

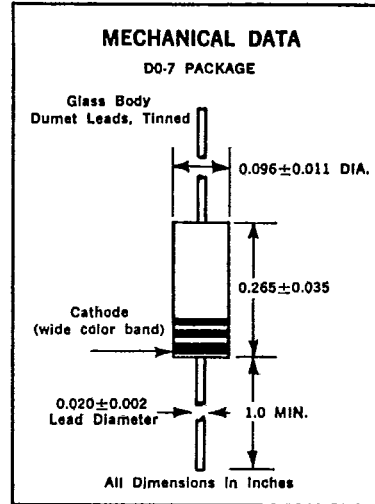


**GENERAL PURPOSE
SILICON EPITAXIAL VARACTRON®
VOLTAGE-VARIABLE CAPACITANCE DIODES**

**1N950-956
V20G-100G**

GEOMETRY 415

- ALL EPITAXIAL CONSTRUCTION (P+NN+)
- DC(MWV) RATINGS FROM 15-130 VOLTS
- VERY LOW LEAKAGE
- ABRUPT JUNCTION



ELECTRICAL DATA ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	MAXIMUM	UNITS
Operating Temperature	T _{opr}	-65 to +150	°C
Storage Temperature	T _{stg}	-65 to +175	°C
Total Power Dissipation (@ 25°C in free air)	P _D	400	mW
Maximum Working Voltage	MWV	as specified*	VDC

*Bias voltage plus signal voltage should not exceed MWV

ELECTRICAL CHARACTERISTICS TA = 25°C (UNLESS OTHERWISE STATED)

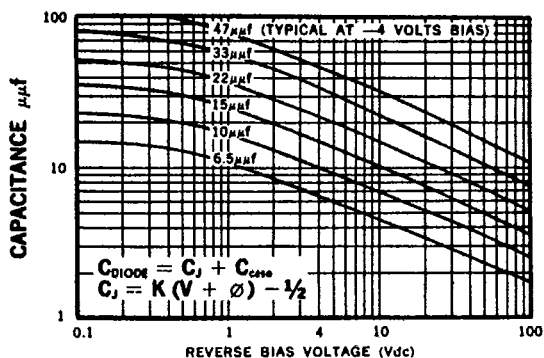
DIODE TYPE	CAPACITANCE (pf) ±20% @ -4V, 1MC	MAXIMUM WORKING VOLTAGE (MWV) (VDC)	TYPICAL CAPACITANCE RANGE (pf) (@ 0.1V to MWV)	Q @ -4VDC, 50 MC		MAX. INVERSE CURRENT (µA DC) Test Volts	
				MINIMUM	TYPICAL	µA	Test Volts
1N950	35	130	88 to 6	7	—	1.0	130
1N951	50	80	120 to 12	7	—	1.0	80
1N952	70	60	170 to 20	7	—	1.0	60
1N953	100	25	240 to 46	7	—	1.0	25
1N954	35	25	88 to 14	7	—	1.0	25
1N955	50	25	120 to 22	7	—	1.0	25
1N956	70	25	170 to 32	7	—	1.0	25
1N3627	20.0 to 22.5	20	50 to 10	25	—	0.01	13.5
1N3628	47.0 to 53.0	20	125 to 25	30	—	0.01	13.5
V20G	20	20	50 to 10	10	30	0.2	15
V20EG	20	70	50 to 5	10	30	0.5	50
V27G	27	20	70 to 14	10	30	0.2	15
V27EG	27	65	70 to 7	10	30	0.5	50
V33G	33	20	85 to 17	10	30	0.2	15
V33EG	33	60	85 to 9	10	30	0.5	45
V39G	39	20	100 to 20	10	30	0.2	15
V39EG	39	55	100 to 10	10	30	0.5	40
V47G	47	20	120 to 24	10	30	0.2	15
V47EG	47	50	120 to 14	10	30	0.5	35
V56G	56	15	145 to 32	10	30	0.2	10
V56EG	56	40	145 to 20	10	30	0.5	30
V68G	68	15	175 to 39	12	30	0.2	10
V82G	82	15	210 to 47	12	30	0.2	10
V100G	100	15	260 to 57	10	30	0.2	10

NOTE: Capacitance values are ±20%. Tolerances of ±10% and ±5%, and matched pairs, are available upon request. Capacitance values can be modified to meet specific requirements.

TELEDYNE CRYSTALONICS

147 Sherman Street, Cambridge, MA 02140 USA
Tel: (617) 491-1670 • FAX: 617/547-6119 • TWX: 710-320-1196

1N950 — 956 — V20G — 100G Continued



TYPICAL DIODE CAPACITANCE VS BIAS VOLTAGE CHARACTERISTICS AT 25°C

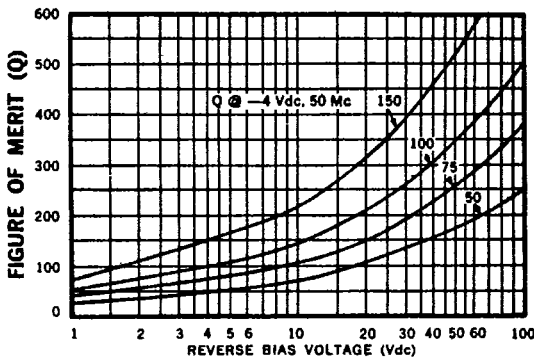
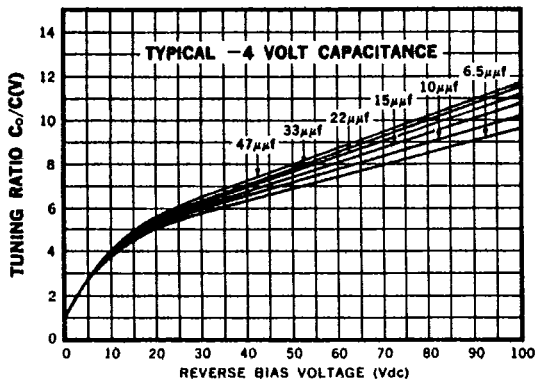
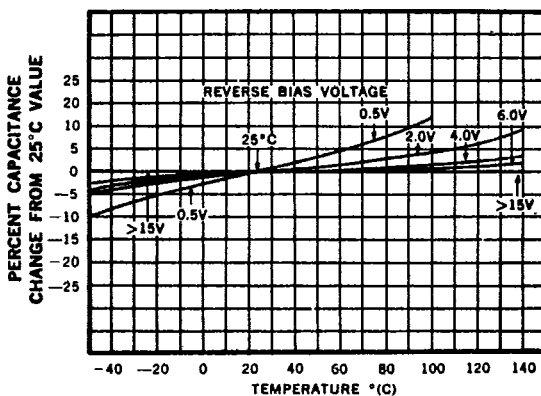


FIGURE OF MERIT (Q) VS BIAS VOLTAGE AT 25°C



RATIO OF DIODE CAPACITANCES AT ZERO AND REVERSE BIAS VOLTAGES AT 25°C FOR TYPICAL DIODES



TEMPERATURE COEFFICIENT OF CAPACITANCE IN PERCENT CHANGE OF 25° VALUE

Crystalonics 1N950-956 and V20G-100G Varactron Voltage-Variable Capacitance Diodes are designed for applications such as VHF-UHF frequency multiplication, harmonic generation, oscillator tuning, electronic tuning, frequency modulation, parametric amplifiers, automatic frequency control, limiting, and switching. These diodes are manufactured by Crystalonics' exclusive Epitaxial Junction Process, which provides close parameter tolerances, high parameter stability, extreme ruggedness, and a high product of Q and Maximum Working Voltage.



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