AMPHARS

RF&
Microwave

Devices
Components

Isolators
Circulators

Attenuators
Adapters
Terminations

Table of Contents

Company Introduction

Amphars operations were initiated in October 2000 through the establishment of a former Aeroflex representative office to oversee local third party manufacturing logistics and subcontract activities. In 2001, the formation of Aeroflex(Nanjing) Co., Ltd. as a subsidiary organized under Chinese Law, facilitated the expansion of our operation to include Aeroflex research and development, manufacturing, test, quality assurance, sales and related RF devices, components and subsystems.

Aeroflex(Nanjing) operations in China are concentrated in three areas that include product development and manufacturing for our North American and European customers with operations in China; Product manufacturing for a growing list of domestic China-based OEMs; and to provide low-cost manufacturing of Aeroflex-produced designs for customers throughout the world. Aeroflex Nanjing supplies high power cable terminations, SMA terminations and Ferrite Circulators and Isolators.

Aeroflex Nanjing occupies over 2000 square meters facility located in Nanjing China's Jiangning new economic and technology development zone and is certified to ISO9001:2000 standards.

In 2004, Aeroflex acquired by Cobham plc, a UK-listed company that designs and manufactures a wide range of equipment, specialized systems and components for the aerospace, defense, energy, and electronics industries. Aeroflex/Nanjing was as its only subsidiary in China with all-business.

Company Capatilities

Amphars Microelectronics (Nanjing) Co., Ltd concentrates on research and development, manufacturing, test, quality assurance, related RF devices, components and subsystems. Aeroflex Nanjing stresses innovative solution-minded products. Our customer-focused approach brings flexibility, creativity and cost-effectiveness to our diverse markets.

Amphars offers advanced technologies, broad capabilities, engineering expertise, manufacturing facilities, and proven product experience. We will happily consult on your high-power requirements and can develop and manufacture for your cost-effective products that are delivered right and on time. That's the Amphars Nanjing guarantee.

HERE'S WHAT WE CAN DO FOR YOU

- Design to specification
- Build to print
- Build to print with some redesign
- Standard designs covering multiple frequencies

OUR PRODUCTS FEATURE

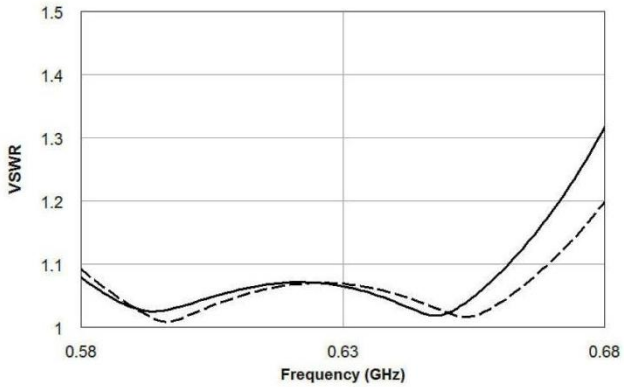
- Low VSWR
- Low Insertion Loss
- Low Passive Intermodulation
- High Isolation
- Compact Size

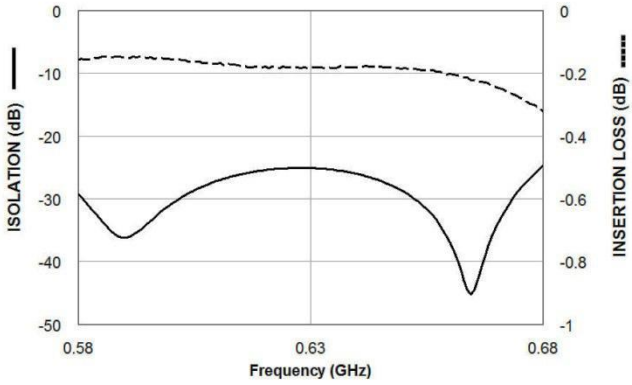
Isolator & Circulator Products Performance Chart

Product Type	Frequency (MHz)	Forward power(W)	Reverse power(W)	VSWR Max	Ins Loss Max. dB	Isolation Min. dB	IMD Min. dBc
Drop-in circulators & isolators	100~18000	up to 1000	up to 300	1.08	down to 0.15	up to 60	up to -89.5
SMD circulators & isolators	100~18000	up to 200	up to 150	1.12	down to 0.15	up to 30	up to -80
Coaxial circulators & isolators	300~15000	10	1	1.15	0.30	23	N/A
Waveguide circulators & isolators	10~40GHz	1	1	1.22	0.30	20	N/A
Cable load assemblies	100~4000	up to 250	N/A	1.06	N/A	N/A	N/A

Typical RF Performance

ISO-600-02CW





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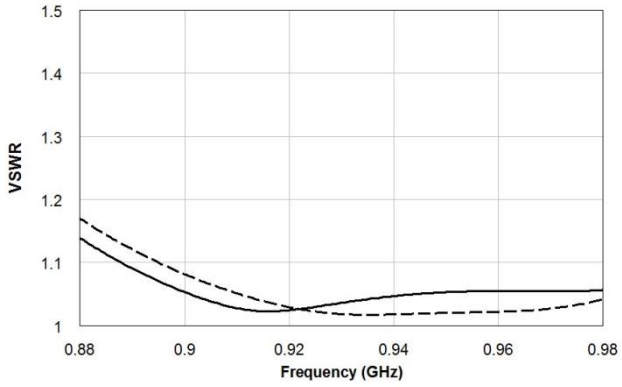

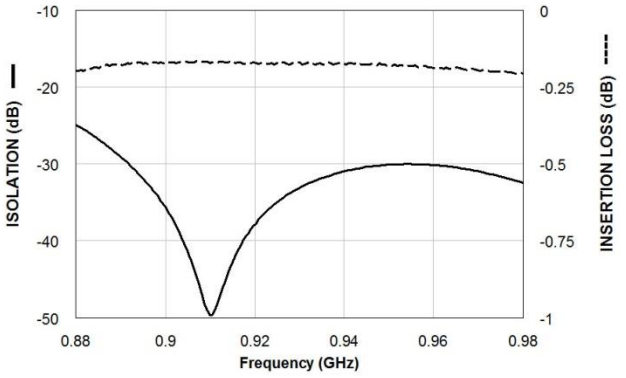

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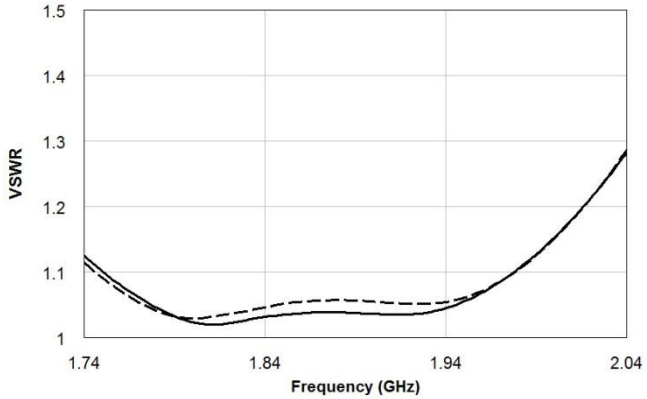

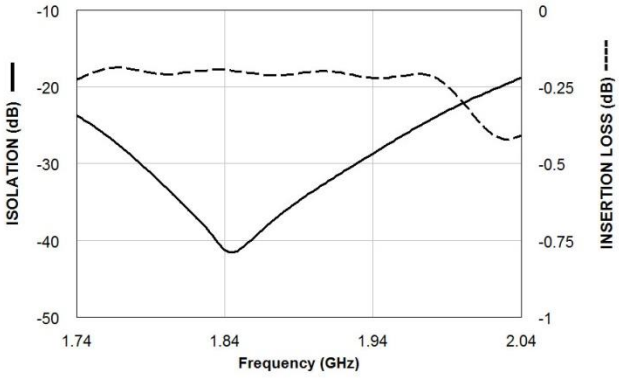

DROP-IN CIRCULATORS & ISOLATORS

SMD CIRCULATORS & ISOLATORS

COAXIAL CIRCULATORS & ISOLATORS

WAVEGUIDE CIRCULATORS & ISOLATORS

CABLE LOAD ASSEMBLIES

Drop-in Circulators & Isolators

Frequency (MHz)	Type	Isolation (dB)min	Ins Loss (dB)max	VSWR max	Power Fwd/Rev (W)	IMD (dBC) max	Operating Temp (℃)	Size L*W*H (mm)	Outline Drawing	Part number
350-400	Isolator	20	0.3	1.21	100/100	--	-20 to +65	35*35*13	D029	ISO-400-09CW
380-430	Isolator	21	0.3	1.20	200/150	-70 @2*50W	0 to +85	42*55*12.7	D024	ISO-400-02CCW
390-400	Circulator	40	0.5	1.20	100	-77 @2*50W	-10 to +70	76*56*18	D035	ISO-400-10CW
566-666	Circulator	20	0.35	1.20	200/100	--	-20 to +105	33.2*40*12	D003	ISO-600-01CW
700-1000	Isolator	16	0.6	1.38	60/20	--	-10 to +70	33.2*40*12	D003	ISO-700-11CW
728-756	Isolator	23	0.25	1.20	100/100	-75 @2*45W	-40 to +85	26*32*13	D010	ISO-700-05CW
728-768	Isolator	25	0.25	1.14	100/100	-76 @2*45W	-40 to +85	33.2*40*12	D003	ISO-700-02CCW
746-768	Isolator	23	0.25	1.15	100/100	-74 @2*45W	-40 to +85	26*32*13	D018	ISO-700-14CW
758-776	Isolator	20	0.25	1.20	160/110	-70 @2*56W	-10 to +85	33.2*40*12	D003	ISO-700-09CW
758-776	Isolator	20	0.25	1.20	120/80	-70 @2*25W	-10 to +85	33.2*40*12	D003	ISO-700-10CW
758-803	Isolator	24	0.25	1.2	200	-76 @2*45W	-40 to +100	33.2*40*12.7	D021	ISO-700-12CW/CCW
849-914	Isolator	25	0.25	1.14	100/100	-76 @2*45W	-40 to +85	33.2*40*12	D003	ISO-800-27CCW
849-914	Isolator	25	0.25	1.14	100/100	-83 @2*45W	-40 to +85	33.2*40*12	D004	ISO-800-37CCW
869-894	Isolator	60	0.6	1.1	80/80	-88 @64W/2W	+5 to +75	38.1*57.2*15	D002	ISO-800-28CW
869-894	Isolator	30	0.3	1.11	120/120	-80 @2*100W	-40 to +110	52*31*14	D013	ISO-800-41CCW
900-950	Isolator	25	0.25	1.20	150/150	-74 @2*50W	-10 to +75	33.2*40*14	D030	ISO-900-44CW
905-980	Isolator	25	0.3	1.14	100/100	-76 @2*45W	-40 to +85	33.2*40*12	D003	ISO-900-31CCW
905-980	Isolator	25	0.3	1.14	100/100	-83 @2*45W	-40 to +85	33.2*40*12	D004	ISO-900-42CCW
918-960	Isolator	45	0.4	1.13	125/112	-89.5 @2*115W	-40 to +95	45.5*50*9.3	D015	ISO-900-47CCW
920-965	Isolator	45	0.5	1.11	125/112	-89.5 @2*114W	-40 to +95	45.5*50*9.3	D015	ISO-900-39CCW
923-962	Isolator	25	0.30	1.2	70/70	-80 @30W/3W	0 to +85	27.7*36*11	D001	ISO-900-04ECW
925-960	Isolator	60	0.5	1.1	80/80	-88 @64W/2W	+5 to +75	38.1*57.2*15	D002	ISO-900-24CW
925-960	Isolator	30	0.3	1.14	80/80	-88 @64W/2W	+5 to +75	33.2*40*14	D003	ISO-900-30CW
925-960	Isolator	28	0.3	1.08	100/80	-80 @2*70.8W	-35 to +115	51*35*12.8	D007	ISO-900-41CW
925-960	Isolator	30	0.25	1.11	120/120	-80 @2*110W	-40 to +110	31*52*14	D013	ISO-900-46CCW
1460.9-1525.9	Isolator	23	0.25	1.15	100/100	-74 @2*50W	-10 to +95	26*32*11	D010	ISO-1500-01CW/CCW
1626-1675	Isolator	25	0.30	1.20	80/10	-70@2*50W	-40 to +80	19.1*19.1*7	D031	ISO-1600-01CW
1790-1895	Isolator	30	0.3	1.11	120/120	-80 @2*100W	-40 to +110	31*52*14	D013	ISO-1800-45CCW
1805-1880	Isolator	30	0.3	1.08	120/65	-80 @2*70W	-35 to +100	32*42*15.5	D014	ISO-1800-55CCW
1805-1880	Isolator	30	0.2	1.13	200	-70 @2*60W	-40 to +90	29.4*35*14	D032	ISO-1800-42CW/CCW
1805-1880	Isolator	22	0.30	1.2	70/70	-86 @30W/3W	0 to +85	27.7*36*11	D001	ISO-1800-04ECW

Drop-in Circulators & Isolators

Frequency (MHz)	Type	Isolation (dB)min	Ins Loss (dB)max	VSWR max	Power Fwd/Rev (W)	IMD (dBC) max	Operating Temp (℃)	Size L*W*H (mm)	Outline Drawing	Part number
1805-1880	Isolator	60	0.5	1.15	80/80	-88 @64W/2W	+5 to +75	38.1*57.2*15	D002	ISO-1800-20CW
1805-1880	Isolator	25	0.3	1.14	100/100	-76 @2*45W	-40 to +85	33.2*40*12	D003	ISO-1800-25CCW
1805-1880	Isolator	25	0.3	1.14	100/100	-83 @2*45W	-40 to +85	33.2*33.2*12	D005	ISO-1800-43CCW
1805-1880	Isolator	28	0.3	1.08	100/80	-80 @2*71W	-35 to +115	51*35*12.8	D007	ISO-1800-40CW
1890-2030	Isolator	25	0.3	1.14	100/100	-76 @2*45W	-40 to +85	33.2*40*12	D003	ISO-1900-24CCW
1890-2030	Isolator	25	0.3	1.14	100/100	-83 @2*45W	-40 to +85	33.2*33.2*12	D005	ISO-1900-32CCW
1928-1992	Isolator	25	0.30	1.2	70/70	-86 @30W/3W	0 to +85	27.7*36*11	D001	ISO-1900-04ECW
1930-1990	Isolator	60	0.6	1.1	80/80	-88 @64W/2W	+5 to +75	38.1*57.2*15	D002	ISO-1900-27CW
1930-1995	Isolator	26	0.22	1.12	100/100	-74 @2*50W	-40 to +105	25.4*31.75*12.2	D019	ISO-1900-46CW/CCW
1930-1995	Isolator	28	0.25	1.15	100/70	-75 @2*50W	-40 to +85	19*25.4*8	D026	ISO-1900-29CCW
1930-1995	Isolator	30	0.3	1.11	120/120	-80 @2*100W	-40 to +110	31*52*14	D013	ISO-1900-42CCW
1930-1995	Isolator	30	0.3	1.08	120/65	-80 @2*70W	-35 to +100	32*42*15.5	D014	ISO-1900-49CCW
2070-2210	Isolator	25	0.3	1.14	100/100	-76 @2*45W	-40 to +85	33.2*40*12	D003	ISO-2100-27CCW
2070-2210	Isolator	25	0.3	1.14	100/100	-83 @2*45W	-40 to +85	33.2*33.2*12	D005	ISO-2100-37CCW
2095-2185	Circulator	23	0.25	1.15	100/100	-74 @2*42W	-10 to +105	25*27.3*8	D008	ISO-2100-17CW
2095-2185	Circulator	26	0.25	1.11	100/100	-74 @2*32W	-40 to +105	27.3*25*8	D011	ISO-2100-31CCW
2095-2185	Circulator	23	0.15	1.15	112.2/112.2	-74 @2*55W	-10 to +105	19*19*7.8	D006	ISO-2100-39CW
2110-2170	Isolator	23	0.25	1.15	150/150	-72 @2*37.5W	-40 to +105	25.4*31.75*9.2	D020	ISO-2100-42CW
2110-2170	Isolator	25	0.2	1.15	100/100	-76 @2*45W	-40 to +85	19.1*25.4*8	D022	ISO-2100-45CW/CCW
2300-2400	Circulator	25	0.25	1.20	20/20	-70 @2*20W	-40 to +85	38.1*25.4*8	D017	ISO-3000-08CW
2400-2500	Isolator	23	0.2	1.15	300/300	--	-30 to +85	28*45*16.5	D033	ISO-2400-01CW
2495-2695	Circulator	25	0.25	1.20	20/20	-70 @2*20W	-40 to +85	38.1*25.4*8	D017	ISO-3000-07CW
2496-2690	Circulator	25	0.25	1.20	200	--	-40 to +85	19*19*8	D036	ISO-2600-06CW
2620-2690	Isolator	25	0.3	1.14	100/100	-83 @2*45W	-40 to +85	33.2*33.2*12	D005	ISO-2600-08CCW
3400-3600	Circulator	25	0.25	1.20	20/20	-70 @2*20W	-40 to +85	38.1*25.4*8	D017	ISO-3000-09CW

