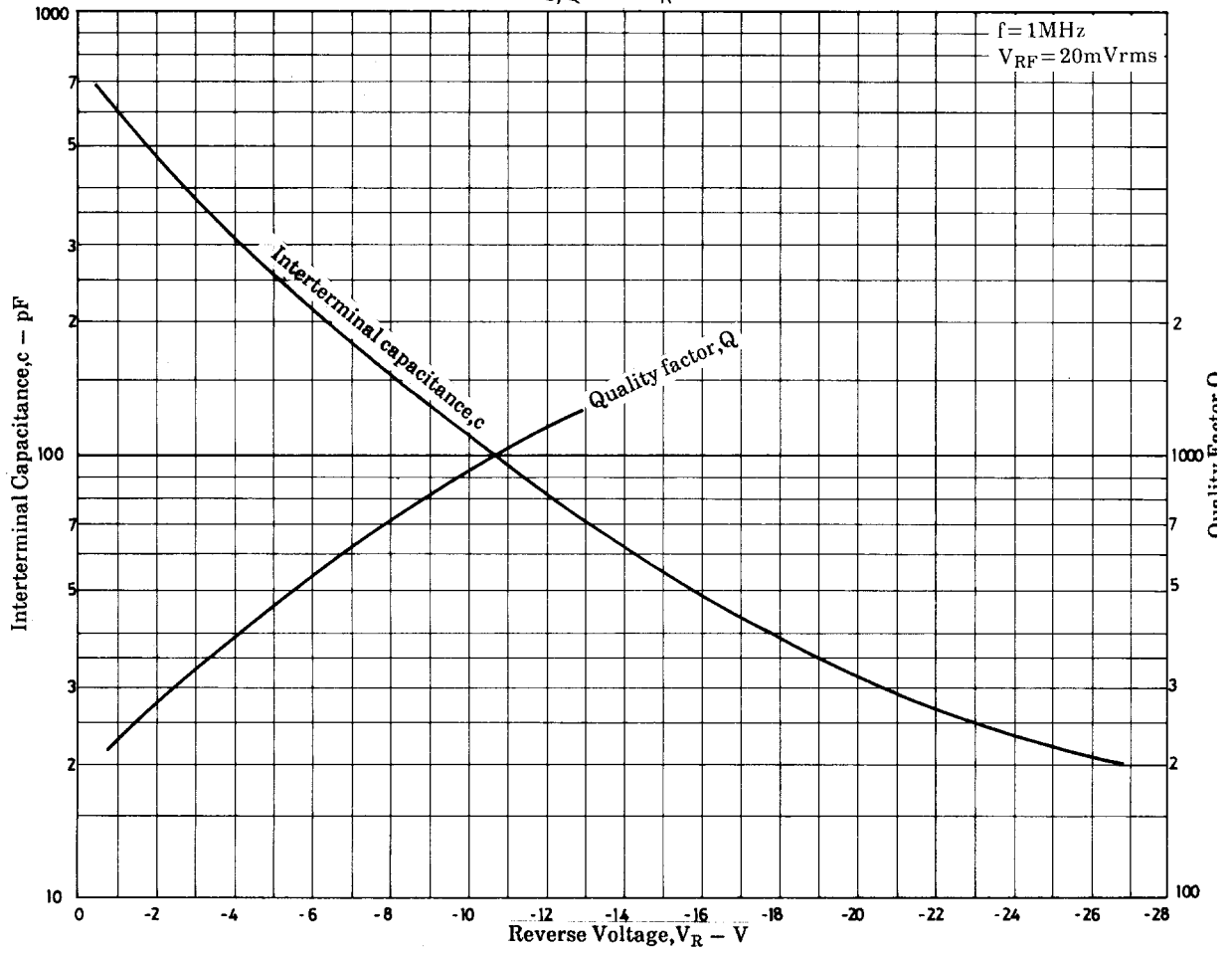
V <sub>R</sub> =3.0V		V <sub>R</sub> =10V		V <sub>R</sub> =18V		V <sub>R</sub> =25V	
Address	Capacitance (pF)	Address	Capacitance (pF)	Address	Capacitance (pF)	Address	Capacitance (pF)
248	345.0 to 351.9	154	85.12 to 86.82	95	35.36 to 36.07	53	18.92 to 19.30
249	350.2 to 357.2	155	86.39 to 88.12	96	35.89 to 36.61	54	19.20 to 19.59
250	355.4 to 362.5	156	87.69 to 89.44	97	36.43 to 37.16	55	19.49 to 19.88
251	360.8 to 368.0	157	89.01 to 90.79	98	36.98 to 37.72	56	19.79 to 20.19
252	366.2 to 373.5	158	90.34 to 92.15	99	37.54 to 38.29	57	20.08 to 20.48
253	371.7 to 379.1	159	91.70 to 93.53	100	38.09 to 38.86	58	20.38 to 20.79
254	377.3 to 384.8	160	93.08 to 94.94	101	38.66 to 39.44	59	20.69 to 21.10
255	382.9 to 390.6	161	94.46 to 96.35	102	39.24 to 40.03	60	21.00 to 21.42
256	388.6 to 396.4	162	95.89 to 97.81	103	39.83 to 40.63	61	21.32 to 21.74
257	394.5 to 402.4	163	97.33 to 99.27	104	40.43 to 41.24	62	21.64 to 22.07
258	400.4 to 408.4	164	98.78 to 100.8	105	41.04 to 41.86	63	21.95 to 22.39
		165	100.2 to 102.3	106	41.66 to 42.49	64	22.28 to 22.73
		166	101.7 to 103.8	107	42.27 to 43.12	65	22.62 to 23.08
		167	103.3 to 105.4	108	42.91 to 43.77	66	22.96 to 23.42
		168	104.8 to 106.9	109	43.56 to 44.43	67	23.30 to 23.77
		169	106.4 to 108.6	110	44.21 to 45.09	68	23.66 to 24.13
		170	108.0 to 110.2	111	44.88 to 45.78	69	24.01 to 24.49
		171	109.6 to 111.8	112	45.55 to 46.46	70	24.37 to 24.86
		172	111.3 to 113.5	113	46.22 to 47.15	71	24.74 to 25.23
		173	112.9 to 115.2	114	46.92 to 47.86	72	25.11 to 25.61
		174	114.6 to 116.9	115	47.63 to 48.58		
		175	116.4 to 118.7	116	48.34 to 49.31		
		176	118.1 to 120.5	117	49.07 to 50.05		
		177	119.9 to 122.3	118	49.81 to 50.80		
		178	121.7 to 124.1	119	50.55 to 51.56		
		179	123.5 to 126.0	120	51.31 to 52.34		
		180	125.4 to 127.9	121	52.08 to 53.12		
				122	52.86 to 53.91		

