

MICROWAVE VARACTOR DIODES

ABRUPT - HYPERABRUPT

(GC Series) (GIGA-CAP HA Series)

SERIES
GC1500-GC1514
GC1600-GC1609
GC1702-GC1717
HA1702-HA1717
MV1858-MV1870

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Reverse Breakdown Voltage (min)	V _R	30 Vdc @ I _R = 10 uAdc				45 Vdc @ I _R = 10 uAdc				60 Vdc @ I _R = 10 uAdc						
Reverse Voltage Leakage Current (max)	I _R	0.02 uAdc @ V _R = 25 Vdc 2.0 uAdc @ V _R = 25 Vdc (T _A = 125°C)				0.02 uAdc @ V _R = 40 Vdc 2.0 uAdc @ V _R = 40 Vdc (T _A = 125°C)				0.02 uAdc @ V _R = 55 Vdc 2.0 uAdc @ V _R = 55 Vdc (T _A = 125°C) 2.0 uAdc @ V _R = 55 Vdc (T _A = 150°C)						
Capacitance Temperature Coefficient (typ)	TCC	300 ppm/°C @ V _R = 4 Vdc, f = 1 MHz				200 ppm/°C @ V _R = 4 Vdc, f = 1 MHz										
Diode Cap. (C _T) ± 10% @ 4V/1 MHz	Type No.	C0/C30 RATIO	Q4 @ 50 MHz	Type No.	C0/C30 RATIO	Q4 @ 50 MHz	Type No.	C0/C45 RATIO	Q4 @ 50 MHz	Type No.	C0/C60 RATIO	Q4 @ 50 MHz	Type No.	C4/C60 RATIO	Q4 @ 100MHz	
pf		Min	min		min	min		min	min		min	min		Min/Typ	min	
0.8	GC1500	3.3:1	3600	Slight Hyperabrupt			GC1600	4.2:1	2000							
1.0	GC1501	3.4:1	3600				GC1601	4.4:1	2000					MV1858 ¹	2.1/2.3	350
1.2	GC1502	3.4:1	3600		HA1702	5.0:1	1200	GC1602	4.5:1	2000	GC1702	5.0:1	1200			
1.3	GC1503	3.5:1	3400		HA1703	5.3:1	1200	GC1603	4.8:1	2000	GC1703	5.3:1	1200			
1.8	GC1504	3.5:1	3300	HA1704	5.5:1	1200	GC1604	4.9:1	2000	GC1704	5.5:1	1200				
2.2	GC1505	3.7:1	3300	HA1705	5.8:1	1200	GC1605	5.0:1	2000	GC1705	5.8:1	1200	MV1860 ²	2.5/2.7	350	
2.7	GC1506	3.7:1	3100	HA1706	5.9:1	1100	GC1606	5.2:1	1800	GC1706	5.9:1	1100				
3.3	GC1507	3.8:1	3000	HA1707	6.0:1	1100	GC1607	5.3:1	1800	GC1707	6.0:1	1100	MV1862	2.6/2.8	300	
3.9	GC1508	3.9:1	2600	HA1708	6.0:1	1050	GC1608	5.4:1	1800	GC1708	6.0:1	1050				
4.7	GC1509	3.9:1	2500	HA1709	6.5:1	1050	GC1609	5.4:1	1800	GC1709	6.5:1	1050	MV1863	2.6/2.8	300	
5.6	GC1510	4.0:1	2500	HA1710	6.5:1	1050				GC1710	6.5:1	1050				
6.8	GC1511	4.0:1	2200	HA1711	6.5:1	1000				GC1711	6.5:1	1000	MV1864	2.7/2.9	300	
8.2	GC1512	4.0:1	2000	HA1712	7.0:1	1000				GC1712	7.0:1	1000	MV1865	2.7/2.9	300	
10.0	GC1513	4.2:1	2000	HA1713	7.0:1	950				GC1713	7.0:1	950	MV1866	2.8/3.0	250	
12.0	GC1514	4.2:1	1600	HA1714	7.0:1	900				GC1714	7.0:1	900	MV1868	2.8/3.0	200	
15.0				HA1715	7.0:1	850				GC1715	7.0:1	850	MV1870	2.8/3.0	200	
18.0				HA1716	7.0:1	850				GC1716	7.0:1	850				
22.0				HA1717	7.0:1	850				GC1717	7.0:1	850				

¹To order devices with closer tolerances, specify ± 5% or ± 2% after type no. and suffix.

(1) C_T = ± 30%
(2) C_T = ± 20%

TO ORDER - SELECT CASE STYLE AS DESIGNATED BY LETTER BELOW AND ADD TO TYPE NO.

PACKAGE DESIGNATIONS*

CHARACTERISTICS	CASE A	CASE B	CASE D	CASE E	CASE H
Series Inductance* L _S = 0.5 nh (typ)					
Case Capacitance** C _C = 0.15 pf (typ)					
* @ f = self resonant frequency ** @ f = 1 MHz (except Case A, where) (C _C = 0.2 pf (typ))					

NOTE:
Circuit Capacitance of EE types is 1/2 that for the individual type.

CASE EE

Consists of 2 CASE E varactors, back-to-back with anodes common, with 3 leads welded as shown to provide a flat, low profile for mounting on a PC board or other substrate. Each lead is gold plated kovar, .003" thick X .080" wide X 1/2" minimum length.

CASE T

Consists of a single CASE E with the ribbon leads .003" X .080" X 1/2" (min) welded as shown.

CASE F

Consist of a single CASE E with the ribbon leads welded and formed as shown for low profile mounting on a PC board or other substrate.

Other case styles and other back-to-back configurations including common cathode are available; please consult factory.