

VHF / UHF coaxial circulators & isolators

General description

TEMEX supplies a wide range of coaxial HF/VHF and UHF circulators covering the frequency range down to 27 MHz.

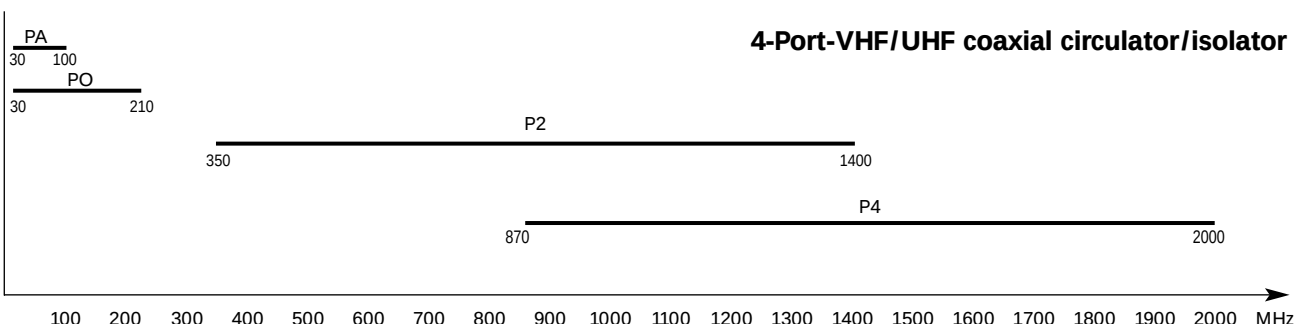
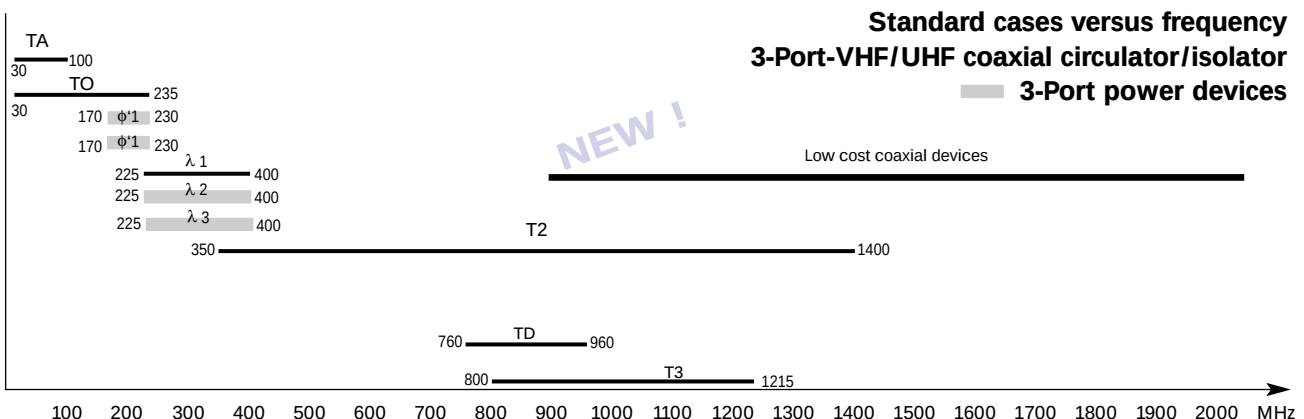
TEMEX uses only in-house produced [ferrite materials](#) and therefore offers state-of-the-art features such as low-insertion loss, high isolation in various rugged and space saving packages:

- The **"T" series** is our standard design for three port junctions. Circulators are equipped with KMR/SMA connectors and isolators with an internal load of 1 W average/60 W peak, N female connectors for input power higher than 60 W-CW.
- Wide-band ferrite device, such as those in the **λ series** package, enables coverage of the 225 - 400 MHz band for high power up to 300 W-CW/1 kW peak.
- **New low cost coaxial devices** have been specially designed for cellular base stations. Case of circulators and isolators are made with aluminum casting in order to drastically reduce cost and deliveries.