Drop-in Circulators & Isolators

Frequency (MHz)	Relative Bandwidth	Type	Isolation (dB)min	Ins Loss (dB)max	VSWR max	Power Fwd/Rev (W)	IMD (dBC) max	Operating Temp (℃)	Size L*W*H (mm)	Outline Drawing
300-600	5%	Isolator	21	0.3	1.20	150	-70	-30 to +95	33.2x40x12	D003
600-2700	10%	Isolator	23	0.25	1.15	150	-74	-40 to +95	33.2x40x12	D003
450-600	5%	Isolator	21	0.3	1.20	100	-68	-30 to +95	25.4x31.8x10	D034
600-3000	10%	Isolator	23	0.25	1.15	150	-74	-40 to +95	25.4x31.8x10	D034
700-1200	5%	Isolator	21	0.3	1.20	100	-68	-30 to +95	19x25.4x8	D026
1200-1400	10%	Isolator	23	0.25	1.15	150	-74	-40 to +95	19x25.4x8	D026
700-1000	3%	Isolator	17	0.5	1.33	20	-65	-30 to +95	2.7x16.5x7	D006
1000-4000	5%	Isolator	21	0.3	1.20	20	-70	-40 to +95	2.7x16.5x7	D006
4000-10000	10%	Isolator	21	0.4	1.20	20	NA	-40 to +95	2.7x16.5x7	D006
8000-18000	10%	Isolator	20	0.4	1.22	20	NA	-40 to +75	15x8.9x7.7	D027
300-600	5%	Circulator	21	0.3	1.20	150	-70	-30 to +95	33.2x33.2x12	D003
600-2700	10%	Circulator	23	0.25	1.15	150	-74	-40 to +95	33.2x33.2x12	D003
450-600	5%	Circulator	21	0.3	1.20	100	-68	-30 to +95	25.4x31.8x10	D009
600-3000	10%	Circulator	23	0.25	1.15	150	-74	-40 to +95	25.4x31.8x10	D009
700-1200	5%	Circulator	21	0.3	1.20	100	-68	-30 to +95	19x25.4x8	D036
1200-4000	10%	Circulator	23	0.25	1.15	150	-74	-40 to +95	19x25.4x8	D036
700-1000	3%	Circulator	17	0.5	1.33	20	NA	-30 to +95	12.7x12.7x7	D012
1000-4000	5%	Circulator	21	0.3	1.20	20	-65	-40 to +95	12.7x12.7x7	D012
4000-10000	10%	Circulator	21	0.4	1.20	20	-70	-40 to +95	12.7x12.7x7	D012
8000-18000	10%	Circulator	20	0.4	1.22	20	NA	-40 to +75	12.5x8.9x7.7	D028

Drop-in Circulators & Isolators Package Drawings

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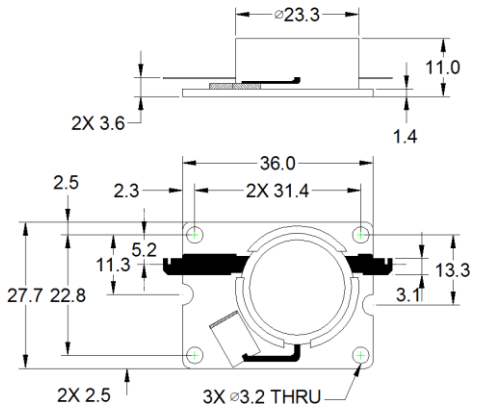

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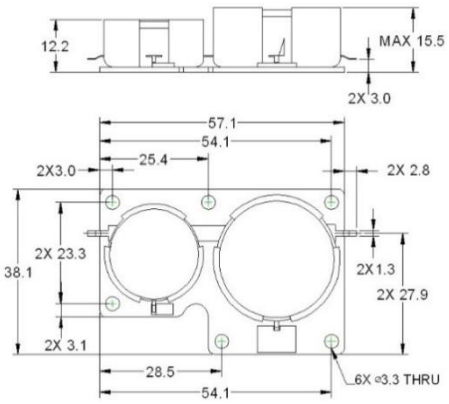

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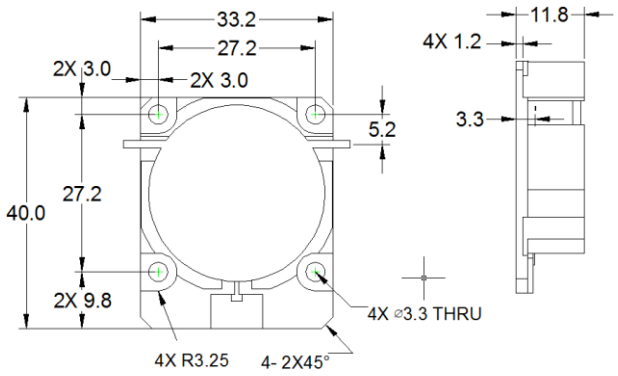

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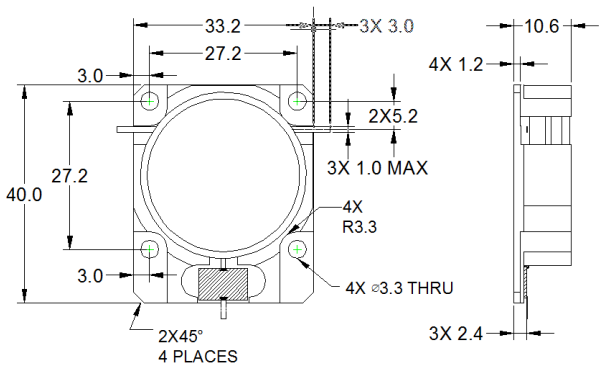

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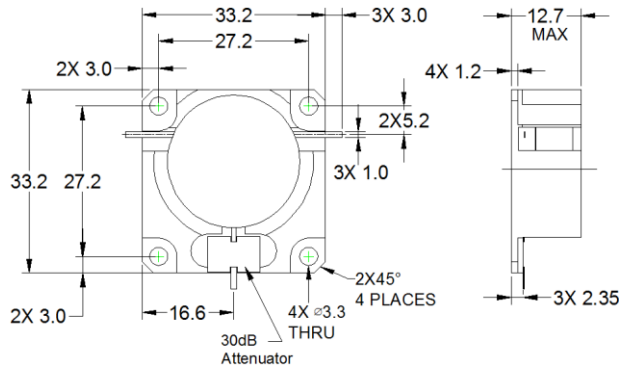

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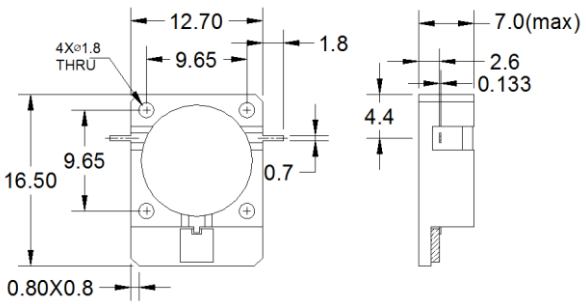

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Drop-in Circulators & Isolators Package Drawings

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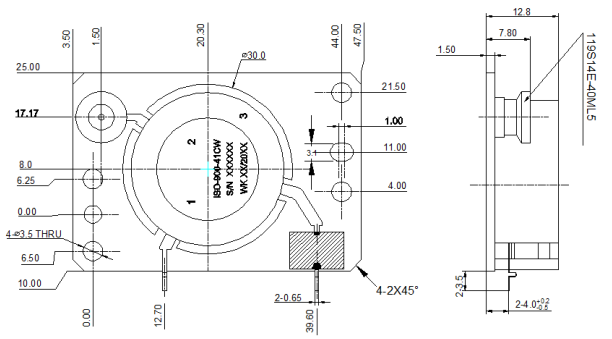

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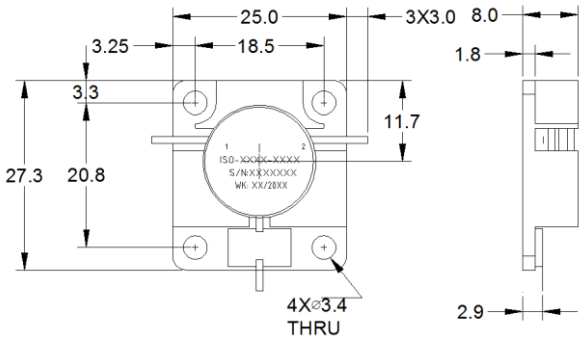

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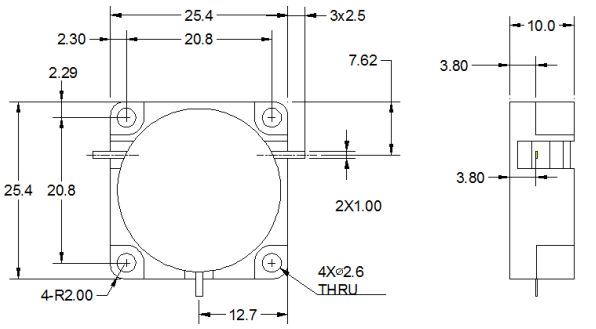

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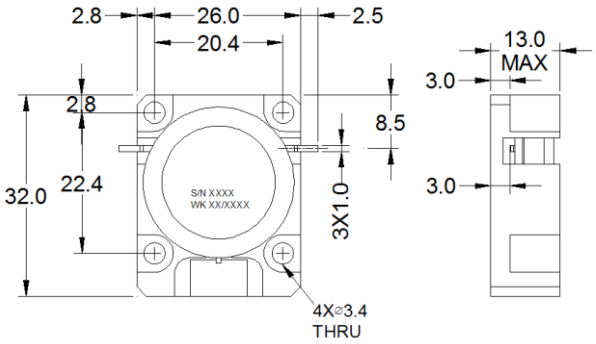

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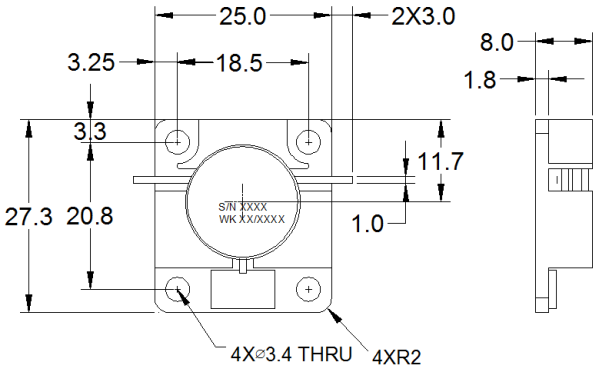

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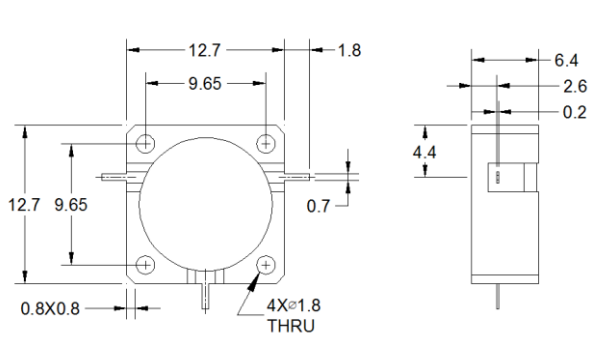

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Drop-in Circulators & Isolators Package Drawings

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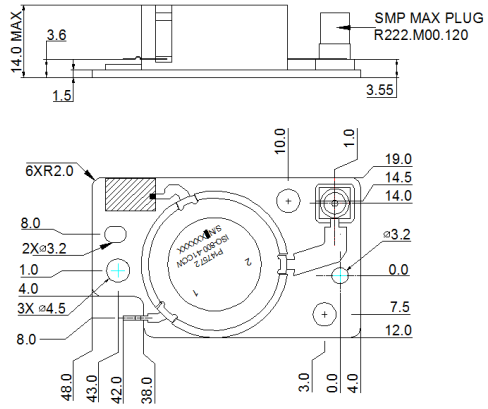

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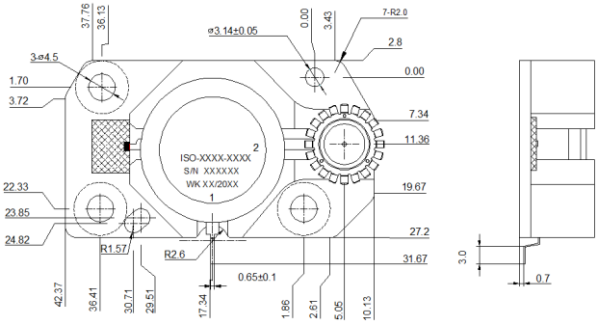

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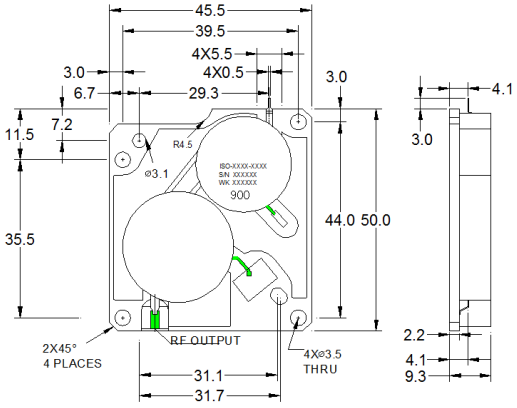

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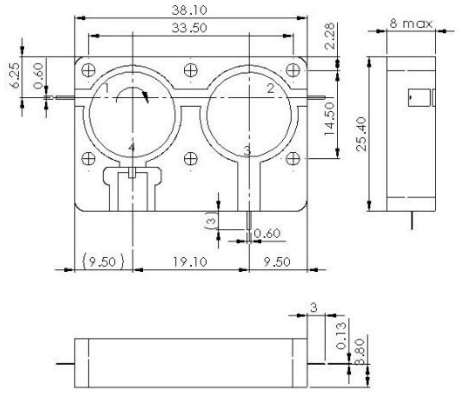
PACKAGE CODE

D016

EQUIVALENT TO D013

PACKAGE CODE

D017



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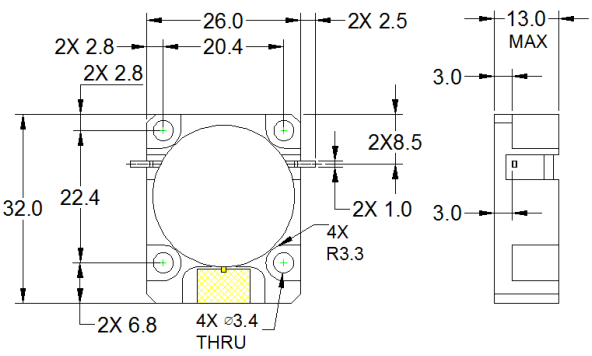

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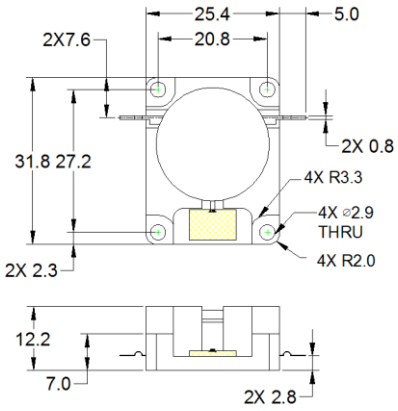
Drop-in Circulators & Isolators Package Drawings

PACKAGE CODE

D019



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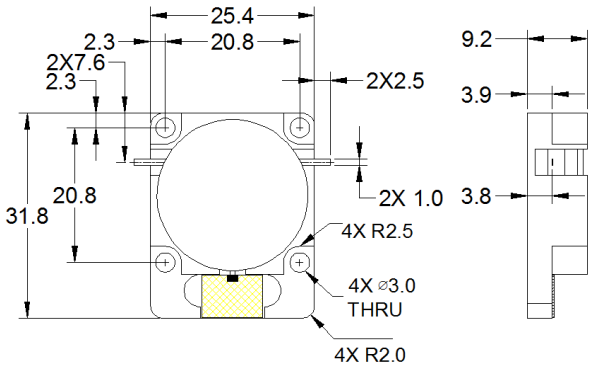

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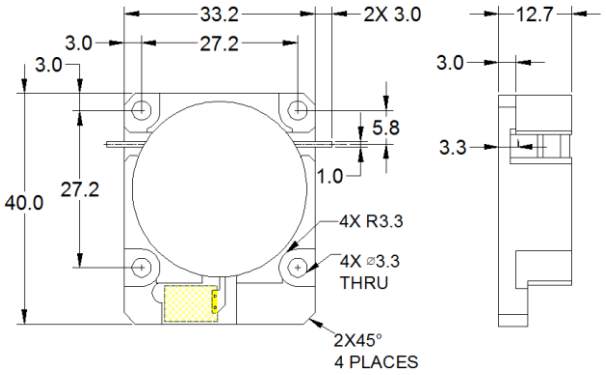

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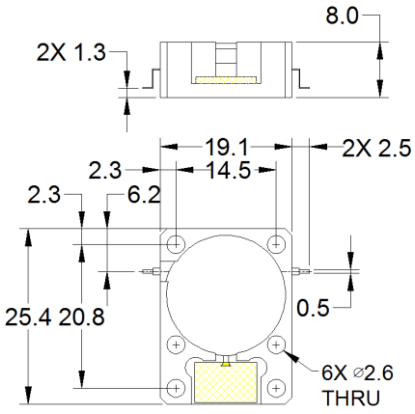
D022



