

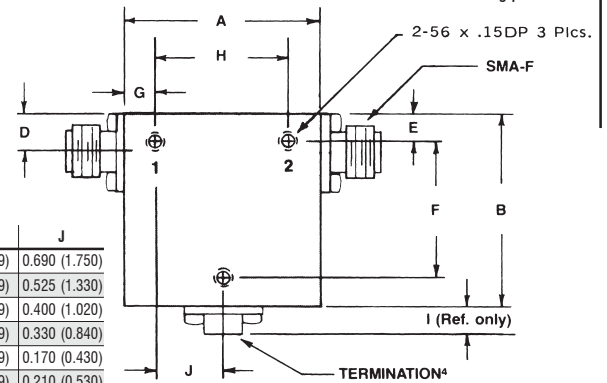
# Isolators / Circulators

## Single Junction - Octave/Broadband - High Performance Narrow Band

### Features

- Small size
- SMA female connectors standard
- Optional removable connectors for assembly integration
- Nickel plated
- SMA male connectors & other types available<sup>5</sup>
- Dual Junction devices available
- Delivery from stock

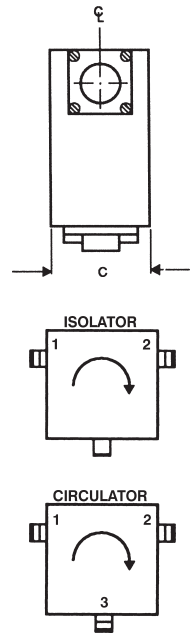
standard isolators and circulators are available in selected frequency ranges from 0.50-40.0 GHz. Standard are SMA female connectors but other types are available. Each model is nickel plate finish with chem film per MIL-C-5541B class 3. Test data may be ordered. Dual Junction devices are available. Standard units are in stock.



Note: Mtg holes for Outline 9 are 0-80 x .080 DP 2 Pl.

Outline No.	A	B	C	D	E	F	G	H	I	J
1	1.58 (4.01)	1.62 (4.11)	0.70 (1.78)	0.25 (0.63)	0.25 (0.63)	1.265 (3.213)	0.10 (0.25)	1.380 (3.505)	0.15 (0.29)	0.690 (1.750)
2	1.25 (3.17)	1.25 (3.17)	0.70 (1.78)	0.25 (0.63)	0.25 (0.63)	0.900 (2.286)	0.10 (0.25)	1.050 (2.667)	0.15 (0.29)	0.525 (1.330)
3	1.00 (2.54)	1.00 (2.54)	0.50 (1.27)	0.26 (0.66)	0.25 (0.63)	0.675 (1.715)	0.10 (0.25)	0.800 (2.032)	0.15 (0.29)	0.400 (1.020)
4	0.86 (2.18)	0.98 (2.49)	0.50 (1.27)	0.25 (0.63)	0.25 (0.63)	0.625 (1.587)	0.10 (0.25)	0.660 (1.676)	0.15 (0.29)	0.330 (0.840)
5	0.50 (1.27)	0.70 (1.78)	0.50 (1.27)	0.25 (0.63)	0.18 (0.46)	0.455 (1.156)	0.08 (0.20)	0.340 (0.864)	0.15 (0.29)	0.170 (0.430)
6	0.62 (1.57)	0.78 (1.98)	0.50 (1.27)	0.25 (0.63)	0.25 (0.63)	0.425 (1.079)	0.10 (0.25)	0.420 (1.067)	0.15 (0.29)	0.210 (0.530)
7	1.58 (4.01)	1.62 (4.11)	0.72 (1.90)	0.26 (0.66)	0.26 (0.66)	1.265 (3.213)	0.10 (0.25)	1.380 (3.505)	0.15 (0.29)	0.690 (0.530)
8	1.25 (3.17)	1.25 (3.17)	0.72 (1.90)	0.26 (0.66)	0.26 (0.66)	0.900 (2.286)	0.10 (0.25)	1.050 (2.667)	0.15 (0.29)	0.525 (1.330)
9	0.50 (1.27)	0.58 (1.47)	0.38 (0.97)	0.19 (0.48)	0.19 (0.48)	—	0.10 (0.25)	0.300 (0.762)	0.15 (0.29)	—