Designed for the wide-band application in the 170 to 1215 MHz frequency range, TEMEX power circulators **ϕ series** provide low insertion loss and high isolation. They are specifically designed to feature low 3rd order inter-modulation products with power up to 2000 W-CW.

They are suitable for telecommunication and broadcasting applications.

- In order to improve isolation, **four-port circulators and isolators** are produced by optimally integrating two single-junction circulators in a single package. The insertion loss of four-port circulators includes two pass-through ferrite junctions. They are typically used in telecommunication and radio-telephone applications.
- Options such as configuration, frequency range, connector type and location, tab (drop-in) configuration, wider temperature range, high power, etc., are **available upon request**.



VHF / UHF coaxial circulators & isolators



NEW ! *Low cost coaxial circulators & isolators*
3-Port circulators & isolators

Circulator	Isolator	Frequency range (MHz)	Average power max. W	Specification in temp. range			Temperature range °C	Outline drawing	Connector female
				Isolation min. dB	Inser. loss max. dB	VSWR max			
BC3062	BC1062	920 - 960	50	20	0.4	1.25	-10 to +55	T15	N
BC3060	BC1060	920 - 960	50	20	0.4	1.25	-10 to +55	T12	SMA
BC3080	BC1080	920 - 960	60	23	0.3	1.25	-10 to +55	T59	N
BD3067	BD1067	1805 - 1880*	50	20	0.3	1.20	-10 to +55	T12	SMA
BD1062	BD3062	1805 - 1880*	50	20	0.3	1.20	-10 to +55	T15	N
BE1070	BE3070	2100 - 2180	50	23	0.3	1.20	-10 to +55	T12	SMA

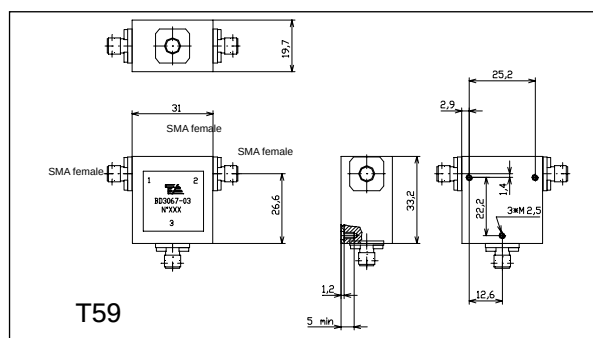
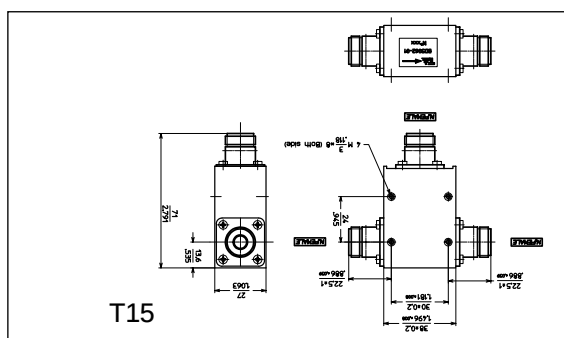
* Available in 1930 - 1990 MHz band

4-Port circulators & isolators

Type	Frequency range (MHz)	Average power max. W	Specification in temp. range			Temperature range °C	Outline drawing	Connector female
			Isolation min. dB	Inser. loss max. dB	VSWR max			
BB4110	380 - 430	100	45	0.8	1.25	-10 to +55	P2	N
BB4111	406 - 470	100	40	0.8	1.25	-10 to +55	P2	N
BB4112	424 - 428	100	50	0.5	1.25	-10 to +55	P2	N
BB4113	460 - 468	100	50	0.5	1.25	-10 to +55	P2	N
BB4003	470 - 600	50	35	1.1	1.30	-10 to +55	P2	N
BC4107	870 - 960	50	45	0.7	1.25	-10 to +55	P4	N
BC4108	917 - 960	65	50	0.5	1.20	-10 to +55	P4	N
BC4109	935 - 960	65	50	0.5	1.20	-10 to +55	P4	N

Customized devices available

For more 50 W-CW input power, cooling is necessary by conduction via heat sink ($R_{TH} = 0.4^{\circ} \text{C} / \text{W max}$)



How to order?