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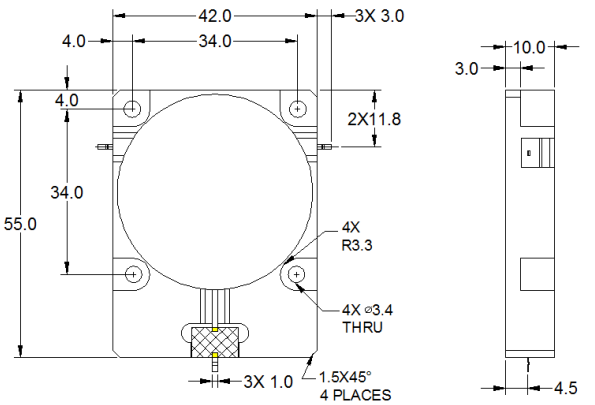

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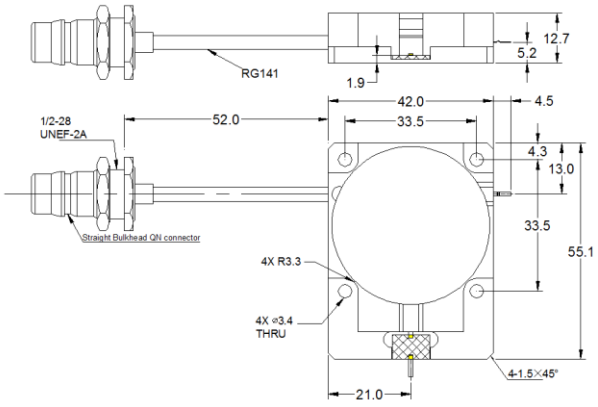

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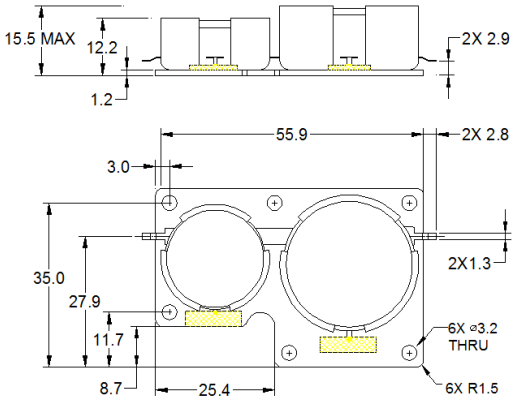
Drop-in Circulators & Isolators Package Drawings

PACKAGE CODE

D025



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PACKAGE CODE

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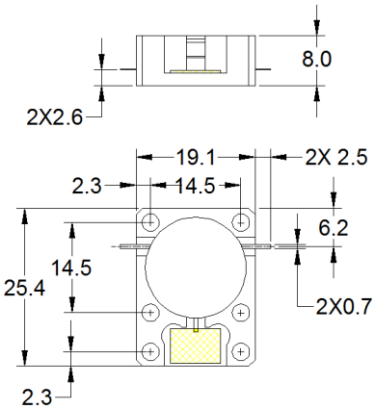

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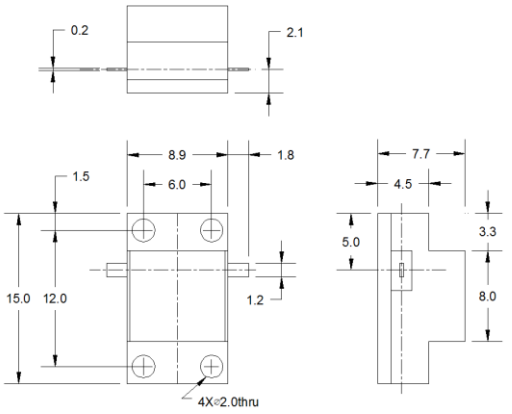

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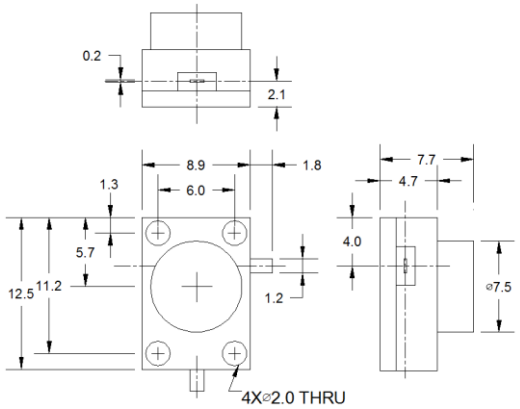

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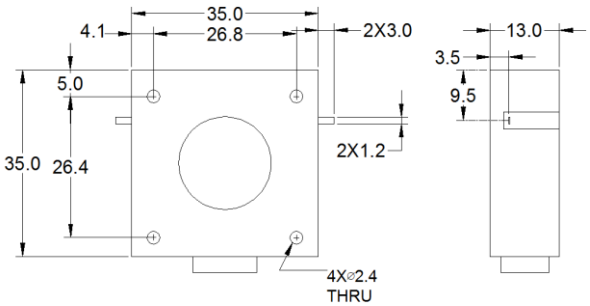

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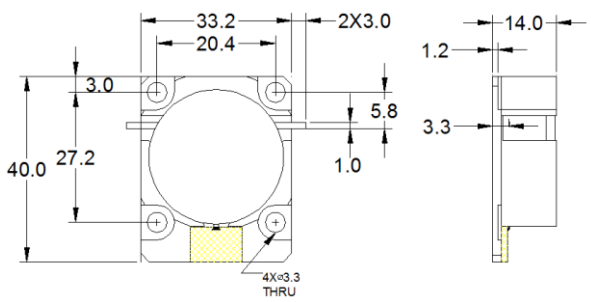

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Drop-in Circulators & Isolators Package Drawings

PACKAGE CODE

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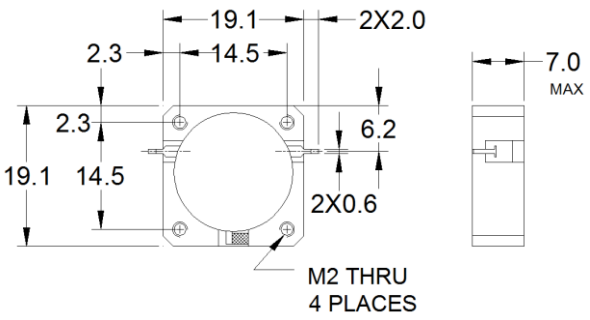

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PACKAGE CODE

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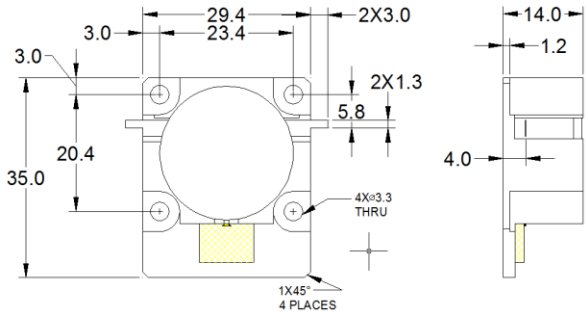

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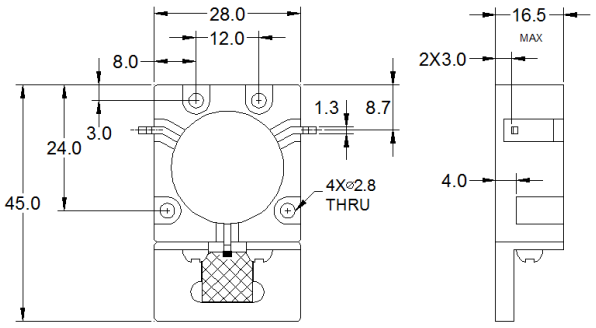

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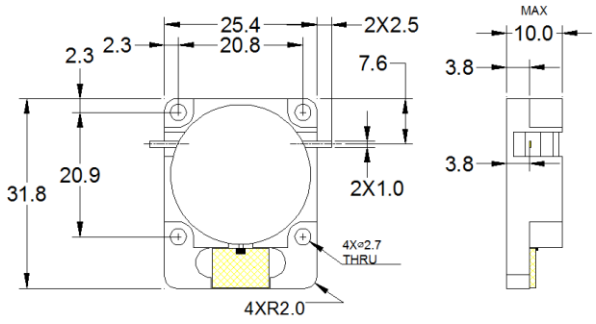

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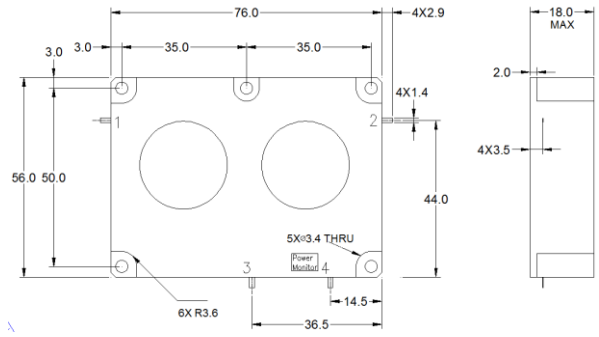

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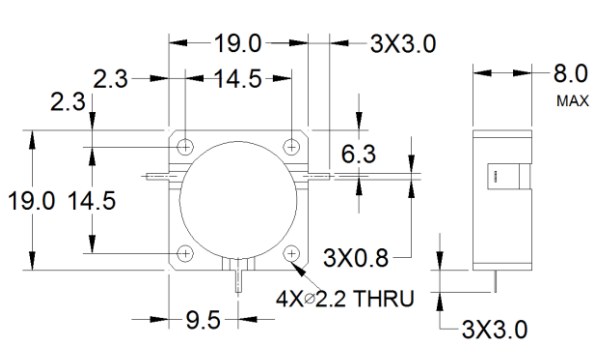
D036



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SMD Circulators & Isolators

Frequency (MHz)	Type	Isolation (dB)min	Ins Loss (dB)max	VSWR max	Power Fwd/Rev (W)	IMD (dBC) max	Operating Temp (℃)	Size L*W*H (mm)	Outline Drawing	Part number
746-768	Circulator	21	0.3	1.15	10	-70 @2*5W	-40 to +85	Φ23.5*10	S001	ISO-700-06CW
758-763	Isolator	23	0.25	1.15	20/20	-60 @2*15W	-40 to +100	Φ23.5*29.85*10.5	S018	ISO-700-13CW
758-793	Isolator	23	0.25	1.15	62/58	-74 @2*31W	-40 to +100	Φ25.7*31.55*10.4	S020	ISO-700-07CW
758-803	Isolator	23	0.25	1.15	95/90	-74 @2*47.5W	-40 to +105	Φ25.7**31.55*10.4	S020	ISO-700-15CW
758-803	Isolator	15	0.7	1.50	20/20	-65 @2*2W	-40 to +105	Φ12.5*12.25*6.8	S006	ISO-700-16CW
773-803	Isolator	23	0.25	1.15	62/58	-74 @2*31W	-40 to +100	Φ25.7*31.55*10.4	S020	ISO-700-08CW
791-821	Isolator	22	0.25	1.17	50/50	-76 @2*22W	-40 to +85	Φ25*31.5*8.3	S003	ISO-800-33CW
791-821	Isolator	23	0.25	1.15	200/100	-74 @2*31W	-40 to +95	Φ25*31.5*8.5	S019	ISO-800-38CW
791-821	Isolator	23	0.25	1.15	94/88	-74 @2*47W	-40 to +95	Φ25.7*31.55*10.4	S020	ISO-800-43CW
791-821	Isolator	23	0.25	1.13	95/90	-74 @2*47.5W	-40 to +105	Φ25.7*31.55*10.4	S020	ISO-800-45CW
791-821	Isolator	17	0.6	1.35	20/20	-55 @2*1.5W	-40 to +105	Φ12.5*12.25*6.8	S006	ISO-800-46CW
832-915	Isolator	17	0.5	1.33	10/10	--	-40 to +65	15*15*5	S025	ISO-800-42CW
859-894	Isolator	23	0.25	1.15	95/90	-74 @2*47.5W	-40 to +105	Φ25.7*31.55*10.4	S020	ISO-800-47CW
860-875	Isolator	23	0.3	1.2	20/20	-60 @2*15W	-40 to +100	Φ19*24.5*9	S013	ISO-800-44CW
860-890	Circulator	23	0.3	1.2	40	-75 @2*28W	-30 to +85	Φ23.5*10	S022	ISO-800-39CW
905-980	Isolator	22	0.35	1.17	50/50	-76 @2*22W	-40 to +85	Φ25*31.5*8.3	S003	ISO-900-40CW
915-970	Isolator	23	0.25	1.15	150/150	-74 @2*75W	-10 to +110	Φ25.0*31.5*10.4	S016	ISO-900-43CW
925-960	Isolator	23	0.25	1.13	40/30	-65@2*15W	-40 to +105	Φ20*20.5*7	S014	ISO-900-50CCW
925-960	Isolator	23	0.25	1.13	95/90	-74 @2*56W	-40 to +105	Φ25.7*31.55*10.4	S020	ISO-900-51CW
926-960	Isolator	17	0.5	1.35	20/10	-70 @2*2W	-40 to +105	Φ12.5*12.25*6.8	S006	ISO-900-52CW
1452-1511	Isolator	23	0.25	1.13	95/90	-74 @2*56W	-40 to +105	Φ25.7*31.55*10.4	S020	ISO-1500-10CW
1452-1511	Isolator	17	0.5	1.35	20/20	-74 @2*2.5W	-40 to +105	Φ12.5*12.25*6.8	S006	ISO-1500-11CW
1475-1511	Circulator	23	0.3	1.15	40	-70 @2*28W	-30 to +85	Φ23.5*10	S001	ISO-1500-06CW
1495.9-1510.9	Isolator	19	0.25	1.15	20/20	-60 @2*20W	-40 to +100	Φ13.5*6.8	S023	ISO-1500-08CW
1495.9-1510.9	Isolator	19	0.25	1.15	150/60	-75 @2*20W	-40 to +100	Φ24*30.7*10	S024	ISO-1500-09CW
1495-1511	Isolator	23	0.25	1.13	10/10	-64 @2*2W	-40 to +105	Φ13.5*6.8	S010	ISO-1500-07CW/CCW
1626-1675	Circulator	20	0.25	1.22	50	--	-40 to +80	Φ18*7	S026	ISO-1600-02CW
1790-1895	Isolator	23	0.25	1.13	110/105	-74 @2*55W	-40 to +110	Φ23.4*30.4*10	S017	ISO-1800-41CW
1790-1895	Isolator	17	0.5	1.35	20/1	-74 @2*2W	-40 to +105	Φ12.5*6.8	S006	ISO-1800-52CW
1790-1905	Circulator	25	0.15	1.13	95/90	-77 @2*30W	-10 to +105	Φ19*8	S012	ISO-1800-50CCW
1805-1880	Isolator	22	0.35	1.17	50/50	-76 @2*22W	-40 to +85	Φ25*31.5*8.3	S003	ISO-1800-48CW
1805-1880	Isolator	23	0.3	1.15	20/20	-60 @2*15W	-40 to +100	Φ12.3*6.8	S005	ISO-1800-51CW