## Rank Width

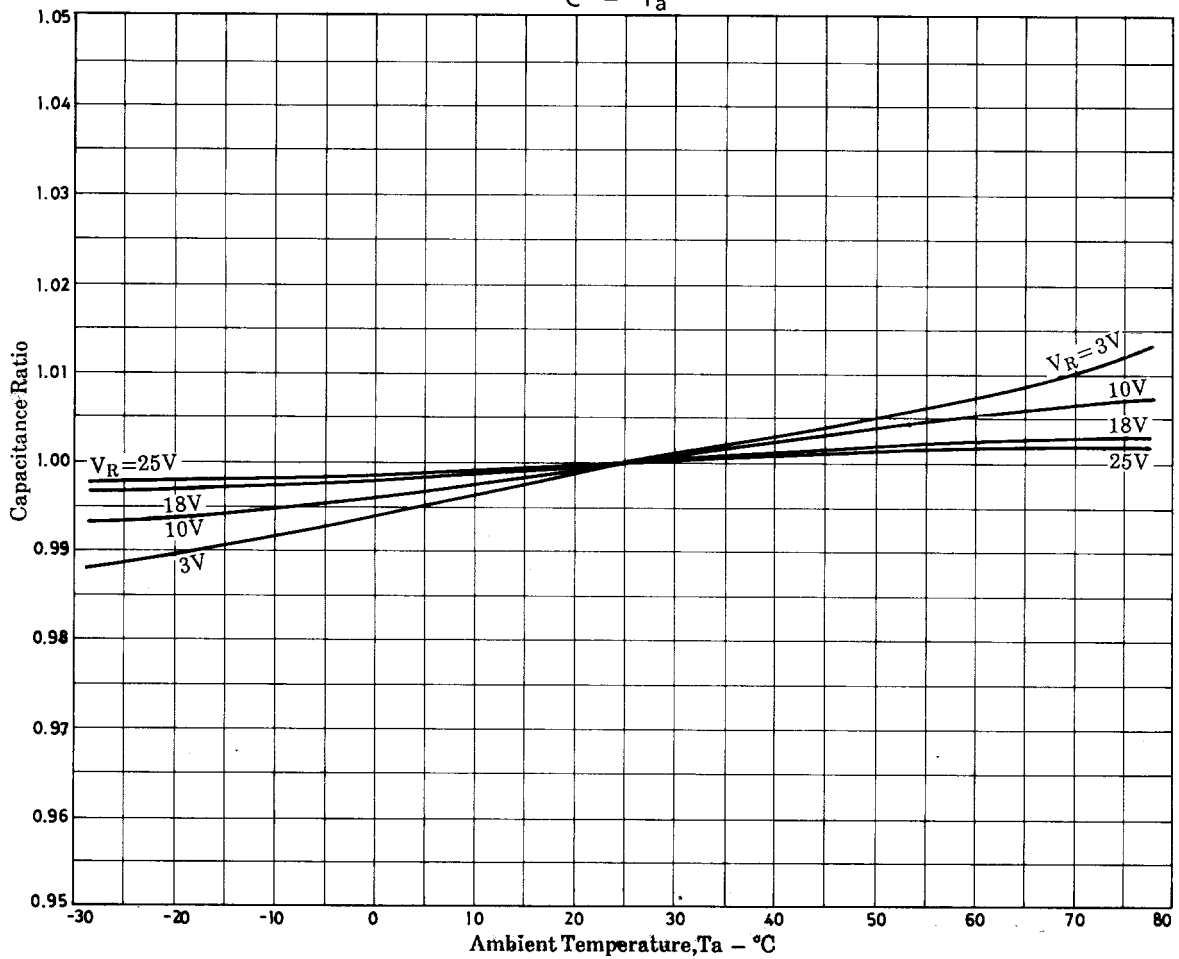


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$C, Q - V_R$



$C - T_a$



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