Frequency <sup>1</sup> GHz	Model No. Isolator	Model No. Circulator	Isolation dB		Insertion Loss dB		VSWR		Size In. (cm) Outline No.	Approx. Weight oz. (gm.)	Isolator Power (Watts) <sup>2</sup>		Operating Temperature <sup>3</sup> Range °C
			Typ.	Min	Typ.	Max.	Typ.	Max.			Avg.	Peak	
2.0-4.0	M3I2040	M3C2040	20	18	0.40	0.50	1.25	1.30	1	3.50 (100)	2	20	0 to +50
2.0-6.0	M3I2060	M3C2060	15	14	0.70	0.80	1.45	1.50	1	3.50 (100)	2	20	0 to +50
2.0-8.0	M3I2080	M3C2080	—	11	—	1.40	—	1.85	1	6.90 (195)	2	20	0 to +50
2.6-5.2	M3I2652	M3C2652	20	18	0.40	0.50	1.25	1.30	1	3.50 (100)	2	20	0 to +50
3.0-6.0	M3I3060	M3C3060	21	19	0.35	0.40	1.25	1.30	2	2.00 (60)	2	20	0 to +50
3.5-7.0	M3I3570	M3C3570	20	18	0.35	0.40	1.25	1.30	3	1.20 (35)	2	20	0 to +50
3.7-8.3	M3I3783	M3C3783	18	17	0.50	0.60	1.30	1.35	3	1.20 (35)	2	20	0 to +50
4.0-8.0	M3I4080	M3C4080	22	20	0.35	0.40	1.18	1.25	3	1.20 (35)	2	20	-10 to +60
6.0-12.4	M3I6012	M3C6012	19	17	0.50	0.60	1.30	1.35	6	1.00 (30)	2	20	-10 to +60
6.0-18.0	M3I6018	M3C6018	15	14	0.90	1.00	1.45	1.50	9	0.40 (11)	2	20	0 to +85
7.0-11.0	M3I7011	M3C7011	22	20	0.35	0.40	1.18	1.25	4	1.00 (30)	2	500	-30 to +85
7.0-12.4	M3I7012	M3C7012	21	20	0.35	0.40	1.22	1.25	5	1.00 (30)	5	500	-30 to +85
7.0-18.0	M3I7018	M3C7018	16	15	0.90	1.00	1.45	1.50	5	0.90 (25)	2	30	-10 to +85
8.0-12.4	M3I8012	M3C8012	22	20	0.35	0.40	1.18	1.25	4	1.00 (30)	2	500	-30 to +85
8.0-16.0	M3I8016	M3C8016	19	17	0.50	0.60	1.30	1.35	5	0.90 (25)	2	30	-20 to +65
8.0-18.0	M3I8018	M3C8018	17	16	0.70	0.80	1.40	1.45	5	0.90 (25)	2	30	-10 to +85
8.0-20.0	M3I8020	M3C8020	—	15	0.70	1.00	—	1.45	5	0.90 (25)	2	30	-10 to +85
10.0-20.0	M3I1020	M3C1020	17	16	0.60	0.70	1.35	1.40	5	0.90 (25)	2	30	-20 to +65
12.0-18.0	M3I1118	M3C1118	22	20	0.45	0.50	1.18	1.25	5	0.90 (25)	2	30	-20 to +65
18.0-26.5	M3I1826	M3C1826	20	18	0.70	0.80	1.35	1.40	5	0.90 (25)	2	30	-20 to +65
26.5-40.0*	M3I2640	M3C2640	15	14	0.80	1.00	1.45	1.50	5	0.90 (25)	2	30	-20 to +65
0.5-0.55	M3I0555	M3C0555	23	20	0.30	0.40	1.15	1.25	7	4.80 (135)	2	750	-20 to +65
0.525-0.6	M3I0560	M3C0560	23	20	0.30	0.40	1.15	1.25	7	4.80 (135)	2	750	-20 to +65
0.6-0.7	M3I0670	M3C0670	23	20	0.30	0.40	1.15	1.25	7	4.50 (129)	2	750	-20 to +65
0.7-0.8	M3I0780	M3C0780	23	20	0.30	0.40	1.15	1.25	7	4.50 (129)	2	750	-20 to +65
0.8-0.9	M3I0890	M3C0890	23	20	0.30	0.40	1.15	1.25	8	2.80 (80)	2	750	-20 to +65
0.95-1.225	M3I9525	M3C9525	22	20	0.35	0.40	1.18	1.25	8	2.80 (80)	2	500	-20 to +65
1.2-1.4	M3I0112	M3C0112	23	20	0.30	0.40	1.15	1.25	8	2.70 (76)	2	500	-20 to +65
1.4-1.6	M3I0116	M3C0116	23	20	0.30	0.40	1.15	1.25	8	2.00 (56)	2	500	-20 to +65
1.6-1.8	M3I0118	M3C0118	23	20	0.30	0.40	1.15	1.25	3	2.00 (56)	2	350	-20 to +65
1.7-2.0	M3I0120	M3C0120	23	20	0.30	0.40	1.15	1.25	3	2.00 (56)	2	350	-20 to +65
2.0-2.3	M3I0223	M3C0223	23	20	0.30	0.40	1.15	1.25	3	2.00 (56)	2	350	-20 to +65
3.7-4.2	M3I3742	M3C3742	26	23	0.10	0.15	1.10	1.15	3	1.40 (39)	2	20	-30 to +65
4.4-5.0	M3I4450	M3C4450	26	23	0.10	0.15	1.10	1.15	3	1.40 (39)	2	20	-30 to +65
5.4-5.9	M3I5459	M3C5459	26	23	0.10	0.15	1.10	1.15	6	1.00 (29)	2	20	-30 to +65
5.9-6.4	M3I5964	M3C5964	26	23	0.10	0.15	1.10	1.15	6	1.00 (29)	2	20	-30 to +65
7.5-10.0	M3I7510	M3C7510	23	20	0.30	0.50	1.15	1.25	5	0.74 (21)	2	50	-30 to +65
7.7-8.4	M3I7784	M3C7784	26	23	0.15	0.20	1.10	1.20	5	0.74 (21)	2	50	-30 to +65
8.5-9.6	M3I8596	M3C8596	26	23	0.15	0.20	1.10	1.20	5	0.74 (21)	2	50	-30 to +65
9.2-10.5	M3I9211	M3C9211	26	23	0.15	0.20	1.10	1.20	5	0.74 (21)	2	50	-30 to +65
10.7-11.7	M3I1112	M3C1112	26	23	0.15	0.20	1.10	1.20	5	0.74 (21)	2	50	-30 to +65
11.7-12.7	M3I1213	M3C1213	26	23	0.15	0.20	1.10	1.20	5	0.74 (21)	2	50	-30 to +65
17.0-20.0	M3I1720	M3C1720	24	22	0.30	0.40	1.15	1.20	5	0.74 (21)	2	50	0 to +50
19.0-22.0	M3I1922	M3C1922	24	22	0.30	0.40	1.15	1.20	5	0.74 (21)	2	50	0 to +50
20.0-21.5	M3I2021	M3C2021	24	22	0.30	0.40	1.15	1.20	5	0.74 (21)	2	50	0 to +50
20.0-23.0	M3I2023	M3C2023	24	22	0.30	0.40	1.15	1.20	5	0.74 (21)	2	50	0 to +50