SMD Circulators & Isolators

Frequency (MHz)	Type	Isolation (dB)min	Ins Loss (dB)max	VSWR max	Power Fwd/Rev (W)	IMD (dBC) max	Operating Temp (℃)	Size L*W*H (mm)	Outline Drawing	Part number
1805-1880	Isolator	23	0.25	1.13	40/30	-60 @2*15W	-40 to +105	Φ13.5*16*6.8	S007	ISO-1800-53CCW
1805-1880	Isolator	23	0.25	1.15	158/30	-74 @2*10W	-40 to +105	Φ22.3*26.5*10	S015	ISO-1800-54CW
1860-1880	Isolator	23	0.25	1.13	20/20	-64 @2*2W	-40 to +105	Φ13.5*6.8	S010	ISO-1800-49CW/CCW
1880-1920	Circulator	25	0.25	1.14	100/100	-76 @2*45W	-40 to +85	Φ23.5*10	S001	ISO-1900-38CW
1880-1920	Circulator	25	0.25	1.14	100/100	-75 @2*20W	-40 to +85	Φ15.4*7	S002	ISO-1900-34CW
1890-2030	Isolator	22	0.35	1.17	50/50	-76 @2*22W	-40 to +85	Φ25*31.5*8.3	S003	ISO-1900-30CW
1915-2010	Isolator	23	0.25	1.15	110/110	-74 @2*55W	-40 to +110	Φ22.3*26.5*10	S015	ISO-1900-40CW
1915-2010	Isolator	17	0.6	1.35	20/20	-74 @2*2.5W	-40 to +105	Φ12.3*6.8	S005	ISO-1900-41CW
1915-2010	Circulator	25	0.15	1.13	95/90	-77 @2*32W	-40 to +105	Φ19*8	S012	ISO-1900-43CCW
1930-1990	Isolator	23	0.25	1.13	40/30	-60 @2*15W	-40 to +105	Φ13.5*16*6.8	S007	ISO-1900-45CCW
1930-1995	Circulator	23	0.25	1.15	100/100	-70 @2*20W	-40 to +85	Φ15.4*7.5	S002	ISO-1900-44CCW
1930-2000	Isolator	23	0.25	1.13	95/95	-74 @2*56W	-40 to +105	Φ23.4*30.4*10	S017	ISO-1900-47CW
2070-2210	Isolator	22	0.35	1.17	50/50	-76 @2*22W	-40 to +85	Φ25*31.5*8.3	S003	ISO-2100-35CW
2095-2185	Isolator	23	0.25	1.15	110/110	-74 @2*55W	-40 to +105	Φ22.3*26.5*10	S015	ISO-2100-33CW
2095-2185	Circulator	23	0.25	1.15	10/10	-74 @2*5W	-10 to +105	Φ18.6*7.3	S011	ISO-2100-36CW/CCW
2095-2185	Isolator	17	0.6	1.35	20/20	-74 @2*2W	-40 to +105	Φ12.3*6.8	S005	ISO-2100-38CW
2095-2185	Isolator	23	0.25	1.15	110/110	-74 @2*55W	-40 to +105	Φ22.3*26.5*10	S015	ISO-2100-43CW
2095-2185	Circulator	25	0.15	1.13	112.2/112.2	-77 @2*32W	-40 to +105	Φ19*8	S012	ISO-2100-46CCW
2110-2170	Circulator	23	0.25	1.15	100/100	-70 @2*20W	-40 to +85	Φ15.4*7.5	S002	ISO-2100-47CW/CCW
2110-2170	Isolator	23	0.25	1.15	158/30	-74 @2*10W	-40 to +105	Φ22.3*26.5*10	S015	ISO-2100-49CW
2110-2200	Isolator	23	0.25	1.13	40/30	-60 @2*15W	-40 to +105	Φ13.5*16*6.8	S007	ISO-2100-48CCW
2110-2200	Isolator	23	0.25	1.13	95/90	-74 @2*56W	-40 to +105	Φ23.4*30.4*10	S017	ISO-2100-50CW
2110-2200	Isolator	17	0.5	1.35	20/1	-74 @2*2.5W	-40 to +105	Φ12.5*12.25*6.8	S006	ISO-2100-51CW
2300-2400	Circulator	25	0.25	1.14	100/100	-76 @2*45W	-40 to +85	Φ23.2*9.8	S001	ISO-2300-01CW
2486-2700	Circulator	23	0.3	1.15	50/31.6	-68 @2*25W	-40 to +105	Φ13.5*7	S008	ISO-2600-16CW
2486-2700	Circulator	26	0.3	1.15	50/31.6	-68 @2*10W	-40 to +125	Φ13.5*7	S008	ISO-2600-17CW
2486-2700	Circulator	25	0.25	1.12	40/40	-70 @2*20W	-40 to +125	Φ13.5*7	S008	ISO-2600-20CCW
2490-2710	Circulator	23	0.3	1.12	60/60	-66 @2*30W	-40 to +125	Φ13.5*7	S008	ISO-2600-14CW
2496-2690	Circulator	20	0.35	1.22	50/30	-60 @2*15W	-40 to +100	Φ10.7*6.5	S004	ISO-2600-15CW
2535-2645	Circulator	25	0.25	1.14	100/100	-76 @2*45W	-40 to +85	Φ23.2*9.8	S001	ISO-2600-05CW
2535-2645	Circulator	25	0.25	1.14	100/100	-75 @2*20W	-40 to +85	Φ15.4*7	S002	ISO-2600-03CW
2620-2690	Isolator	23	0.25	1.13	95/90	-74 @2*56W	-40 to +105	Φ23.4*30.4*10	S017	ISO-2600-18CW
2620-2690	Isolator	17	0.5	1.35	20/20	-74 @2*2.5W	-40 to +105	Φ12.5*6.8	S006	ISO-2600-19CW

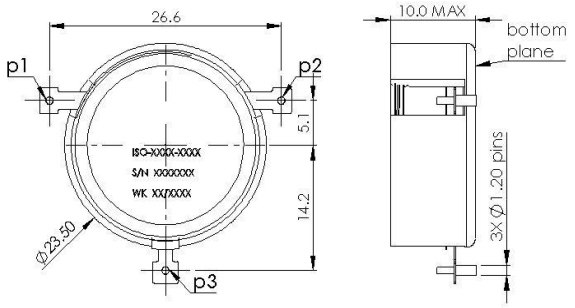
SMD Circulators & Isolators

Frequency (MHz)	Relative Bandwidth	Type	Isolation (dB)min	Ins Loss (dB)max	VSWR max	Power Fwd/Rev (W)	IMD (dBC) max	Operating Temp (℃)	Size L*W*H (mm)	Outline Drawing
300-600	5%	Isolator	21	0.3	1.20	100	-70	-30 to +95	∅32x39.5x10	S023
600-2700	10%	Isolator	23	0.25	1.15	150	-74	-40 to +95	∅32x39.5x10	S023
450-600	5%	Isolator	21	0.3	1.20	100	-68	-30 to +95	∅5.7x31.8x10	S024
600-3000	10%	Isolator	23	0.25	1.15	150	-74	-40 to +95	∅5.7x31.8x10	S024
550-750	5%	Isolator	21	0.3	1.20	100	-65	-30 to +95	∅3.5x30.6x10	S004
750-3000	10%	Isolator	23	0.25	1.15	150	-74	-40 to +95	∅3.5x30.6x10	S004
600-750	5%	Isolator	21	0.3	1.20	100	-65	-30 to +95	∅22.5x30x10	S007
750-3000	10%	Isolator	23	0.25	1.15	150	-74	-40 to +95	∅22.5x30x10	S007
700-1200	5%	Isolator	21	0.3	1.20	100	-60	-30 to +95	∅19x25.4x8	S025
1200-4000	10%	Isolator	23	0.25	1.15	150	-74	-40 to +95	∅19x25.4x8	S025
700-1200	5%	Isolator	20	0.4	1.22	50	-65	-30 to +95	∅5.4x22.8x7.5	S026
1200-4000	10%	Isolator	23	0.3	1.15	80	-74	-40 to +95	∅5.4x22.8x7.5	S026
700-1200	4%	Isolator	18	0.5	1.29	30	-65	-30 to +95	∅5.4x22.4x7.5	S007
1200-4000	10%	Isolator	23	0.3	1.15	30	-74	-40 to +95	∅5.4x22.4x7.5	S007
700-1200	3%	Isolator	17	0.5	1.32	20	-65	-30 to +95	∅12.5x6.8	S027
1200-4000	10%	Isolator	23	0.3	1.15	20	-74	-40 to +95	∅12.5x6.8	S027
550-750	5%	Circulator	21	0.3	1.20	100	-65	-30 to +95	∅23.5x10	S028
750-3000	10%	Circulator	23	0.25	1.15	150	-74	-40 to +95	∅23.5x10	S028
700-1200	5%	Circulator	21	0.3	1.20	100	-60	-30 to +95	∅19x8	S029
1200-4000	10%	Circulator	23	0.25	1.15	100	-74	-40 to +95	∅19x8	S029
700-1200	5%	Circulator	20	0.4	1.22	50	-65	-30 to +95	∅15.4x7.5	S030
1200-4000	10%	Circulator	23	0.3	1.15	50	-74	-40 to +95	∅15.4x7.5	S030
700-1200	5%	Circulator	18	0.5	1.29	30	-65	-30 to +95	∅15.4x7.5	S007
1200-4000	10%	Circulator	23	0.3	1.15	30	-74	-40 to +95	∅15.4x7.5	S007
1800-4000	10%	Circulator	20	0.35	1.22	30	-55	-30 to +95	∅15.4x7.5	S004

SMD Circulator & Isolator Package Drawings

PACKAGE CODE

S001



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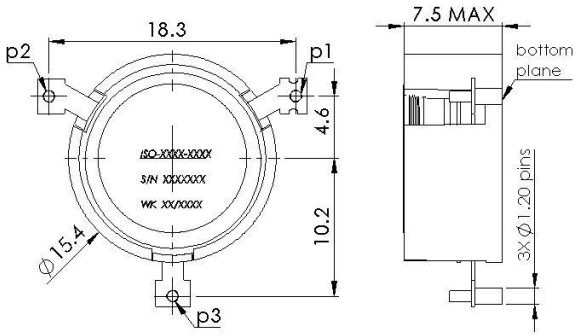
PACKAGE CODE

S002



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PACKAGE CODE

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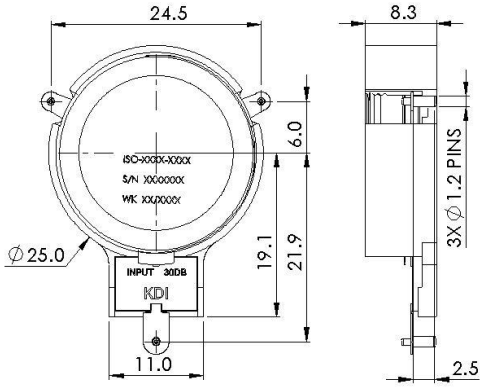

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PACKAGE CODE

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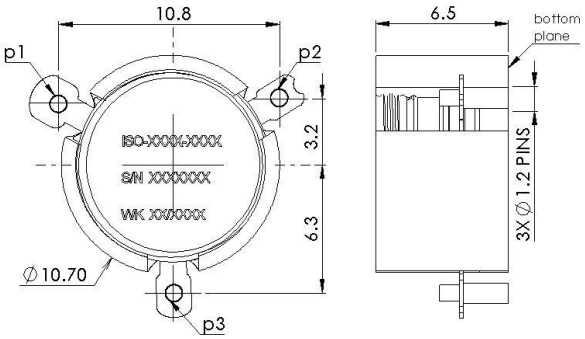

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PACKAGE CODE

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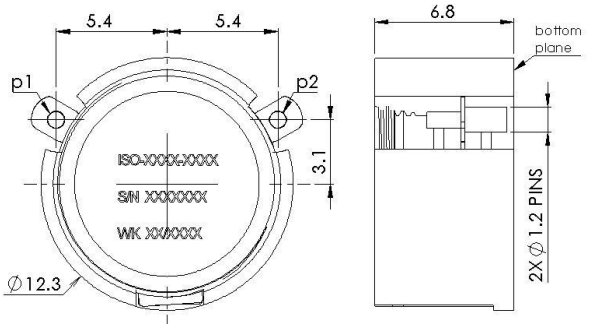

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PACKAGE CODE

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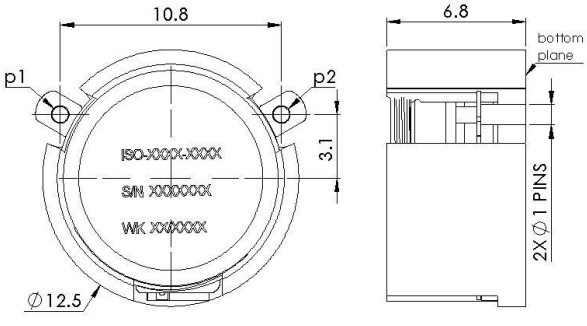

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SMD Circulator & Isolator Package Drawings

PACKAGE CODE

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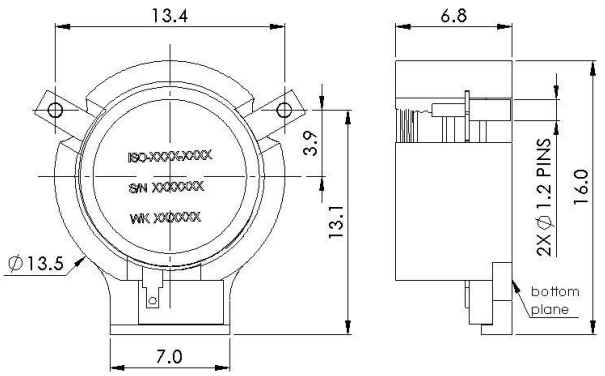

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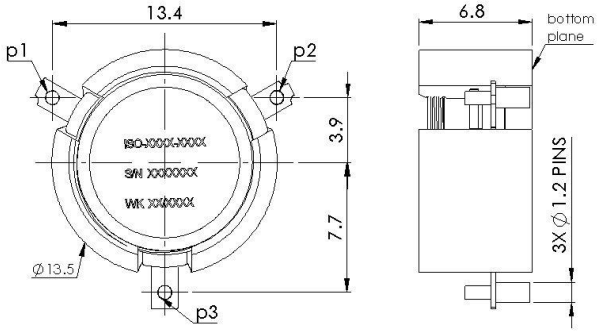
S008



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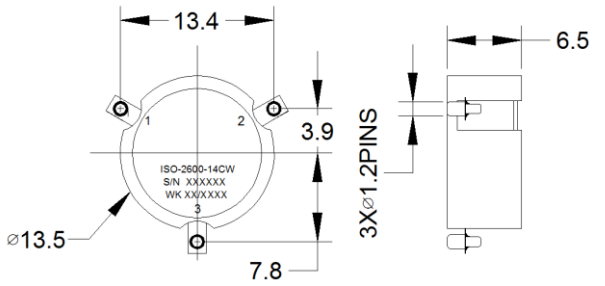

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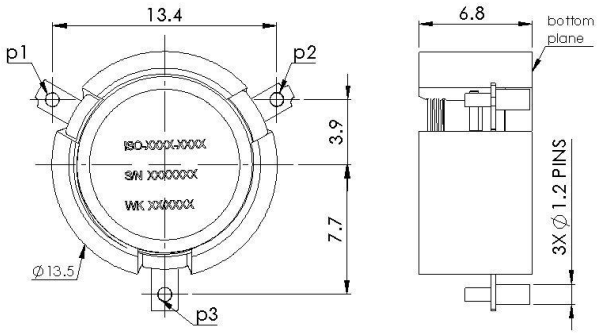

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PACKAGE CODE

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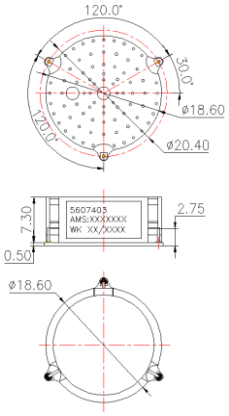

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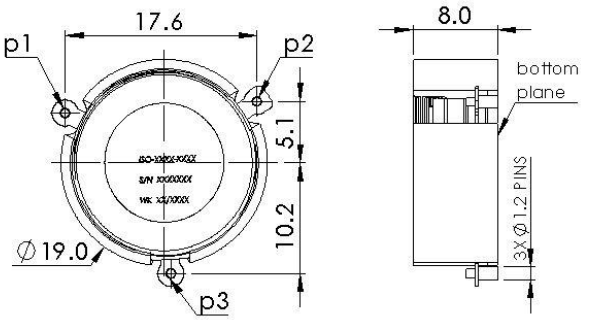

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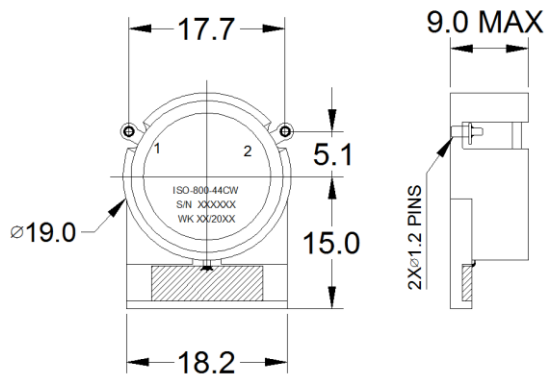
SMD Circulator & Isolator Package Drawings

PACKAGE CODE

S013



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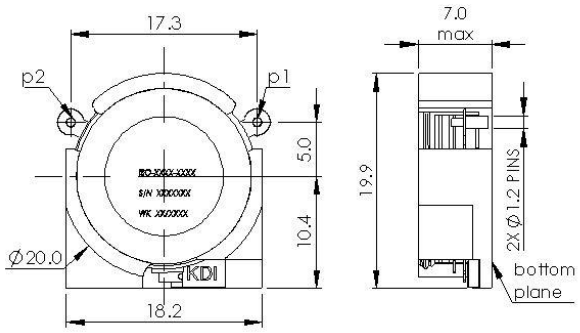

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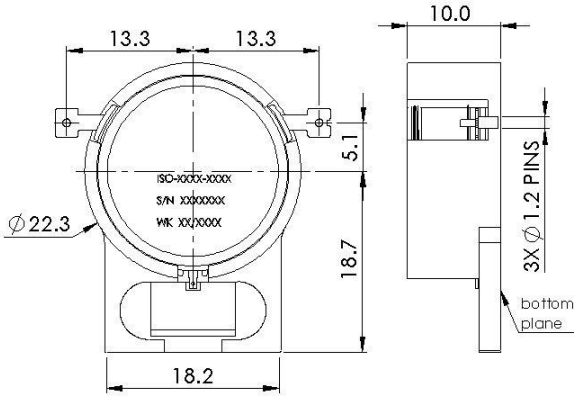

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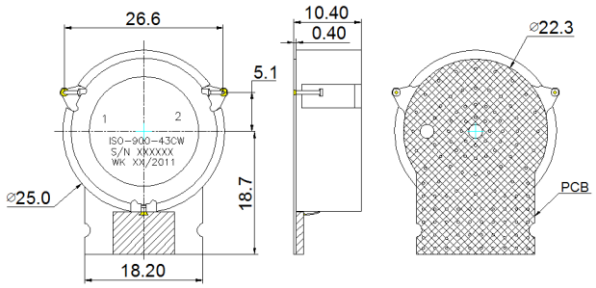