Please specify:

- ☐ Model number,
- ☐ Center frequency and desired bandwidth, or frequency range,
- ☐ Direction of circulation (clockwise or counter clockwise).



VHF / UHF coaxial circulators & isolators
Standard coaxial circulators & isolators
3-Port circulators & isolators

Circulator	Isolator	Frequency range (MHz)	Avg. power max. W	Peak power max. kW	Specifications at 25° C			Spec. in temperature range			Temperature range °C	Outline drawing	Connector (female)
					Isolation min. dB	Inse. loss max. dB	VSWR max.	Isolation min. dB	Inse. loss max. dB	VSWR max.			
BA3038	BA1011	27	60		15	1.0	1.40	15	1.0	1.40	-40 to +70	T0	N ⁽³⁾
BA3011		62-72	20		18	0.8	1.30	17	1	1.35	-10 to +55	T0	SMA
BA3021		68-88	100		18	0.8	1.30	17	1	1.35	-10 to +55	T0	N ⁽³⁾
BA3015	BA1015	72-88	50		18	0.8	1.30	17	1	1.35	-10 to +55	T0	SMA
BA3010	BA1010	88-108	100		18	0.8	1.30	17	1	1.35	-10 to +55	T0	N ⁽³⁾
BA3012	BA1012	105-145	50		18	0.8	1.30	16	1	1.40	-10 to +55	T0	SMA
BA3040	BA1016	138-155	250		23	0.35	1.20	22	0.4	1.25	0 to +70	T0	N ⁽³⁾
BA3013		155-174	250		23	0.35	1.20	22	0.4	1.25	0 to +70	T0	N ⁽³⁾
BA3016		165-200	100		18	0.8	1.30	17	1	1.35	-10 to +55	T0	N ⁽³⁾
BA3029	BA1017	174-225	100		18	0.8	1.30	17	1	1.35	-10 to +55	T0	N ⁽³⁾
BA3017		200-235	100		18	0.8	1.30	17	1	1.35	-10 to +55	T0	N ⁽³⁾
BA3017		216-230	250	1.00	32	0.3	1.12	30	0.5	1.15	+20 to +70	T0	N ⁽³⁾
BA3039		216-230	325	1.20	26	0.2	1.18	20	0.4	1.25	+20 to +70	T0	N ⁽³⁾
BB3028	BB1028	200-400 ⁽⁵⁾	250		25	0.3	1.20	20	0.4	1.25	-20 to +70	T57	N
BB3001 ⁽²⁾	BB1001 ⁽²⁾	225-400	60	0.25	20	0.8	1.25	16	0.8	1.40	-40 to +70	T1	SMA
BB3006 ⁽²⁾	BB1006 ⁽²⁾	225-400	100	0.25	20	0.8	1.25	17	0.8	1.40	-40 to +70	T1	N
BB3007 ^(1,2)		225-400	200	1.00	17	0.7	1.35	14	0.8	1.50	-40 to +60	T2	N
BB3011 ⁽²⁾		225-400	300	1.00	14	1	1.50	14	1	1.50	-40 to +80	T56	N ⁽³⁾
BB3019		BB1019	350-400	200 ⁽⁴⁾		20	0.3	1.25	18	0.6	1.30	-10 to +55	T2
BB3080	BB1080	378-512	200 ⁽⁴⁾		20	0.3	1.25	18	0.6	1.30	-10 to +55	T2	N ⁽³⁾
BB3025	BB1025	405-450	200 ⁽⁴⁾		20	0.3	1.25	18	0.6	1.30	-10 to +55	T2	N ⁽³⁾
BB3038	BB1038	405-470			16	0.75	1.37	16	0.75	1.37		T50	SMA
BB3023	BB1023	415-430	100		18	0.6	1.30	18	0.6	1.30	-10 to +55	T2	N ⁽³⁾
BB3031	BB1031	415-454			19	0.7	1.30	19	0.7	1.30	-30 to +60	T50	SMA
BB3026	BB1026	450-500	200 ⁽⁴⁾		20	0.3	1.25	18	0.6	1.30	-10 to +55	T2	N ⁽³⁾
BC3019	BC1041	610-960	50		15	1.1	1.55	15	1.1	1.55	-40 to +95	T0	SMA/INT
BC3041		700-860	200 ⁽⁴⁾		20	0.3	1.25	18	0.6	1.30	-10 to +55	T2	N ⁽³⁾
BC3019		760-960	50		19	0.5	1.30	16	0.5	1.45	-40 to +95	T0	SMA
BC3006	BC1006	800-960	50		20	0.4	1.25	18	0.5	1.30	-10 to +55	T3	SMA
BD3003	BD1003	960-1215	50		19	0.4	1.30	17	0.5	1.35	-40 to +85	T3	SMA
BD3040		960-1215	100	10.00	20	0.45	1.25	20	0.45	1.25	-10 to +65	T2	N ⁽³⁾