1. Other frequencies available on request
  2. Consult factory for power handling capability of circulator.
  3. Storage temperature range is -55°C to 100°C.
  4. Connector and termination locations are interchangeable.
  5. SMA Male connectors are available by adding suffix "M1", "M2", or "M3" for corresponding port number(s). Example: M3I8018M1
- \* Supplied with "K" female connectors. K connector trademark of Wiltron Co.

See Note 6, Isolator Power footnote on page 70.

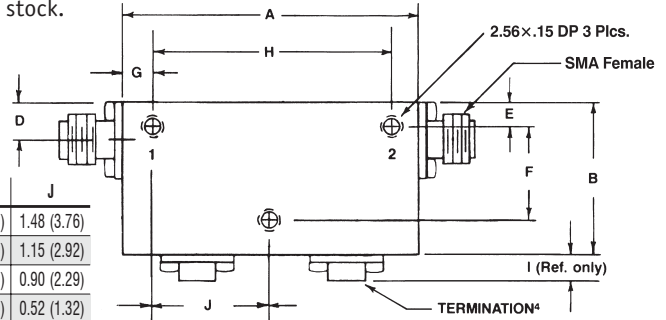
# Isolators / Circulators

## Dual Junction - Octave/Broadband - High Performance Narrow Band

### Features

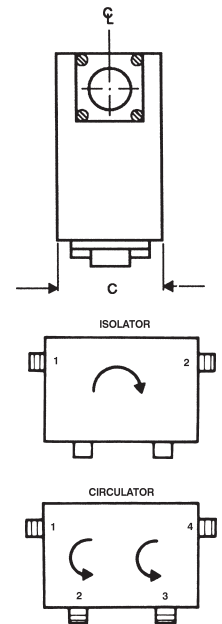
- Small size
- SMA female connectors standard
- Optional removable connectors for assembly integration
- Nickel plated
- SMA male connectors and other types available
- Single Junction devices available
- Delivery from stock

dual junction isolators and circulators are available in selected frequency ranges from 0.50 to 40.0 GHz. Standard are SMA female connectors but other types are available. Each model is nickel plate finish with chem film per MIL-C-5541B class 3. Test data may be ordered. Single junction devices are available. Standard units are in stock.



