International Semiconductor, Inc.

**HIGH Q
VOLTAGE VARIABLE
CAPACITORS
1N5696 thru 1N5710**

HIGH Q - HIGH TUNING RANGE VOLTAGE VARIABLE CAPACITORS for UHF tuning applications

1N5696,A,B,C thru 1N5710,A,B,C

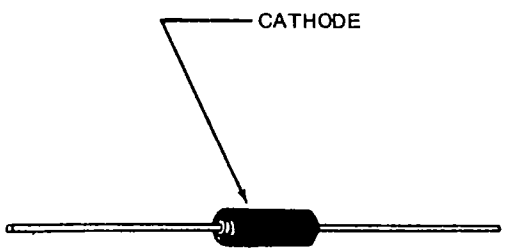
6.8-100 pica farad

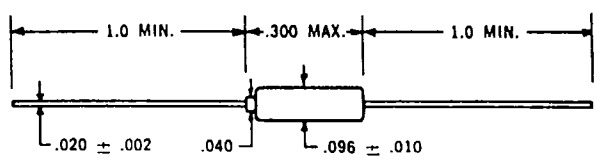
SPECIAL FEATURES

- High Q
- High Tuning Range
- Precision Tracking
- Low Leakage
- High Reliability
- Stable

International Semiconductor's high Q abrupt-junction Voltage Variable Capacitors are deigned specifically for critical and sophisticated frequency control applications through the UHF range.

The computer-aided design evaluation of these devices guarantees tight tolerance of capacitance versus voltage tracking over the complete range of tuning.





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T-07-19

1N5696,A,B,C thru 1N5710,A,B,C
Specifications

HIGH Q
VOLTAGE VARIABLE
CAPACITORS
1N5696 thru 1N5710

MAXIMUM RATINGS (At T_A = 25° C unless otherwise specified)

Reverse Breakdown Voltage (BV_R)	@ I_R = 10μAdc	65 volts
Reverse Current (I_R)	@ V_R = 60Vdc	0.02μa
	@ V_R = 60Vdc, T_R = 150 °C	20.00μa
Series Inductance (Ls)	@ f = 250MHz lead length = 1/16"	6nH
Case Capacitance (Cc)	@ f = 1MHz	0.25pf ± 20%
Diode Capacitance Temperature Coefficient (TC)	@ V_R = 4.0Vdc, 25° C.	300ppm/°C

Dissipation (Pd): 400mw (Derate 2.65 mW/°C above TA = 25 °C)

Operating Temperature Range (T_A): −65° + 150°C

Storage Temperature Range (T_{STG}): −65°C + 200°C

ELECTRICAL CHARACTERISTICS

(At T_A = 25°C unless otherwise specified)

JEDEC Type No.	Nominal Capacitance* C_J @ V_R = 4 Vdc f = 1MHz	Capacitance Tuning Ratio C2V/C30V f = 1MHz		Figure of Merit. Q @ V_R = 4Vdc f = 50MHz
	(pf)	(Min.)	(Typ.)	(Min.)
1N5696	6.8	2.7	2.9	450
1N5697	8.2	2.7	2.9	450
1N5698	10.0	2.8	3.0	400
1N5699	12.0	2.8	3.0	400
1N5700	15.0	2.8	3.0	400
1N5701	18.0	2.9	3.0	375
1N5702	22.0	3.2	3.4	375
1N5703	27.0	3.2	3.4	350
1N5704	33.0	3.2	3.4	350
1N5705	39.0	3.2	3.4	325
1N5706	47.0	3.2	3.4	300
1N5707	56.0	3.2	3.4	225
1N5708	68.0	3.2	3.4	175
1N5709	82.0	3.2	3.4	150
1N5710	100.0	3.2	3.4	150

*Available in the following tolerances:

No Suffix	±20%
A	±10%
B	± 5%
C	± 2%

Figure of Merit (Q) vs Reverse Bias Voltage

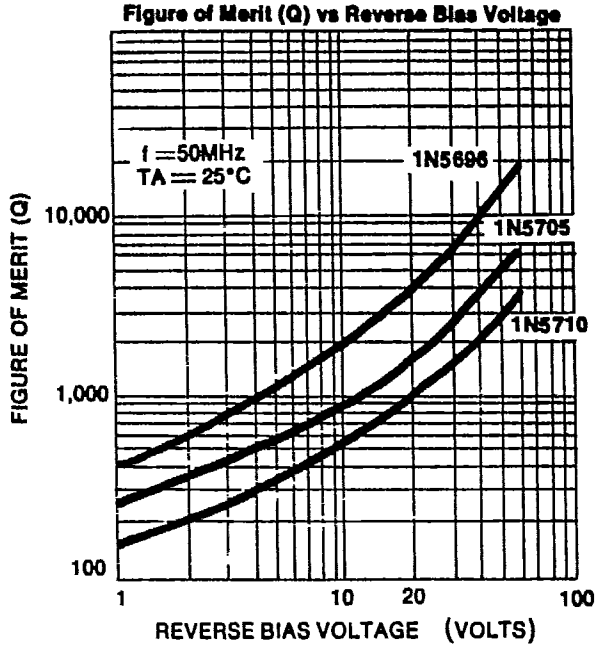
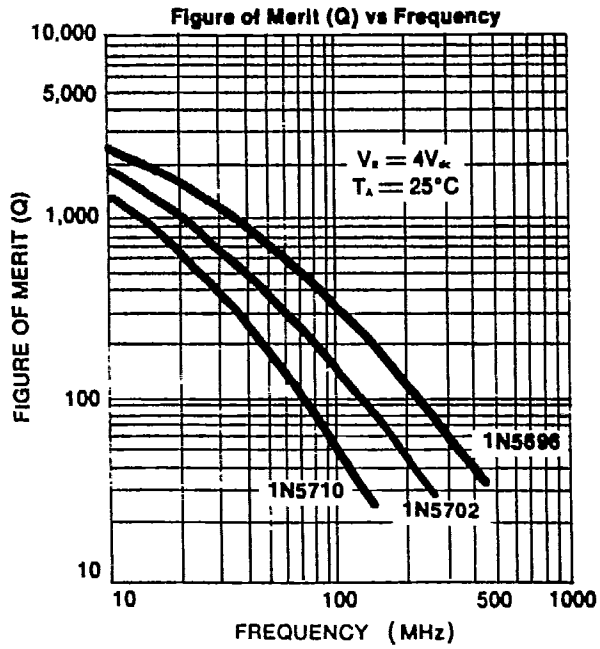


Figure of Merit (Q) vs Frequency



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