

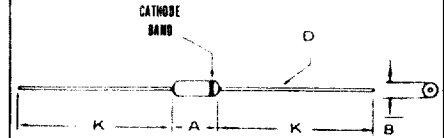
# ABRUPT - HYPERABRUPT UHF/VHF TUNING DIODES

**SERIES**  
ZC700 - ZC714, B, C,  
ZC800 - ZC899, A, B.

The abrupt ZC700 and hyperabrupt ZC800 series tuning diodes together offer a selection of characteristics that could fit many UHF/VHF applications. Where required the higher Q's of the ZC700's can be traded for the larger capacitance tuning ratios of the ZC800's. Each type can be matched, the ZC700's more closely than the ZC800's. Both series are highly reliable and designed to meet or exceed MIL-S-19500.

### GENERAL SPECIFICATIONS (25<sup>o</sup> unless otherwise noted)

Rating	Symbol	Value
Reverse Voltage	V <sub>R</sub>	As Specified
Reverse Voltage Leakage Current	I <sub>R</sub>	As Specified
Junction Temperature	T <sub>J</sub>	+175°C Max
Storage Temperature	T <sub>stg</sub>	-65°C to 200°C
Device Dissipation	P <sub>D</sub>	400 mW Max
Case Capacitance	CC	0.2 pf Typ
Series Inductance	LS	5 nH Typ



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	5.84	7.62	0.230	0.300
B	2.16	2.72	0.085	0.107
D	0.46	0.56	0.018	0.022
K	25.40		1.000	

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### ELECTRICAL CHARACTERISTICS **HYPERABRUPT**

REVERSE VOLTAGE		V <sub>R</sub> = 25 Vdc Min @ 10 μA		
REVERSE CURRENT		I <sub>R</sub> = .02 μA Max @ 20 Vdc		
TYPE NO.	Diode Cap. (CT) Typ @ 2V/1 MHz	Diode Cap. (CT)* ±20% @ 20V/1 MHz	Tuning Ratio (TR) C2/C20 @ 1 MHz	Fig. of Merit (Q) @ 3V/50 MHz
	pF	pF	Min/Max	Min.
ZC898	4.4	0.8	4.0/5.5	250
ZC899	6.6	1.2	4.0/5.5	250
ZC800	10	1.8	5.0/6.5	250
ZC801	15	2.7	5.0/6.5	250
ZC802	22	4.0	5.0/6.5	150
ZC803	33	6.0	5.0/6.5	150
ZC804	47	8.5	5.0/6.5	150
ZC805	68	12.0	5.0/6.5	75
ZC806	100	18.0	5.0/6.5	75
ZC807	120	22.0	5.0/6.5	200**
ZC808	175	32.0	5.0/6.5	150**
ZC809	250	45.0	5.0/6.5	100**

\*To order devices with CT Nom ±10% add Suffix A, ±5% add Suffix B

\*\* (Q) @ 3V, 20MHz

**MATCHING** - To order sets matched to ±3%, specify number of diodes per set and add Suffix M; i.e. for 3 matched diodes, add Suffix 3M, etc.

### ELECTRICAL CHARACTERISTICS **ABRUPT**

REVERSE VOLTAGE		V <sub>R</sub> = 30 Vdc Min @ 10 μA	
REVERSE CURRENT		I <sub>R</sub> = .02 μA Max @ 25 Vdc	
TYPE NO.	Diode Cap. (CT)* ±10% @ 4V/1 MHz	Tuning Ratio (TR) C2/C30 @ 1 MHz	Fig. of Merit (Q) @ 4V/50 MHz
	pF	Min.	Min.
ZC700	6.8	2.7:1	450
ZC701	8.2	2.7:1	450
ZC702	10.0	2.7:1	400
ZC703	12.0	2.8:1	400
ZC704	15.0	2.8:1	400
ZC705	18.0	2.8:1	350
ZC706	22.0	2.8:1	350
ZC707	27.0	2.8:1	300
ZC708	33.0	2.8:1	200
ZC709	39.0	2.8:1	150
ZC710	47.0	2.8:1	150
ZC711	56.0	2.8:1	150
ZC712	68.0	2.8:1	150
ZC713	82.0	2.8:1	100
ZC714	100.0	2.8:1	100

\*To order devices with CT Nom ±5% add Suffix B, ±2% add Suffix C  
**MATCHING** - Tuning Ratio matched on ±0.1 on special order