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PACKAGE CODE

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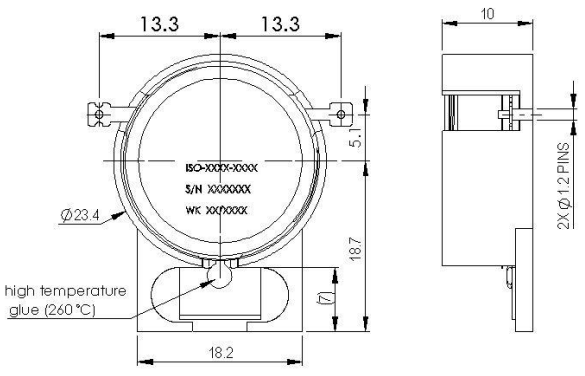

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PACKAGE CODE

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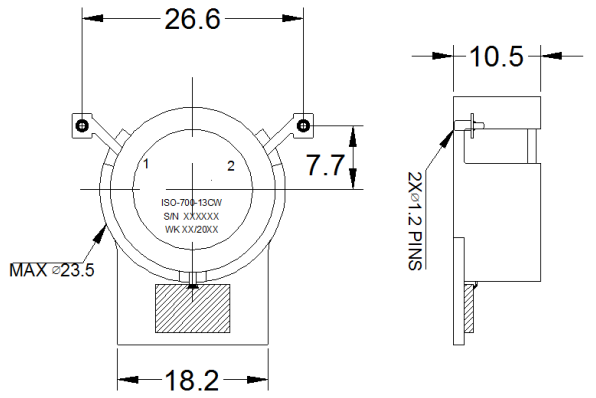

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SMD Circulator & Isolator Package Drawings

PACKAGE CODE

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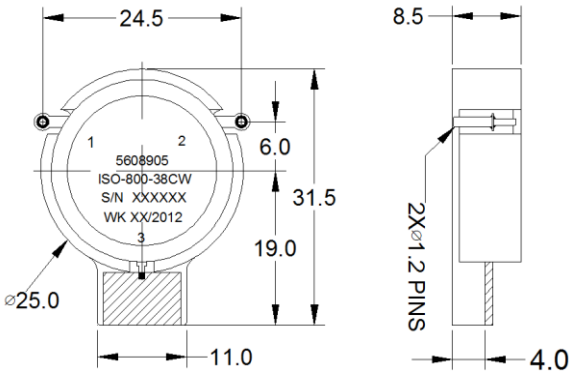

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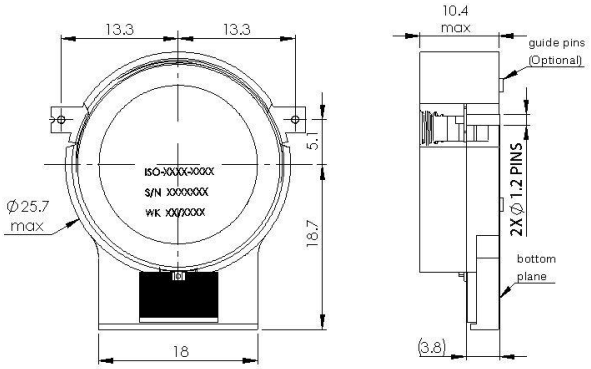

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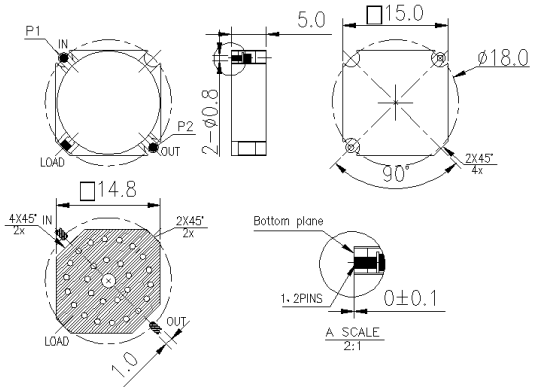

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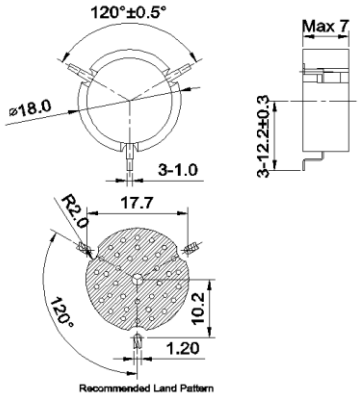

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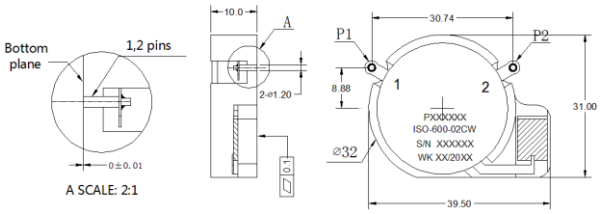

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PACKAGE CODE

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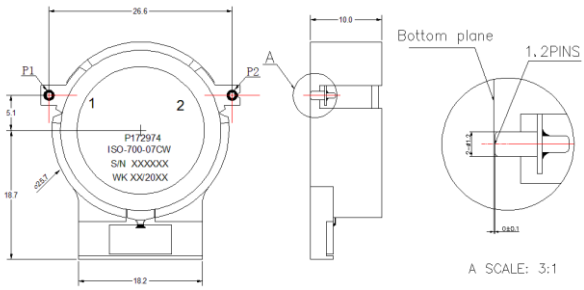

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SMD Circulator & Isolator Package Drawings

PACKAGE CODE

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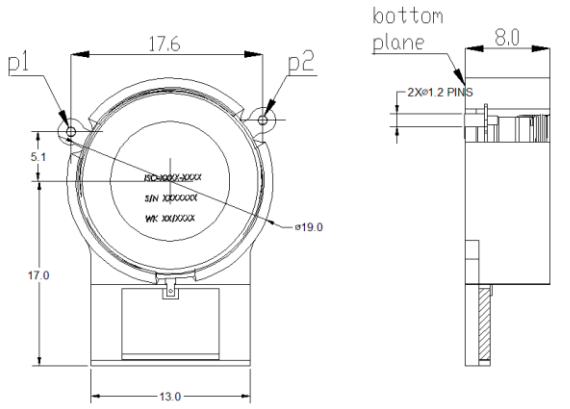

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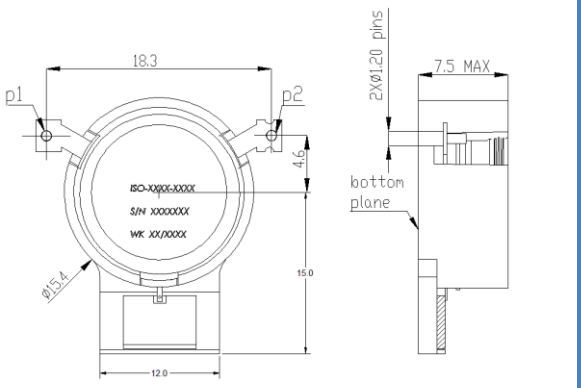

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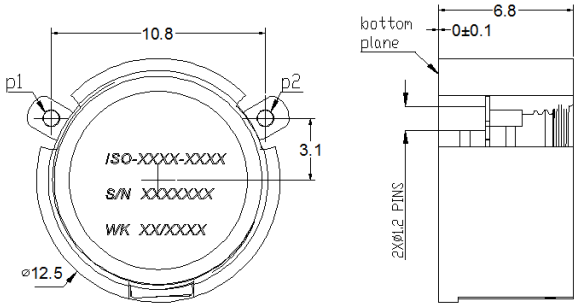

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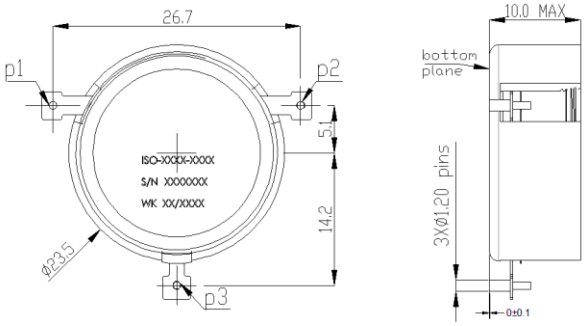

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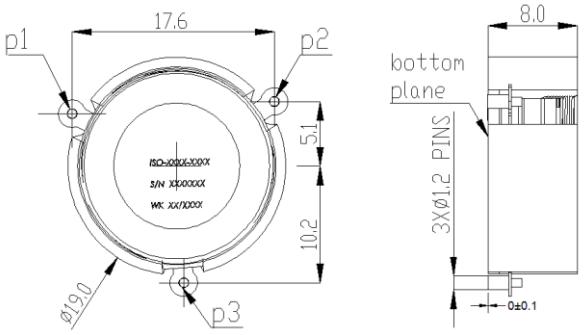
S029



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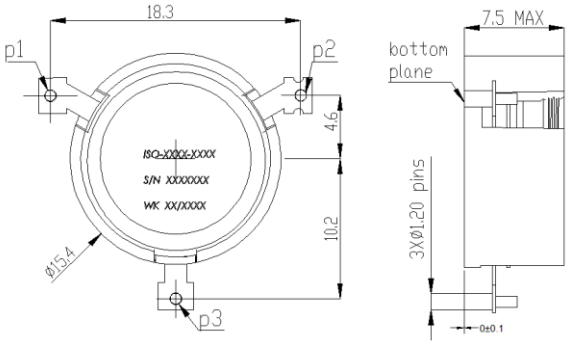

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Coaxial Circulators & Isolators

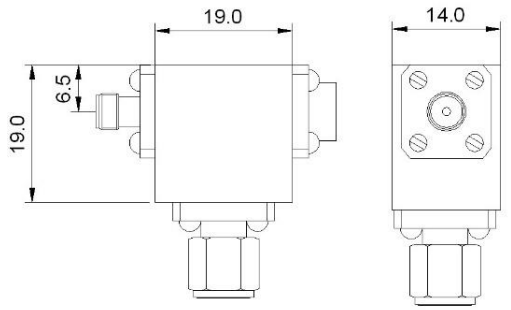
Frequency (MHz)	Type	Isolation (dB)min	Ins Loss (dB)max	VSWR max	Power Fwd/Rev (W)	IMD (dBC) max	Operating Temp (℃)	Size L*W*H (mm)	Outline Drawing	Part number
3600-4200	Isolator	23	0.3	1.15	10/1	--	-5 to +50	19*19*14	C001	ISO-3000-13CCW
4400-5000	Isolator	23	0.3	1.15	10/1	--	-5 to +50	19*19*14	C001	ISO-5000-02CCW
5600-6200	Isolator	23	0.3	1.15	10/1	--	-5 to +50	19*19*14	C001	ISO-5000-03CCW
5900-6500	Isolator	23	0.3	1.15	10/1	--	-5 to +50	19*19*14	C001	ISO-5000-04CCW
6400-7200	Isolator	23	0.3	1.15	10/1	--	-5 to +50	19*19*14	C001	ISO-7000-01CCW
7100-7900	Isolator	23	0.3	1.15	10/1	--	-5 to +50	19*19*14	C001	ISO-7000-02CCW
7700-8500	Isolator	23	0.3	1.15	10/1	--	-5 to +50	19*19*14	C001	ISO-7000-03CCW
10700-11700	Isolator	23	0.35	1.15	10/1	--	-5 to +50	19*19*14	C001	ISO-12000-04CCW
12700-13300	Isolator	23	0.35	1.15	10/1	--	-5 to +50	19*19*14	C001	ISO-12000-05CCW

Frequency (MHz)	Relative Bandwidth	Type	Isolation (dB)min	Ins Loss (dB)max	VSWR max	Power Fwd/Rev (W)	IMD (dBC) max	Operating Temp (℃)	Size L*W*H (mm)	Outline Drawing
200-400	8%	Isolator	22	0.4	1.17	150	N/A	-30 - +85	52x60x13	C002
400-800	8%	Isolator	22	0.3	1.17	150	N/A	-40 - +85	52x60x13	C002
200-400	8%	Isolator	22	0.4	1.17	150	N/A	-30 - +85	52x60x22	C003
400-800	8%	Isolator	22	0.3	1.17	150	N/A	-40 - +85	52x60x22	C003
200-400	8%	Circulator	22	0.4	1.17	150	N/A	-30 - +85	52x52x13	C004
400-800	8%	Circulator	22	0.3	1.17	150	N/A	-40 - +85	52x52x13	C004
200-400	8%	Circulator	22	0.4	1.17	150	N/A	-30 - +85	52x52x22	C005
400-800	8%	Circulator	22	0.3	1.17	150	N/A	-40 - +85	52x52x22	C005
600-1000	8%	Circulator	22	0.3	1.17	150	-74	-30 - +85	33.2x33.2x13	C006
1000-3000	8%	Circulator	22	0.25	1.17	150	-74	-40 - +85	33.2x33.2x13	C006
600-1000	8%	Circulator	22	0.3	1.17	150	-74	-30 - +85	33.2x33.2x22	C007
1000-3000	8%	Circulator	22	0.25	1.17	150	-74	-40 - +85	33.2x33.2x22	C007
600-1000	8%	Isolator	22	0.3	1.17	150	-74	-30 - +85	33.2x40x13	C008
1000-3000	8%	Isolator	22	0.25	1.17	150	-74	-40 - +85	33.2x40x13	C008
600-1000	8%	Isolator	22	0.3	1.17	150	-74	-30 - +85	33.2x40x22	C009
1000-3000	8%	Isolator	22	0.25	1.17	150	-74	-40 - +85	33.2x40x22	C009

Coaxial Circulators & Isolators Package Drawings

PACKAGE CODE

C001



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PACKAGE CODE

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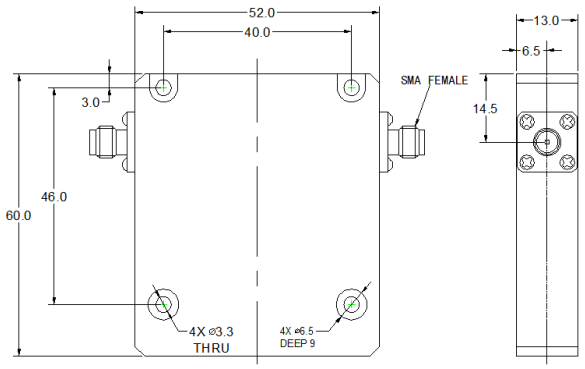

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PACKAGE CODE

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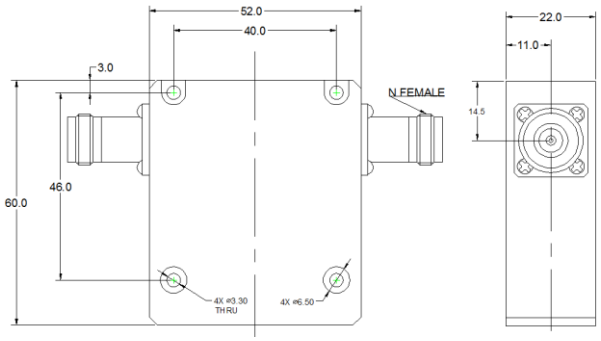

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PACKAGE CODE

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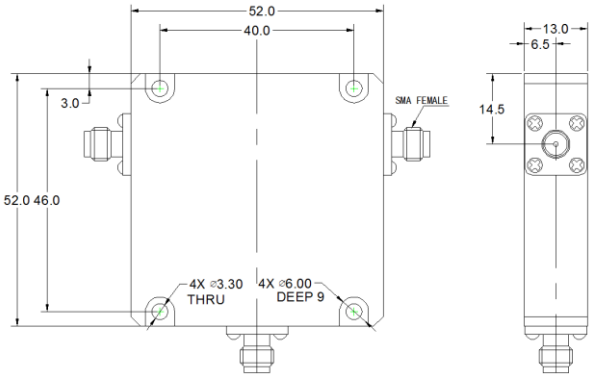

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PACKAGE CODE

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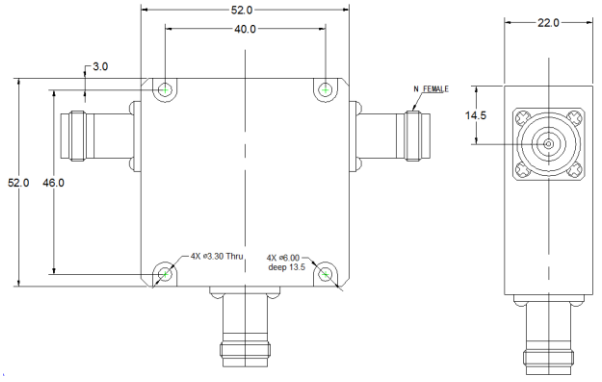

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PACKAGE CODE

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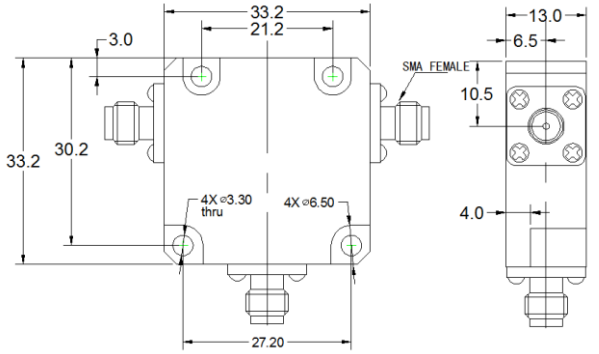