4-Port circulators & isolators

Type		Frequency range (MHz)	Avg. power max. W	Peak power max. kW	Specifications at 25° C			Spec. in temperature range			Temperature range °C	Outline drawing	Connector (female)
					Isolation min. dB	Inse. loss max. dB	VSWR max.	Isolation min. dB	Inse. loss max. dB	VSWR max.			
BA4140		138 - 155	250	0.5	45	0.8	1.25	45	0.8	1.25	0 to +70	P0	N
BA4113		155 - 174	250	0.5	45	0.8	1.25	45	0.8	1.25	0 to +70	P0	N
BA4217		200 - 207	100	0	50	1.0	1.30	45	1.0	1.30	-10 to +55	P0	N
BD4013		960 - 1215	100	5	38	1.0	1.30	35	1.2	1.35	-30 to +70	P2	N

⁽¹⁾ High power device.

⁽²⁾ Specifications are absolute maximum ratings at high power (listed Avg. power).

⁽³⁾ With SMA, N connectors or tab integrations depending on max. power level request.

⁽⁴⁾ 200 W-CW on 3: 1 continuous load VSWR. Permanent short circuit duration: 3 sec. max.

100 W-CW on permanent short circuit handling, cooling by conduction via a heat sink ($R_{TH} = 0.4^\circ \text{C/W max.}$).

⁽⁵⁾ 10 % bandwidth.

For more than 50 W-CW input power, cooling is necessary by conduction via heat sink ($R_{TH} = 0.4^\circ \text{C/W max.}$)