Outline No.	A	B	C	D	E	F	G	H	I	J
1	3.16 (8.03)	1.62 (4.11)	0.72 (1.90)	0.26 (0.66)	0.26 (0.66)	1.265 (3.213)	0.10 (0.25)	2.960 (7.518)	0.15 (0.29)	1.48 (3.76)
2	2.50 (6.35)	1.25 (3.17)	0.72 (1.90)	0.26 (0.66)	0.26 (0.66)	0.900 (2.286)	0.10 (0.25)	2.300 (5.842)	0.15 (0.29)	1.15 (2.92)
3	2.00 (5.08)	1.00 (2.54)	0.50 (1.27)	0.25 (0.63)	0.25 (0.63)	0.675 (1.715)	0.10 (0.25)	1.800 (4.572)	0.15 (0.29)	0.90 (2.29)
4	1.24 (3.15)	0.78 (1.98)	0.50 (1.27)	0.25 (0.63)	0.25 (0.63)	0.425 (1.079)	0.10 (0.25)	1.040 (2.642)	0.15 (0.29)	0.52 (1.32)
5	1.00 (2.54)	0.70 (1.78)	0.50 (1.27)	0.25 (0.63)	0.18 (0.46)	0.455 (1.156)	0.08 (0.20)	0.840 (2.134)	0.15 (0.29)	0.42 (1.07)
6	3.16 (8.03)	1.62 (4.11)	0.70 (1.78)	0.25 (0.63)	0.25 (0.63)	1.265 (3.213)	0.10 (0.25)	2.960 (7.518)	0.15 (0.29)	1.48 (3.76)
7	2.50 (6.35)	1.25 (3.17)	0.70 (1.78)	0.25 (0.63)	0.25 (0.63)	0.900 (2.286)	0.10 (0.25)	2.300 (5.842)	0.15 (0.29)	1.15 (2.92)
8	1.72 (4.37)	0.98 (2.49)	0.50 (1.27)	0.25 (0.63)	0.25 (0.63)	0.625 (1.587)	0.10 (0.25)	1.520 (3.861)	0.15 (0.29)	0.76 (1.93)