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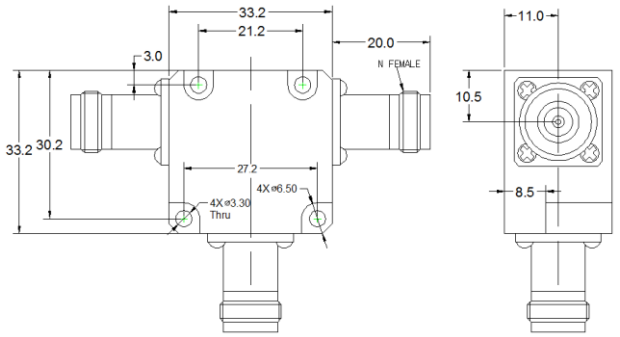
Coaxial Circulators & Isolators Package Drawings

PACKAGE CODE

C007



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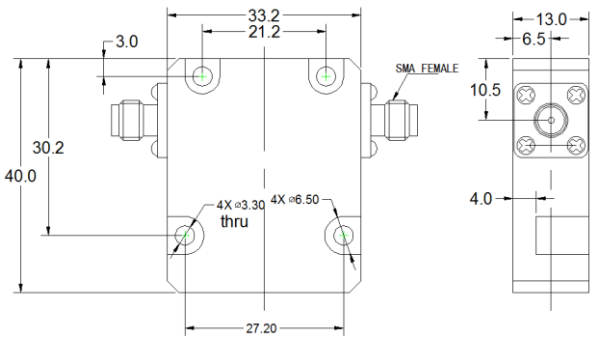

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PACKAGE CODE

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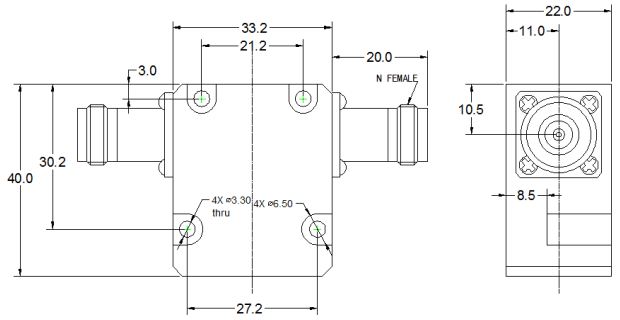


DIM=MM

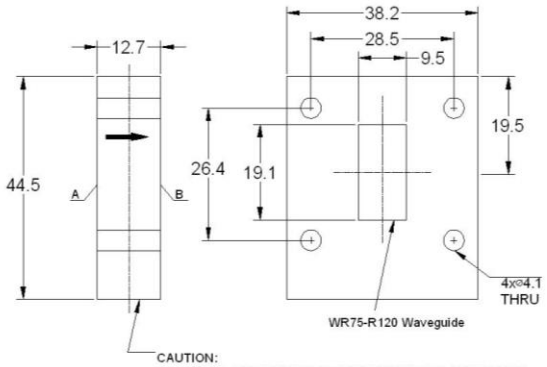
Waveguide Circulators & Isolators

Frequency (GHz)	Type	Isolation (dB)min	Ins Loss (dB)max	VSWR max	Power Fwd/Rev (W)	IMD (dBC) max	Operating Temp (℃)	Size L*W*H (mm)	Outline Drawing	Part number
9.8-10.7	Isolator	20	0.3	1.23	1/1	--	-40 to +85	38.3*44.5*12.7[WR75-R120]	W001	ISO-10000-01CW
10-10.7	Isolator	20	0.3	1.23	1/1	--	-40 to +85	38.3*44.5*12.7[WR75-R120]	W001	ISO-10000-02CW
10.7-11.2	Isolator	20	0.3	1.22	1/1	--	-40 to +85	38.2*44.5*12.7[WR75-R120]	W001	ISO-12000-01CW
11.2-11.7	Isolator	20	0.3	1.22	1/1	--	-40 to +85	38.2*44.5*12.7[WR75-R120]	W001	ISO-12000-02CW
12.7-13.3	Isolator	20	0.3	1.22	1/1	--	-40 to +85	38.3*44.5*12.7[WR75-R120]	W001	ISO-12000-03CW
14.3-15.45	Isolator	20	0.4	1.23	1/1	--	-40 to +80	33.3*38.3*12.7[WR62-R140]	W002	ISO-15000-01CW
17.7-19.7	Isolator	20	0.5	1.22	1/1	--	40 to +80	22.3*38*12.7[WR42 (2 places)]	W003	ISO-18000-01CW
21.2-23.6	Isolator	20	0.5	1.22	1/1	--	40 to +80	22.3*38*12.7[WR42 (2 places)]	W003	ISO-23000-01CW
27.0-29.5	Isolator	20	0.3	1.22	1/1	--	40 to +80	19.56*32*12.7[WR28 (2 places)]	W004	ISO-28000-01CW
31.8-33.4	Isolator	20	0.3	1.29	1/1	--	40 to +80	19.56*32*12.7[WR28 (2 places)]	W004	ISO-32000-01CW
37.0-40.0	Isolator	20	0.3	1.22	1/1	--	40 to +80	19.56*32*12.7[WR28 (2 places)]	W004	ISO-38000-01CW
40.5-43.5	Isolator	20	0.3	1.22	1/1	--	40 to +80	19.56*32*12.7[WR28 (2 places)]	W004	ISO-42000-01CW

Waveguide Circulators & Isolators Outline drawings

PACKAGE CODE

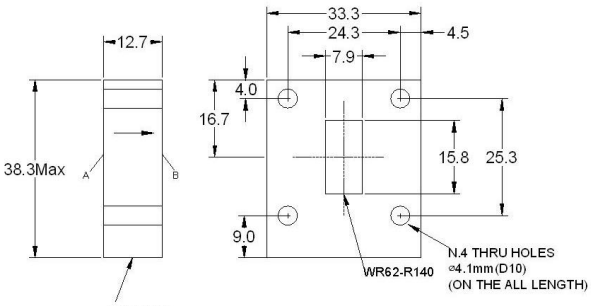
W001



CAUTION:
THE LOAD PORT HAS TO BE ELECTROMAGNETICALLY SEALED IN ORDER TO AVOID ANY RF POWER EMISSION (ATTENUTION HIGHER THAN 80dB)
NOTE:
THE DIMENSIONS ARE SAME ON A & B SURFACES

PACKAGE CODE

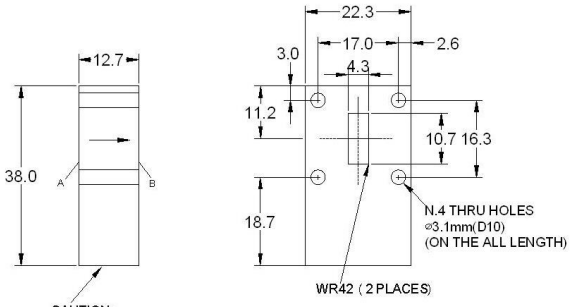
W002



CAUTION:
THE LAOD PORT HAS TO BE ELECTROMAGNETICALLY SEALED IN ORDER TO AVOID ANY RF POWER EMISSION (ATTENUATION HIGHER THAN 80dB)
NOTES:
1. THE DIMENSIONS ARE SAME ON A & B SURFACES
2. THE DIMENSIONS IN BRACKETS ARE IN MILLIMITERS

PACKAGE CODE

W003



CAUTION:
THE LAOD PORT HAS TO BE ELECTROMAGNETICALLY SEALED IN ORDER TO AVOID ANY RF POWER EMISSION (ATTENUATION HIGHER THAN 80dB)
NOTE :
1. THE DIMENSIONS ARE SAME ON A & B SURFACES.
2. THE DIMENSIONS IN BRACKETS ARE IN MILLIMITERS

PACKAGE CODE

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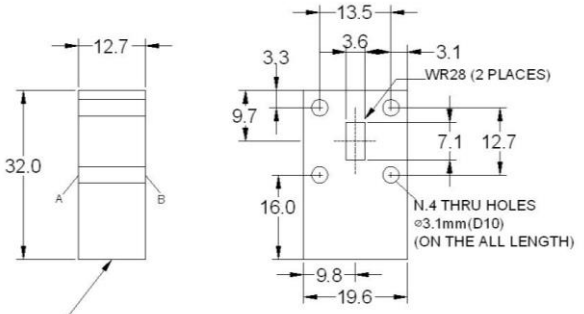


CAUTION:
THE LAOD PORT HAS TO BE ELECTROMAGNETICALLY SEALED IN ORDER TO AVOID ANY RF POWER EMISSION (ATTENUATION HIGHER THAN 80dB)
NOTES:
1. THE DIMENSIONS ARE SAME ON A & B SURFACES
2. THE DIMENSIONS IN BRACKETS ARE IN MILLIMITERS

DIM=MM

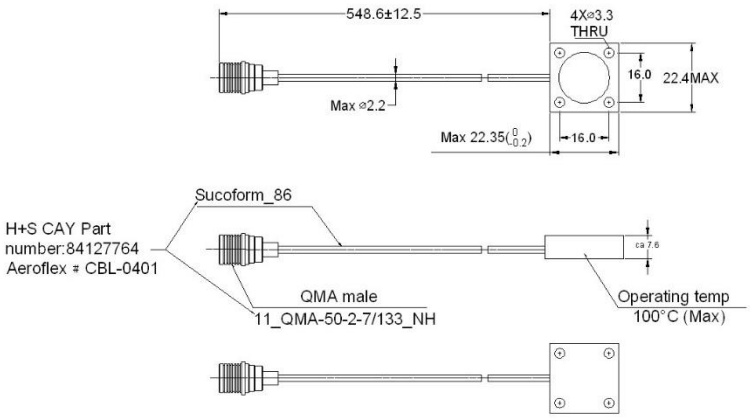
Cable Load Assemblies

Frequency (MHz)	Type	Isolation (dB)min	Ins Loss (dB)max	VSWR max	Power Fwd/Rev (W)	IMD (dBC) max	Operating Temp (℃)	Size L*W*H (mm)	Outline Drawing	Part number
350-900	Cable Load	--	--	1.06	150	--	-40 to +100	22.35*22.35*7.6 [+548.6mm cable]	CL001	TER-0910
1000-4000	Cable Load	--	--	1.4	150	--	-40 to +100	22.0*22.0*10 [+46.0mm cable]	CL002	TER-0911
2400-2500	Cable Load	--	--	1.25	250	--	-40 to +100	25.4*25.4*11 [+100mm cable]	CL003	TER-0912

Cable Load Assemblies Package Drawings

PACKAGE CODE

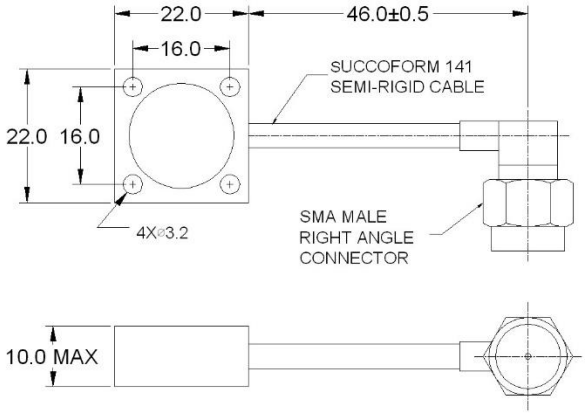
CL001



DIM=MM

PACKAGE CODE

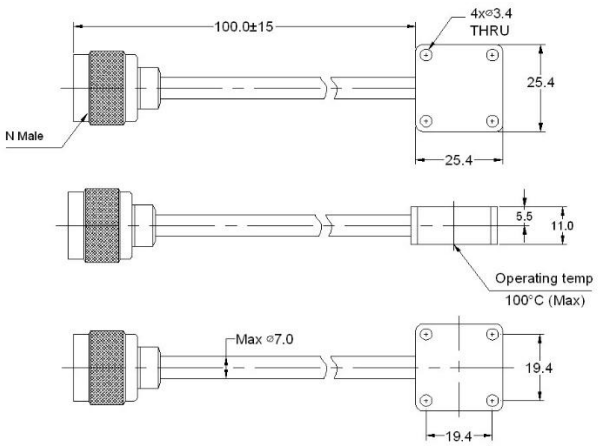
CL002



DIM=MM

PACKAGE CODE

CL003



DIM=MM

Coaxial Fixed Attenuators, Adapters & Terminations

FAQ …

Fixed coaxial attenuator

As the name implies RF attenuators reduce the level of the signal, i.e. they attenuate the signal. An attenuator is effectively the opposite of an amplifier, though the two work by different methods. While an amplifier provides gain, an attenuator provides loss, or gain less than 1. This attenuation may be required to protect a circuit stage from receiving a signal level that is too high. Also an attenuator may be used to provide an accurate impedance match as most fixed attenuators offer well-defined impedance, or attenuators may be used in a variety of areas where signal levels need to be controlled.

There are many used for these RF attenuators and although these may not seem obvious initially when asking what is an attenuator, they are widely used in RF applications.

- **Type of attenuators**

  Attenuators can be categorized in a number of ways according to their capabilities and the technologies they use – Fixed RF attenuator, Switched RF attenuators and Variable RF attenuators; there are a number of ways in which attenuators can be designed and made - Resistor RF attenuators, PIN diode RF attenuators, and FET RF attenuators.

  Fixed RF attenuator, as the name implies fixed attenuators have a specific value and this cannot be changed. They may come in a variety of formats from small in-line items in a similar format to connector adaptors to those in small boxes with connectors on the ends to those incorporated within equipment.

- **Attenuator specifications**

  When designing, purchasing or using an RF attenuator it is necessary to be able to specify it to ensure that an attenuator with the correct performance is obtained. While some of the major specifications are detailed below, for some applications other parameters may need to be specified.

  1. ***Attenuation:*** This is the primary specification for an RF attenuator. It is the ratio between the output and the input power levels and is typically quoted in decibels (dB).
  2. ***Attenuation accuracy:*** It is often necessary to know the accuracy of the level of the attenuation of the attenuator. Particularly in applications where equipment is being tested, the attenuation accuracy is likely to be important. In these cases a tolerance on the nominal level of attenuation will be given.
  3. ***Frequency response:*** The level of attenuation of an attenuator will vary with frequency. This can result from the frequency dependence of the resistors or other components used in the RF attenuator, or where coupling between the input and output may exist as this will be frequency dependent. Some RF attenuators where the absolute level of attenuation is important may be provided with calibration charts measuring the absolute attenuation at different spot frequencies over a frequency band.
  4. ***Impedance:*** RF attenuators will be designed for use in systems with a given characteristic impedance. 50 ohms is the most common, although 75 ohms is also used, and it may be possible to obtain RF attenuators with other impedance values should the need arise.
  5. ***Power dissipation:*** In order to reduce the signal level, RF attenuators dissipate or absorb the unwanted power. For many small signal applications, power dissipation is not an issue, but for other applications where signal levels are higher, it is necessary to ensure that the RF attenuator will satisfactorily be able to handle the power levels anticipated. Power capabilities for RF attenuators may be quoted in Watts (or mill watts) or as dBW - decibels relative one Watt (or dBm - decibels relative to a mill watt).
  6. ***Mechanical details of the attenuator:*** The mechanical details may include aspects such as the size and weight. The connectors may be included in this area of the attenuator specification.

7. ***Environmental details:*** Many applications for attenuators are for use within benign conditions such as a laboratory environment. Environmental conditions would not be an issue. However for some applications it is possible that an environmental is required to detail factors such as vibration, temperature, humidity and the like.

- **Attenuator Applications**

  RF attenuators are used in a wide variety of applications in RF circuits. They are a key building block used in many areas of RF design:

  1. *Reduce signal level:* The basic concept behind an attenuator is to reduce the signal level. This can be required to control levels within a circuit to keep them within the required range.
  2. *Improve impedance match:* By its very nature an impedance matched RF attenuator will improve the impedance match. This can be very useful when driving RF mixers that are match sensitive and their performance will be degraded if a poor match is seen.
  3. *Variable level control:* RF attenuators can be used for level control on the output of items such as signal generators. It is far better to be able to generate an accurate fixed level from the basic generator and then used switch attenuators to reduce the signal to the required level.

  RF attenuators are used widely within RF circuits for a variety of reasons.

RF termination

Also, known as RF loads and dummy loads

An RF Coaxial Termination is a passive 1-port interconnect device, which provides a resistive power termination to properly terminate the output port of a device under test (DUT) or to terminate one end of an RF test cable. These devices can be used in the field, to possibly terminate the unused port of a multiport RF coaxial switch or of a directional coupler. Mainly, however, these impedance termination devices are used in various factory or laboratory Test & Measurement applications.

RF Coaxial Terminations are available in various power ratings and in a wide variety of standard coaxial connector types (e.g., N, SMA, BNC). They can also provide a variety of impedances, such as a short-circuit termination. More typically, however, these terminations provide a “matching impedance” – either 50 Ω or 75 Ω – to match the characteristic impedance of a particular coaxial cable or transmission system. Some RF Coaxial Terminations include a heat sink to dissipate substantial RF power (up to its rated power value). Specific attributes which are important in selecting the right RF Coaxial Termination for your application include the Series for the coaxial connector type (N, SMA, BNC, etc.), its Gender (Male or Female), and its nominal Impedance value, in Ohms (50 or 75Ω).

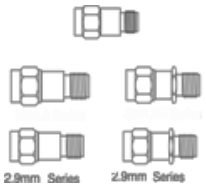
RF adapter

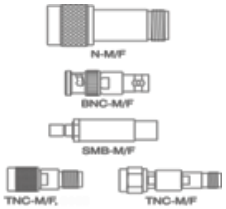
We offer a full gender family of straight and right-angle adapters in different connector options, to cover applications ranging from DC–65 GHz. These adapters come standard in a passivated stainless steel body with a captivated Beryllium Copper center conductor to ensure mating repeatability. In addition, options such as gold-plated housing or no captivated center conductor are also available to fit the desired application. All of our adapters are 100% tested to ensure optimum performance over their respective frequency range.

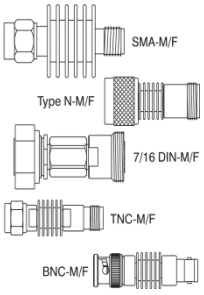
In addition to our standard offering, Aeroflex/Nanjing has also built a vast library of modified designs from the myriad of custom solutions we have delivered to our customers. We offer a variety of customized options for adapters, which include non-standard lengths, different connector options, additional testing, etc. Our team of dedicated Engineers can help develop the right solution for your application needs.

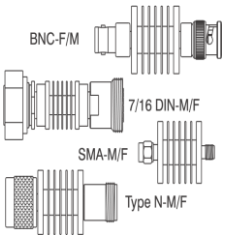
Attenuator Reference Guide

MODEL NO.	FREQ. (GHz)	CONNECTOR	VSWR	ATTN (dB)
0.5 Watt, 1 Watt and 2 Watt Attenuators				
ATT03SMA	3	SMA-M/F	1.20:1	1-10,12,15,20,30
ATT06SMA	6	SMA-M/F	1.20:1	1-10,12,15,20,30
ATT18SMA	18	SMA-M/F	1.60:1	0-10,12,15,20,30
ATT23SMA	23	SMA-M/F, M/M, F/F	1.40:1	0-10,12,15,20,30,40
ATT26K	26.5	2.9mm-M/F	1.40:1	0,3,6,10,20,30
ATT40K	40	2.9mm-M/F	1.40:1	0,3,6,10,20,30
ATT40V	40	2.4mm-M/F	1.60:1	0,3,6,10,20,30
ATT50V	50	2.4mm-M/F	1.75:1	0,3,6,10,20,30
2 Watt Attenuators, N, BNC, SMB, TNC, GPO™, SMP, SMPM				
ATT06N	6	N-M/F	1.25:1	1-10,12,15,20,30,40
ATTO3N	2.5	N-M/F, M/M, F/F	1.15:1	0-10,12,15,20,30,40,50,60
ATT18N	18	N-M/F, M/M, F/F	1.35:1	0-10,12,15,20,30,40,50,60
ATT04BNC	4	BNC-M/F	1.25:1	0-10,12,15,20,30
ATT04SMB	4	SMB-M/F, M/M, F/F	1.25:1	0-12,15,20,30
ATT03TNC	2.5	TNC-M/F	1.25:1	0-10,12,15,20,30,40
ATT12TNC	12.4	TNC-M/F	1.25:1	0-10,12,15,20,30,40
ATT18TNC	18	TNC-M/F, M/M, F/F	1.35:1	0-10,12,15,20,30,40,50,60
5 Watt Attenuators, Convection Cooled				
ATT06SMA5W	6	SMA-M/F, M/M, F/F	1.20:1	0-12,15,20,30,40
ATT18SMA5W	18	SMA-M/F, M/M, F/F	1.35:1	0-10,12,15,20,30,40
ATT06N5W	6	N-M/F, M/M, F/F	1.20:1	0-12,15,20,30,40
ATT18N5W	18	N-M/F, M/M, F/F	1.35:1	0-10,12,15,20,30,40
ATT05DIN5W	2.5	7/16 DIN-M/F, M/M, F/F	1.25:1	0-12,15,20,30,40
ATT07DIN5W	7.5	7/16 DIN-M/F, M/M, F/F	1.45:1	0-12,15,20,30,40
ATTO4BNC5W	4	BNC-M/F, M/M, F/F	1.25:1	0-12,15,20,30,40
ATT06TNC5W	6	TNC-M/F, M/M, F/F	1.20:1	0-12,15,20,30,40
ATT18TNC5W	18	TNC-M/F, M/M, F/F	1.35:1	0-10,12,15,20,30,40
10 Watt Attenuators, Convection Cooled				
ATT06SMA10W	6	SMA-M/F, M/M, F/F	1.20:1	0-10,12,20,30,40
ATT18SMA10W	18	SMA-M/F, M/M, F/F	1.40:1	0-10,12,20,30,40
ATT06N10W	6	N-M/F, M/M, F/F	1.20:1	0-10,12,20,30,40
ATT18N10W	18	N-M/F, M/M, F/F	1.40:1	0-10,12,20,30,40
ATT03DIN10W	2.5	7/16 DIN, M/F, M/M, F/F	1.25:1	0-10,12,20,30,40
ATT07DIN10W	7.5	7/16 DIN-M/F, M/M, F/F	1.45:1	0-10,12,20,30,40
ATT04BNC10W	4	BNC-M/F, M/M, F/F	1.25:1	0-10,12,15,20,30
ATT06TNC10W	6	TNC-M/F, M/M, F/F	1.20:1	0-10,12,20,30,40
ATT18TNC10W	18	TNC-M/F, M/M, F/F	1.40:1	0-10,12,20,30,40



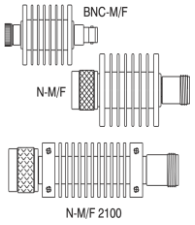






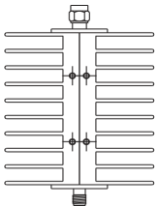
20 Watt Attenuators, Convection Cooled

ATT06SMA20W	6	SMA-M/F, M/M, F/F	1.20:1	0,3,6,10,20,30,40
ATT18SMA20W	18	SMA-M/F, M/M, F/F	1.40:1	0,3,6,10,20,30,40
ATT06N20W	6	N-M/F, M/M, F/F	1.20:1	0,3,6,10,20,30,40
ATT18N20W	18	N-M/F, M/M, F/F	1.40:1	0,3,6,10,20,30,40
ATT03DIN20W	2.5	7/16 DIN-M/F, M/M, F/F	1.25:1	0,3,6,10,20,30,40
ATT07DIN20W	7.5	7/16 DIN-M/F, M/M, F/F	1.45:1	0,3,6,10,20,30,40
ATT04BNC20W	4	BNC-M/F, M/M, F/F	1.25:1	0,3,6,10,20,30,40
ATT06TNC20W	6	TNC-M/F, M/M, F/F	1.20:1	0,3,6,10,20,30,40
ATT18TNC20W	18	TNC-M/F, M/M, F/F	1.40:1	0,3,6,10,20,30,40



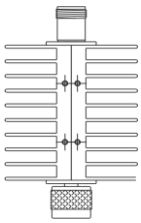
25 Watt Attenuators, Convection Cooled

ATT06SMA25W	6	SMA-M/F, M/M, F/F	1.20:1	0,3,6,10,20,30,40
ATT18SMA25W	18	SMA-M/F, M/M, F/F	1.40:1	0,3,6,10,20,30,40
ATT06N25W	6	N-M/F, M/M, F/F	1.20:1	0,3,6,10,20,30,40
ATT18N25W	18	N-M/F, M/M, F/F	1.40:1	0,3,6,10,20,30,40
ATT03DIN25W	2.5	7/16 DIN-M/F, M/M, F/F	1.25:1	0,3,6,10,20,30,40
ATT07DIN25W	7.5	7/16 DIN-M/F, M/M, F/F	1.45:1	0,3,6,10,20,30,40
ATT03BNC25W	2.5	BNC-M/F, M/M, F/F	1.25:1	0,3,6,10,20,30,40
ATT04BNC25W	4	BNC-M/F, M/M, F/F	1.25:1	0,3,6,10,20,30,40
ATT06TNC25W	6	TNC-M/F, M/M, F/F	1.20:1	0,3,6,10,20,30,40
ATT18TNC25W	18	TNC-M/F, M/M, F/F	1.40:1	0,3,6,10,20,30,40



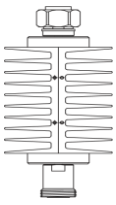
50 Watt Attenuators, Convection Cooled

ATT06SMA50W	6	SMA-M/F, M/M, F/F	1.25:1	0,3,6,10,20,30,40
ATT18SMA50W	18	SMA-M/F, M/M, F/F	1.45:1	0,3,6,10,20,30,40
ATT06SMA50W	6	N-M/F, M/M, F/F	1.25:1	0,3,6,10,20,30,40
ATT18N50W	18	N-M/F, M/M, F/F	1.45:1	0,3,6,10,20,30,40
ATT03DIN50W	2.5	7/16 DIN-M/F, M/M, F/F	1.25:1	0,3,6,10,20,30,40
ATT07DIN50W	7.5	7/16 DIN-M/F, M/M, F/F	1.45:1	0,3,6,10,20,30,40
ATT04BNC50W	4	BNC-M/F, M/M, F/F	1.25:1	0,3,6,10,20,30,40
ATT06TNC50W	6	TNC-M/F, M/M, F/F	1.25:1	0,3,6,10,20,30,40
ATT18TNC50W	18	TNC-M/F, M/M, F/F	1.45:1	0,3,6,10,20,30,40



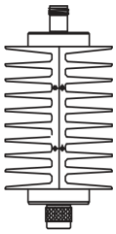
100Watt Attenuators, Conduction Cooled

ATT03SMA100W	2.5	SMA-M/F, M/M, F/F	1.35:1	3,6,10,20,30,40
ATT06SMA100W	6	SMA-M/F, M/M, F/F	1.45:1	3,6,10,20,30,40
ATT03N100W	2.5	N-M/F, M/M, F/F	1.35:1	3,6,10,20,30,40
ATT06N100W	6	N-M/F, M/M, F/F	1.45:1	3,6,10,20,30,40
ATT03DIN100W	2.5	7/16 DIN-M/F, M/M, F/F	1.35:1	3,6,10,20,30,40
ATT06DIN100W	6	7/16 DIN-M/F, M/M, F/F	1.45:1	3,6,10,20,30,40
ATT03BNC100W	2.5	BNC-M/F, M/M, F/F	1.35:1	3,6,10,20,30,40
ATT04BNC100W	4	BNC-M/F, M/M, F/F	1.45:1	3,6,10,20,30,40
ATT03TNC100W	2.5	TNC-M/F, M/M, F/F	1.35:1	3,6,10,20,30,40
ATT06TNC100W	6	TNC-M/F, M/M, F/F	1.45:1	3,6,10,20,30,40



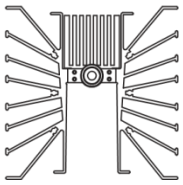
150 Watt Attenuators, Convection Cooled

ATT03SMA150W	2.5	SMA-M/F, M/M, F/F	1.25:1	3,6,10,20,30,40
ATT04SMA150W	4	SMA-M/F, M/M, F/F	1.35:1	3,6,10,20,30,40
ATT03N150W	2.5	N-M/F, M/M, F/F	1.25:1	3,6,10,20,30,40
ATT04N150W	4	N-M/F, M/M, F/F	1.35:1	3,6,10,20,30,40
ATT03DIN150W	2.5	7/16 DIN-M/F, M/M, F/F	1.30:1	3,6,10,20,30,40
ATT04DIN150W	4	7/16 DIN-M/F, M/M, F/F	1.40:1	3,6,10,20,30,40
ATT03TNC150W	2.5	TNC-M/F, M/M, F/F	1.25:1	3,6,10,20,30,40
ATT04TNC150W	4	TNC-M/F, M/M, F/F	1.35:1	3,6,10,20,30,40



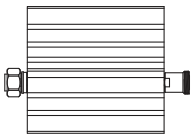
200 Watt Attenuators, Convection Cooled

ATT03SMA200W	2.5	SMA-M/F, M/M, F/F	1.25:1	3,6,10,20,30,40
ATT04SMA200W	4	SMA-M/F, M/M, F/F	1.50:1	3,6,10,20,30,40
ATT03N200W	2.5	N-M/F, M/M, F/F	1.25:1	3,6,10,20,30,40
ATT04N200W	4	N-M/F, M/M, F/F	1.50:1	3,6,10,20,30,40
ATT03DIN200W	2.5	7/16 DIN-M/F, M/M, F/F	1.25:1	3,6,10,20,30,40
ATT04DIN200W	4	7/16 DIN-M/F, M/M, F/F	1.50:1	3,6,10,20,30,40
ATT03TNC200W	2.5	TNC-M/F, M/M, F/F	1.25:1	3,6,10,20,30,40
ATT04TNC200W	4	TNC-M/F, M/M, F/F	1.50:1	3,6,10,20,30,40



300 Watt Attenuators, Convection Cooled

ATT03SMA300W	2.5	SMA-M/F, M/M, F/F	1.25:1	3,6,10,20,30,40
ATT04SMA300W	4	SMA-M/F, M/M, F/F	1.50:1	3,6,10,20,30,40
ATT03N300W	2.5	N-M/F, M/M, F/F	1.25:1	3,6,10,20,30,40
ATT04N300W	4	N-M/F, M/M, F/F	1.50:1	3,6,10,20,30,40
ATT03DIN300W	2.5	7/16 DIN-M/F, M/M, F/F	1.25:1	3,6,10,20,30,40
ATT04DIN300W	4	7/16 DIN-M/F, M/M, F/F	1.50:1	3,6,10,20,30,40
ATT03TNC300W	2.5	TNC-M/F, M/M, F/F	1.25:1	3,6,10,20,30,40
ATT04TNC300W	4	TNC-M/F, M/M, F/F	1.50:1	3,6,10,20,30,40

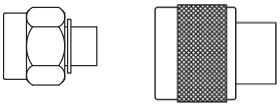


Termination Reference Guide

MODEL NO.	FREQ. (GHz)	CONNECTOR	VSWR

1 and 2 Watt Ultra Low Cost Terminations

TER06SMAM	6	SMA-M	1.20:1
TER03NM	2.5	N-M	1.10:1
TER06NM	6	N-M	1.10:1
TER04BNCM	4	BNC-M	1.35:1
TER06TNCM	6	TNC-M	1.30:1

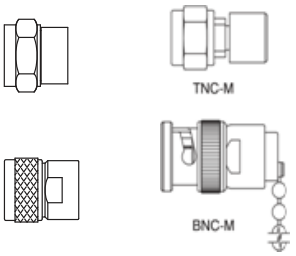


0.5 Watt and 1 Watt Terminations

TER18SMA*0.5W	18	SMA-M	1.20:1
TER26SMA*0.5W	26.5	SMA-M, SMA-F	1.25:1
TER06SMARP0.5W	6	SMA-M Reverse Polarity	1.20:1
TER01TNCRP0.5W	1	TNC-M, Reverse Polarity	1.25:1

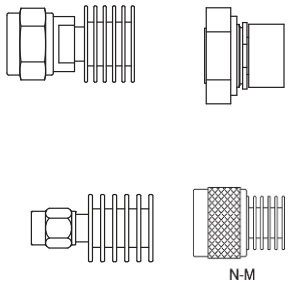
2Watt Terminations

TER04BNCF2W	4	BNC-F	1.15:1
TER04BNCM2W*	4	BNC-M	1.20:1
TER06SMA*2W	6	SMA-M, SMA-F	1.10:1
TER18SMA*2W	18	SMA-M, SMA-F	1.20:1
TER06N*2W	6	N-M, N-F Brass	1.10:1
TER18N*2W	18	N-M, N-F	1.25:1
TER06TNC*2W	6	TNC-M, TNC-F	1.15:1
TER12TNC*2W	12.4	TNC-M, TNC-F Brass	1.15:1
TER18TNC*2W	18	TNC-M, TNC-F	1.25:1



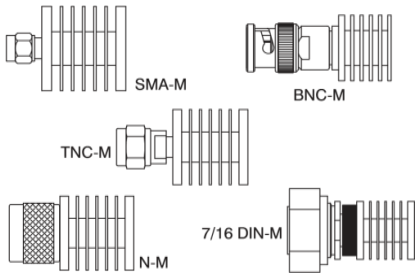
5 Watt Terminations, Convection Cooled

TER06SMA*5W	6	SMA-M, SMA-F	1.15:1
TER12SMA*5W	12.4	SMA-M, SMA-F	1.20:1
TER18SMA*5W	18	SMA-M, SMA-F	1.25:1
TER06N*5W	6	N-M, N-F	1.25:1
TER12N*5W	12.4	N-M, N-F	1.20:1
TER18N*5W	18	N-M, N-F	1.25:1
TER03DIN*5W	2.5	7/16 DIN-M, 7/16 DIN-F	1.25:1
TER07DIN*5W	7.5	7/16 DIN-M, 7/16 DIN-F	1.45:1
TER06TNC*5W	6	TNC-M, TNC-F	1.15:1
TER12TNC*5W	12.4	TNC-M, TNC-F	1.20:1
TER18TNC*5W	18	TNC-M, TNC-F	1.25:1