Frequency <sup>1</sup> GHz	Model No. Isolator	Model No. Circulator	Isolation dB Min Per Jct.	Insertion Loss dB Max. Per Jct.	VSWR Max.	Size In. (cm) Outline No.	Approx. Weight oz. (gm.)	Isolator Power (Watts) <sup>2,5</sup>		Operating Temperature Range °C <sup>3</sup>
								Avg.	Peak	
2.0-4.0	M4I2040	M4C2040	18	0.50	1.30	6	6.9 (195)	2	20	0 to +50
2.0-6.0	M4I2060	M4C2060	14	0.80	1.50	6	6.9 (195)	2	20	0 to +50
2.0-8.0	M4I2080	M4C2080	11	1.40	1.85	6	6.9 (195)	2	20	-10 to +65
2.6-5.2	M4I2652	M4C2652	18	0.50	1.30	6	6.9 (195)	2	20	0 to +50
3.0-6.0	M4I3060	M4C3060	19	0.40	1.30	7	4.0 (115)	2	20	0 to +50
3.5-7.0	M4I3570	M4C3570	18	0.40	1.30	3	2.3 (65)	2	20	0 to +50
3.7-8.3	M4I3783	M4C3783	17	0.60	1.35	3	2.3 (65)	2	20	0 to +50
4.0-8.0	M4I4080	M4C4080	20	0.40	1.25	3	2.3 (65)	2	20	-10 to +60
6.0-12.4	M4I6012	M4C6012	17	0.60	1.35	4	1.9 (55)	2	20	-10 to +60
7.0-11.0	M4I7011	M4C7011	20	0.40	1.25	8	1.9 (55)	2	200	-30 to +85
7.0-12.4	M4I7012	M4C7012	20	0.40	1.25	8	1.9 (55)	5	500	-30 to +85
7.0-18.0	M4I7018	M4C7018	17	1.00	1.50	5	1.6 (45)	2	30	-10 to +85
8.0-12.4	M4I8012	M4C8012	20	0.40	1.25	8	1.9 (55)	2	200	-30 to +85
8.0-16.0	M4I8016	M4C8016	17	0.60	1.35	5	1.6 (45)	2	30	-20 to +65
8.0-18.0	M4I8018	M4C8018	16	0.80	1.45	5	1.6 (45)	2	30	-10 to +85
8.0-20.0	M4I8020	M4C8020	15	1.00	1.45	5	1.6 (45)	2	30	-20 to +65
10.0-20.0	M4I1020	M4C1020	16	0.70	1.40	5	1.6 (45)	2	30	-20 to +65
12.0-18.0	M4I1118	M4C1118	20	0.50	1.25	5	1.6 (45)	2	30	-20 to +65
18.0-26.5	M4I1826	M4C1826	18	0.80	1.40	5	1.6 (45)	2	30	-20 to +65
20.0-30.0*	M4I2030	M4C2030	18	0.70	1.40	5	1.6 (45)	2	30	-20 to +65
20.0-40.0*	M4I2004	M4C2004	13	1.20	1.60	5	1.6 (45)	2	30	-20 to +65
26.5-40.0*	M4I2640	M4C2640	14	1.00	1.50	5	1.6 (45)	2	30	-20 to +65
0.5-0.55	M4I0555	M4C0555	20	0.40	1.25	1	9.3 (265)	2	750	-20 to +65
0.525-0.6	M4I0560	M4C0560	20	0.40	1.25	1	9.3 (265)	2	750	-20 to +65
0.6-0.7	M4I0670	M4C0670	20	0.40	1.25	1	8.9 (253)	2	750	-20 to +65
0.7-0.8	M4I0780	M4C0780	20	0.40	1.25	1	8.9 (253)	2	750	-20 to +65
0.8-0.9	M4I0890	M4C0890	20	0.40	1.25	2	5.5 (155)	2	750	-20 to +65
0.95-1.225	M4I9525	M4C9525	20	0.40	1.25	2	5.5 (155)	2	500	-20 to +65
1.2-1.4	M4I0112	M4C0112	20	0.40	1.25	2	5.2 (147)	2	500	-20 to +65
1.4-1.6	M4I0116	M4C0116	20	0.40	1.25	2	3.8 (101)	2	500	-20 to +65
1.6-1.8	M4I0118	M4C0118	20	0.40	1.25	3	3.8 (107)	2	350	-20 to +65
1.7-2.0	M4I0120	M4C0120	20	0.40	1.25	3	3.8 (107)	2	350	-20 to +65
2.0-2.3	M4I0223	M4C0223	20	0.40	1.25	3	3.8 (107)	2	350	-20 to +65
3.7-4.2	M4I3742	M4C3742	23	0.15	1.15	3	2.6 (73)	2	20	-30 to +65
4.4-5.0	M4I4450	M4C4450	23	0.15	1.15	3	2.6 (73)	2	20	-30 to +65
5.4-5.9	M4I5459	M4C5459	23	0.15	1.15	4	1.9 (53)	2	20	-30 to +65
5.9-6.4	M4I5964	M4C5964	23	0.15	1.15	4	1.9 (53)	2	20	-30 to +65
7.5-10.0	M4I7510	M4C7510	20	0.50	1.25	5	1.3 (37)	2	50	-30 to +65
7.7-8.4	M4I7784	M4C7784	23	0.20	1.20	5	1.3 (37)	2	50	-30 to +65
8.5-9.6	M4I8596	M4C8596	23	0.20	1.20	5	1.3 (37)	2	50	-30 to +65
9.2-10.5	M4I9211	M4C9211	23	0.20	1.20	5	1.3 (37)	2	50	-30 to +65
10.7-11.7	M4I1112	M4C1112	23	0.20	1.20	5	1.3 (37)	2	50	-30 to +65
11.7-12.7	M4I1213	M4C1213	23	0.20	1.20	5	1.3 (37)	2	50	-30 to +65



1. Other frequencies available on request
2. Consult factory for power handling capability of circulator.
3. Storage temperature range is -55°C to 100°C.
4. Connector and termination locations are interchangeable.
5. SMA Male connectors are available by adding suffix "M1", "M2", "M3", or "M4" for corresponding port number(s). Example: M4I8018M1
6. Isolator powers shown are reflected powers. Average forward power for <math>\leq 2</math> GHz units is typically 150 watts. For units >2 GHz, it is usually in the range of 20-30 watts. Consult factory for specific models.

\* Supplied with "K" female connectors. K connector trademark of Wiltron Co.