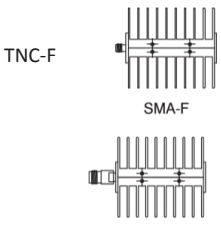
10 Watt Terminations, Convection Cooled

TER04BNC*10W	4	BNC-M, BNC-F	1.25:1
TER06SMA*10W	6	SMA-M, SMA-F	1.20:1
TER18SMA*10W	18	SMA-M, SMA-F	1.40:1
TER12SMA*10W	12.4	SMA-M, SMA-F	1.20:1
TER12N*10W	12.4	N-M, N-F	1.25:1
TER06N*10W	6	N-M, N-F	1.25:1
TER18N*10W	18	N-M, N-F	1.35:1
TER03DIN*10W	2.5	7/16 DIN-M, 7/16 DIN	1.20:1
TER07DIN*10W	7.5	7/16 DIN-M, 7/16	1.30:1
TER06TNC*10W	6	TNC-M, TNC-F	1.20:1
TER18TNC*10W	18	TNC-M, TNC-F	1.40:1



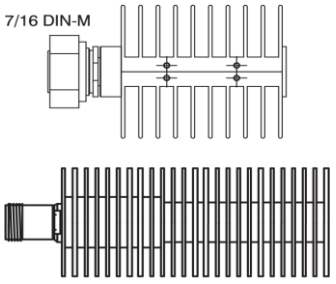
25 Watt Terminations, Convection Cooled

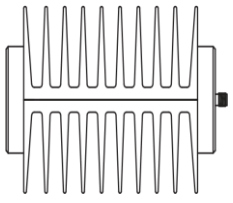
TER06SMA*25W	6	SMA-M, SMA-F	1.20:1
TER18SMA*25W	18	SMA-M, SMA-F	1.40:1
TER06N*25W	6	N-M, N-F	1.20:1
TER18N*25W	18	N-M, N-F	1.40:1
TER03DIN*25W	2.5	7/16 DIN-M, 7/16 DIN-F	1.20:1
TER07DIN*25W	7.5	7/16 DIN-M, 7/16 DIN-F	1.30:1
TER06TNC*25W	6	TNC-M, TNC-F	1.20:1
TER18TNC*25W	18	TNC-M, TNC-F	1.40:1

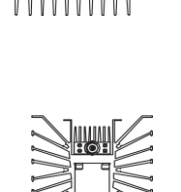


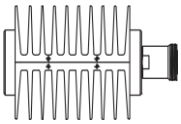
Termination Reference Guide

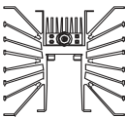
MODEL NO.	FREQ. (GHz)	CONNECTOR	VSWR
50 Watt Terminations, Convection Cooled			
TER05SMA*50W	6	SMA-M, SMA-F	1.25:1
TER18SMA*50W	18	SMA-M, SMA-F	1.45:1
TER06N*50W	6	N-M, N-F	1.25:1
TER12N*50W	12.4	N-M, N-F	1.35:1
TER18N*50W	18	N-M, N-F	1.45:1
TER04BNC*50W	4	BNC-M, BNC-F	1.25:1
TER03DIN*50W	2.5	7/16 DIN-M, 7/16 DIN-F	1.25:1
TER07DIN*50W	7.5	7/16 DIN-M, 7/16 DIN-F	1.45:1
TER06TNC*50W	6	TNC-M, TNC-F	1.25:1
TER18TNC*50W	18	TNC-M, TNC-F	1.45:1
TER12TNC*50W	12.4	TNC-M, TNC-F	1.35:1
100 Watt Terminations, Convection Cooled			
TER03SMA*100W	2.5	SMA-M, SMA-F	1.30:1
TER06SMA*100W	6	SMA-M, SMA-F	1.40:1
TER03N*100W	2.5	N-M, N-F	1.30:1
TER06N*100W	6	N-M, N-F	1.40:1
TER04BNC*100W	4	BNC-M, BNC-F	1.45:1
TER03TNC*100W	2.5	TNC-M, TNC-F	1.30:1
TER06TNC*100W	6	TNC-M, TNC-F	1.40:1
ER03DIN*100W	2.5	7/16 DIN-M, 7/16 DIN-F	1.35:1
TER06DIN*100W	6	7/16 DIN-M, 7/16 DIN-F	1.45:1
150 Watt Terminations, Convection Cooled			
TER03SMA*150W	2.5	SMA-M, SMA-F	1.25:1
TER03N*150W	2.5	N-M, N-F	1.25:1
TER03TNC*150W	2.5	TNC-M, TNC-F	1.25:1
TER03DIN*150W	2.5	7/16 DIN-M, 7/16 DIN-F	1.30:1
300 Watt Terminations, Convection Cooled			
TER03SMA*300W	2.5	SMA-M, SMA-F	1.30:1
TER03N*300W	2.5	N-M, N-F	1.30:1
TER03TNC*300W	2.5	TNC-M, TNC-F	1.25:1
TER03DIN*300W	2.5	7/16 DIN-M, 7/16 DIN-F	1.35:1







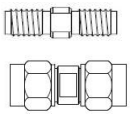




Adapter Reference Guide

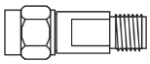
SMA In Series Adapters

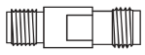
Connectors		Freq.(GHz)	VSWR	Description
F/F with O-Ring Seal		3	1.10:1	Bulkhead Feedthru
F/F		18	1.20:1	
M/M		18	1.20:1	
M/F		18	1.20:1	



SMA Between Series Adapters

SMA-M	N-M	6	1.30:1	Ultra Low Cost Brass
SMA-M	N-F	6	1.30:1	Ultra Low Cost Brass
SMA-F	N-M	6	1.30:1	Ultra Low Cost Brass
SMA-F	N-F	6	1.30:1	Ultra Low Cost Brass
SMA-F	N-F	18	1.25:1	Short Profile
SMA-F	N-M	18	1.25:1	Short Profile
SMA-M	N-F	18	1.25:1	Short Profile
SMA-M	N-M	18	1.25:1	Short Profile
SMA-M	N-M	18	1.15:1	Precision
SMA-M	N-F	18	1.15:1	Precision
SMA-F	N-M	18	1.15:1	Precision
SMA-F	N-F	18	1.15:1	Precision
SMA-M	N-M	18	1.15:1	Flange Mount1” Sq.
SMA-M	N-F	18	1.15:1	Flange Mount1” Sq.
SMA-F	N-M	18	1.15:1	Flange Mount1” Sq.
SMA-F	N-F	18	1.15:1	Flange Mount1” Sq.
SMA-F	N-F	18	1.20:1	Bulkhead Feedthru
SMA-M	N-F	18	1.20:1	Bulkhead Feedthru
SMA-F	N-F w/ O-Ring Seal	18	1.20:1	Bulkhead Feedthru
SMA-M	N-F w/ O-Ring Seal	18	1.20:1	Bulkhead Feedthru
SMA-M	BNC-M	8	1.25:1	
SMA-M	BNC-F	8	1.25:1	
SMA-F	BNC-M	8	1.25:1	
SMA-F	BNC-F	8	1.25:1	
SMA-M	TNC-M	18	1.25:1	
SMA-M	TNC-F	18	1.25:1	
SMA-F	TNC-M	18	1.25:1	
SMA-F	TNC-F	18	1.25:1	
SMA-M	SMP-M	18	1.20:1	Full Detent
SMA-M	SMP-M	18	1.20:1	Limited Detent
SMA-F	SMP-M	18	1.20:1	Full Detent
SMA-F	SMP-M	18	1.20:1	Limited Detent
SMA-M	SMP-F	18	1.20:1	





SMA-F	SMP-F	18	1.20:1	
SMA-M	3.5mm-M	18	1.25:1	
SMA-M	3.5mm-F	18	1.25:1	
SMA-F	3.5mm-M	18	1.25:1	
SMA-F	3.5mm-F	18	1.25:1	
SMA-F	1.85mm-M	18	1.30:1	
SMA-M	1.85mm-M	18	1.30:1	
SMA-M	1.85mm-F	18	1.30:1	
SMA-F	1.85mm-F	18	1.30:1	

TYPE N In Series

F/F		6	1.20:1	Ultra Low Cost Brass
M/F		6	1.20:1	Ultra Low Cost Brass
M/M		6	1.20:1	Ultra Low Cost Brass
F/F		18	1.25:1	Ultra Low Cost Brass
M/F		18	1.25:1	Ultra Low Cost Brass
M/M		18	1.25:1	Ultra Low Cost Brass
F/F		18	1.15:1	Precision
M/F		18	1.15:1	Precision
M/M		18	1.15:1	Precision
F/F		18	1.15:1	Bulkhead Feedthru
F/F with O-Ring Seal		18	1.15:1	Bulkhead Feedthru
F/F M/M		18	1.15:1	Flange Mount1” sq.

TypeN Between Series

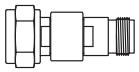
N-M	TNC-M	18	1.12:1	Flange Mount1” sq.
N-M	TNC-F	18	1.12:1	Flange Mount1” sq.
N-F	TNC-M	18	1.12:1	Flange Mount1” sq.
N-F	TNC-F	18	1.12:1	Flange Mount1” sq.
N-M	BNC-M	8	1.20:1	Flange Mount1” sq.
N-M	BNC-F	8	1.20:1	Flange Mount1” sq.
N-F	BNC-M	8	1.20:1	Flange Mount1” sq.
N-F	BNC-F	8	1.20:1	Flange Mount1” sq.
N-F	2.4mm-M	18	1.15:1	
N-F	2.4mm-F	18	1.15:1	
N-M	2.4mm-M	18	1.15:1	
N-M	2.4mm-F	18	1.15:1	
N-M	2.9mm-M	18	1.15:1	
N-F	2.9mm-F	18	1.15:1	
N-M	2.9mm-F	18	1.15:1	
N-F	2.9mm-M	18	1.15:1	
N-M	3.5mm-M	18	1.12:1	
N-M	3.5mm-F	18	1.12:1	







N-F	3.5mm-M	18	1.12:1	
N-F	3.5mm-F	18	1.12:1	
N-M	1.85mm-M	18	1.25:1	
N-F	1.85mm-M	18	1.25:1	
N-M	1.85mm-F	18	1.25:1	
N-F	1.85mm-F	18	1.25:1	
N-F	SMA-F	12.4	1.20:1	Bulkhead Feedthru
N-F	SMA-F w/O-Ring	12.4	1.20:1	Bulkhead Feedthru
N-M	SMA-F	18	1.30:1	Bulkhead Feedthru
N-F	SMA-F	18	1.12:1	Bulkhead Feedthru
N-F	SMA-M	18	1.12:1	Bulkhead Feedthru
N-F	SMA-M w/ O-Ring	18	1.12:1	Bulkhead Feedthru
N-F	SMA-F w/ O-Ring	18	1.12:1	Bulkhead Feedthru

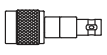


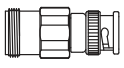
TNC In Series

F/F	6	1.20:1	Ultra Low Cost Brass
M/F	6	1.20:1	Ultra Low Cost Brass
M/M	6	1.20:1	Ultra Low Cost Brass
F/F	18	1.20:1	
M/F	18	1.20:1	
M/M	18	1.20:1	

Adapter Reference Guide

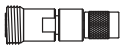
Connectors	Freq.(GHz)	VSWR	Desription
TNC Between Series			
SMA-F	18.5	1.30:1	Flange Mount
SMA-F	12	1.30:1	Rt. Angle, Flange Mount
BNC-M	8	1.30:1	
BNC-M	8	1.30:1	
BNC-F	8	1.30:1	
BNC-F	8	1.30:1	
N-F	18	1.25:1	
N-F	18	1.25:1	
N-M	18	1.25:1	
N-M	18	1.25:1	
N-M	18	1.15:1	Precision
N-M	18	1.15:1	Precision
N-F	18	1.15:1	Precision
N-F	18	1.15:1	Precision
F/F	8	1.25:1	
M/F	8	1.25:1	
M/M	8	1.25:1	





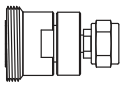
BNC Between Series

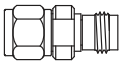
N-M		8	1.30:1	
N-M		8	1.30:1	
N-F		8	1.30:1	
N-F		8	1.30:1	
N-M		8	1.15:1	Precision
N-M		8	1.15:1	Precision
N-F		8	1.15:1	Precision
N-F		8	1.15:1	Precision
F/F		3	1.30:1	75
M/F		3	1.30:1	75
M/M		3	1.30:1	75



TYPE F Between Series

F-M	N-M	3	1.30:1	75	Both Sides
F-M	N-F	3	1.30:1	75	Both Sides
F-F	N-M	3	1.30:1	75	Both Sides
F-F	N-F	3	1.30:1	75	Both Sides
F-M	BNC-M	3	1.30:1	75	Both Sides
F-M	BNC-F	3	1.30:1	75	Both Sides
F-F	BNC-M	3	1.30:1	75	Both Sides
F-F	BNC-F	3	1.30:1	75	Both Sides





7/16 DIN In Series

F/F	7.5	1.35:1	
M/F	7.5	1.35:1	
M/M	7.5	1.35:1	

7/16 DIN Between Series

7/16 DIN-F	N-F	7.5	1.35:1	
7/16 DIN-F	N-M	7.5	1.35:1	
7/16 DIN-M	N-F	7.5	1.35:1	
7/16 DIN-M	N-M	7.5	1.35:1	
7/16 DIN-M	N-F	7.5	1.35:1	Quick Connect
7/16 DIN-M	N-M	7.5	1.35:1	Quick Connect
7/16 DIN-F	TNC-F	7.5	1.35:1	
7/16 DIN-F	TNC-M	7.5	1.35:1	
7/16 DIN-M	TNC-F	7.5	1.35:1	
7/16 DIN-M	TNC-M	7.5	1.35:1	

1.85mm In Series

F/F	65	1.40:1	
M/F	65	1.40:1	

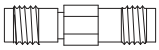
M/M	65	1.40:1

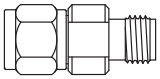
2.4mm In Series

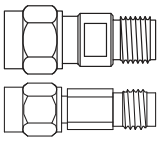
F/F	50	1.30:1
M/F	50	1.30:1
M/M	50	1.30:1

2.4mm Between Series

2.4mm-M	SMA-M	26.5	1.20:1
2.4mm-F	SMA-M	26.5	1.20:1
2.4mm-M	SMA-F	26.5	1.20:1
2.4mm-F	SMA-F	26.5	1.20:1
2.4mm-M	3.5mm-M	34	1.25:1
2.4mm-M	3.5mm-F	34	1.25:1
2.4mm-F	3.5mm-M	34	1.25:1
2.4mm-F	3.5mm-F	34	1.25:1
2.4mm-F	2.9mm-F	40	1.30:1
2.4mm-F	2.9mm-M	40	1.30:1
2.4mm-M	2.9mm-F	40	1.30:1
2.4mm-M	2.9mm-M	40	1.30:1
2.4mm-M	1.85mm-M	50	1.35:1
2.4mm-M	1.85mm-F	50	1.35:1
2.4mm-F	1.85mm-M	50	1.35:1
2.4mm-F	1.85mm-F	50	1.35:1







2.9mm In Series

F/F	40	1.30:1
M/F	40	1.30:1
M/M	40	1.30:1

2.9mm Between Series

2.9mm-M	SMA-M	26.5	1.25:1
2.9mm-M	SMA-F	26.5	1.25:1
2.9mm-F	SMA-M	26.5	1.25:1
2.9mm-F	SMA-F	26.5	1.25:1
2.9mm-F	3.5mm-F	34	1.25:1
2.9mm-F	3.5mm-M	34	1.25:1
2.9mm-M	3.5mm-F	34	1.25:1
2.9mm-M	3.5mm-M	34	
2.9mm-M	1.85mm-M	40	
2.9mm-M	1.85mm-F	40	
2.9mm-F	1.85mm-M	40	
2.9mm-F	1.85mm-F	40	

2.9mm-F	2.4mm-F w/ O-Ring	40	

3.5mm In Series

F/F		34	1.25:1
M/F		34	1.25:1
M/M		34	1.25:1

3.5mm Between Series

3.5mm-F	1.85mm-M	34	1.25:1
3.5mm-M	1.85mm-F	34	1.25:1
3.5mm-F	1.85mm-F	34	1.25:1
3.5mm-M	1.85mm-M	34	1.25:1
7mm	SMA-M	18	1.25:1
7mm	SMA-F	18	1.25:1
7mm	N-M	18	1.25:1
7mm	N-F	18	1.25:1
7mm	TNC-M	18	1.25:1
7mm	TNC-F	18	1.25:1
7mm	3.5mm-M	18	1.25:1
7mm	3.5mm-F	18	1.25:1
7mm	2.4mm-M	18	1.25:1
7mm	2.4mm-F	18	1.25:1
7mm	2.9mm-M	18	1.25:1
7mm	2.9mm-F	18	1.25:1
7mm	SMA-M	18	1.25:1
7mm	SMA-F	18	1.25:1

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