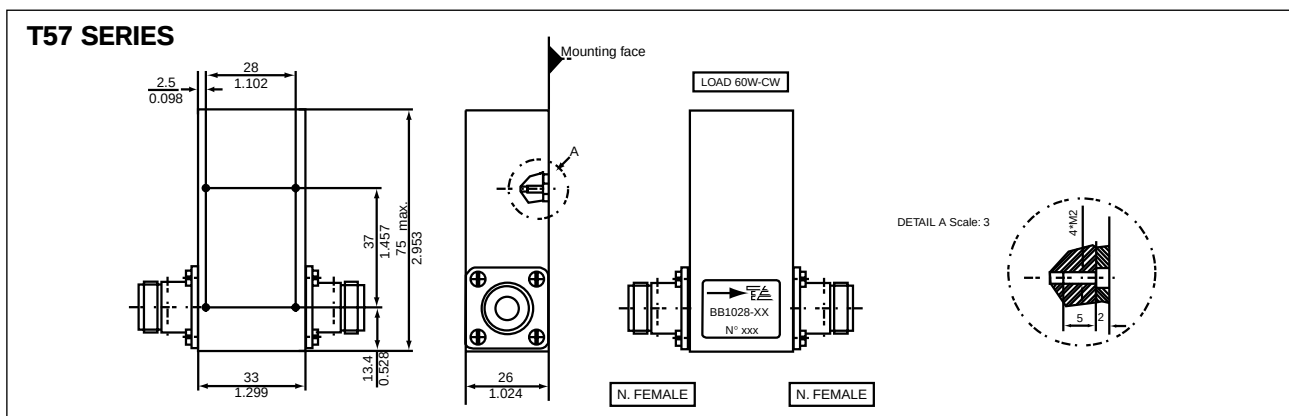
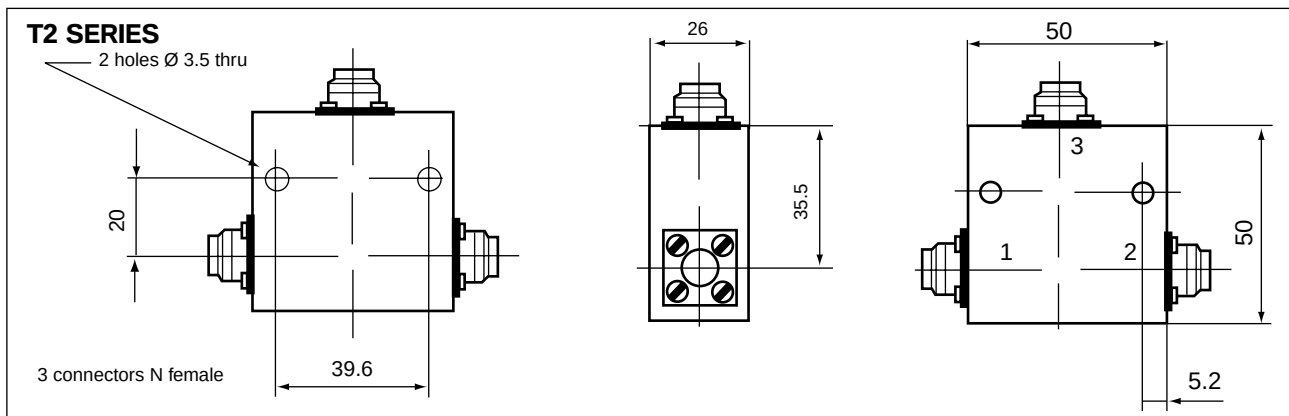
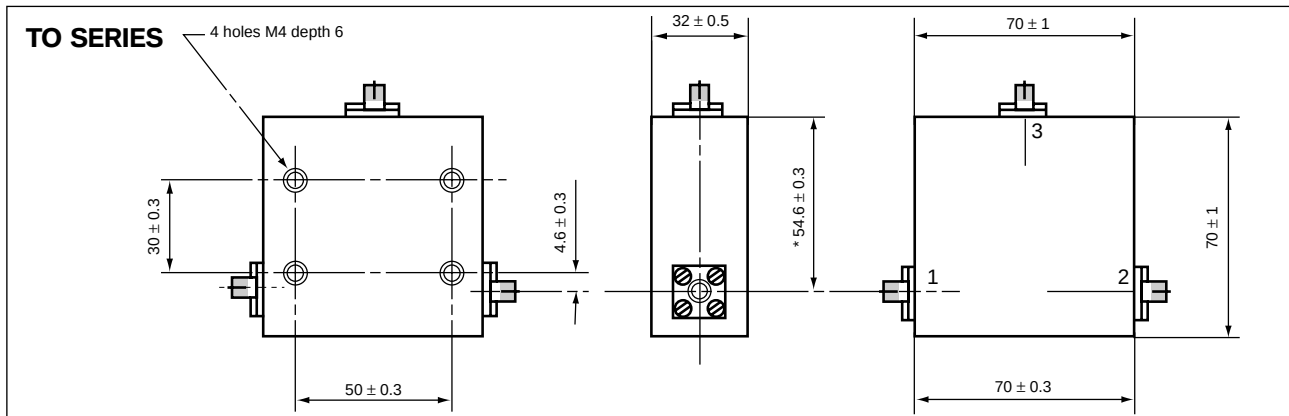
VHF / UHF 3-Port devices - packages

NOTE:

On request: reverse direction

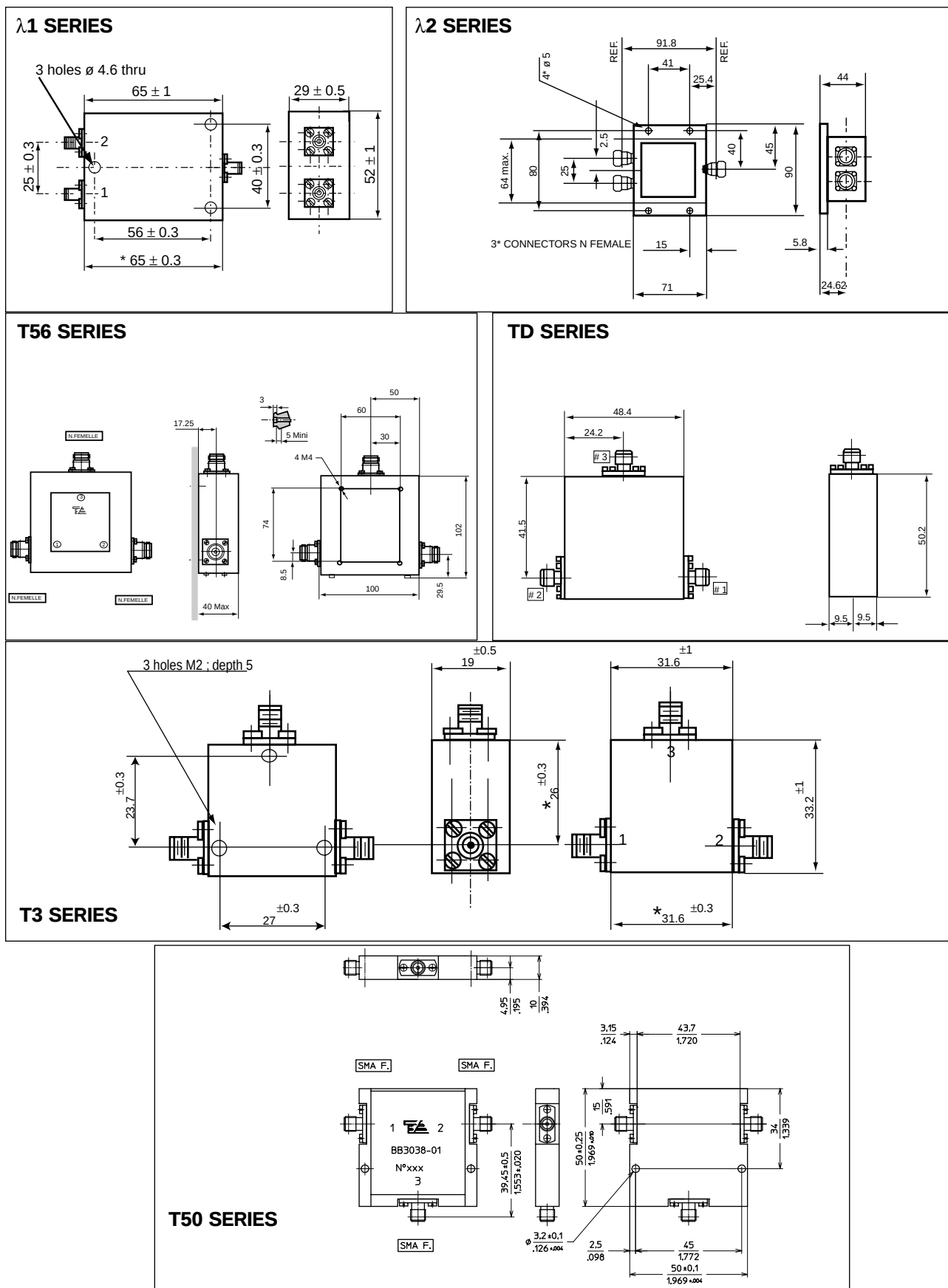
Dimensions in mm

Tolerances ± 0.5



All dimensions supporting an asterisk (*) are measured "under flanges."

SALES OFFICES



All dimensions supporting an asterisk (*) are measured "under flanges."

VHF / UHF coaxial circulators & isolators



VHF / UHF 4-Port devices - packages

Features

- [KMR/SMA female connectors](#)
(except where noted)
- [KMR/SMA male connectors](#)
available upon request
- Tabs for microstrip or stripline applications available upon request
(IT50 - IT17 - IT27)

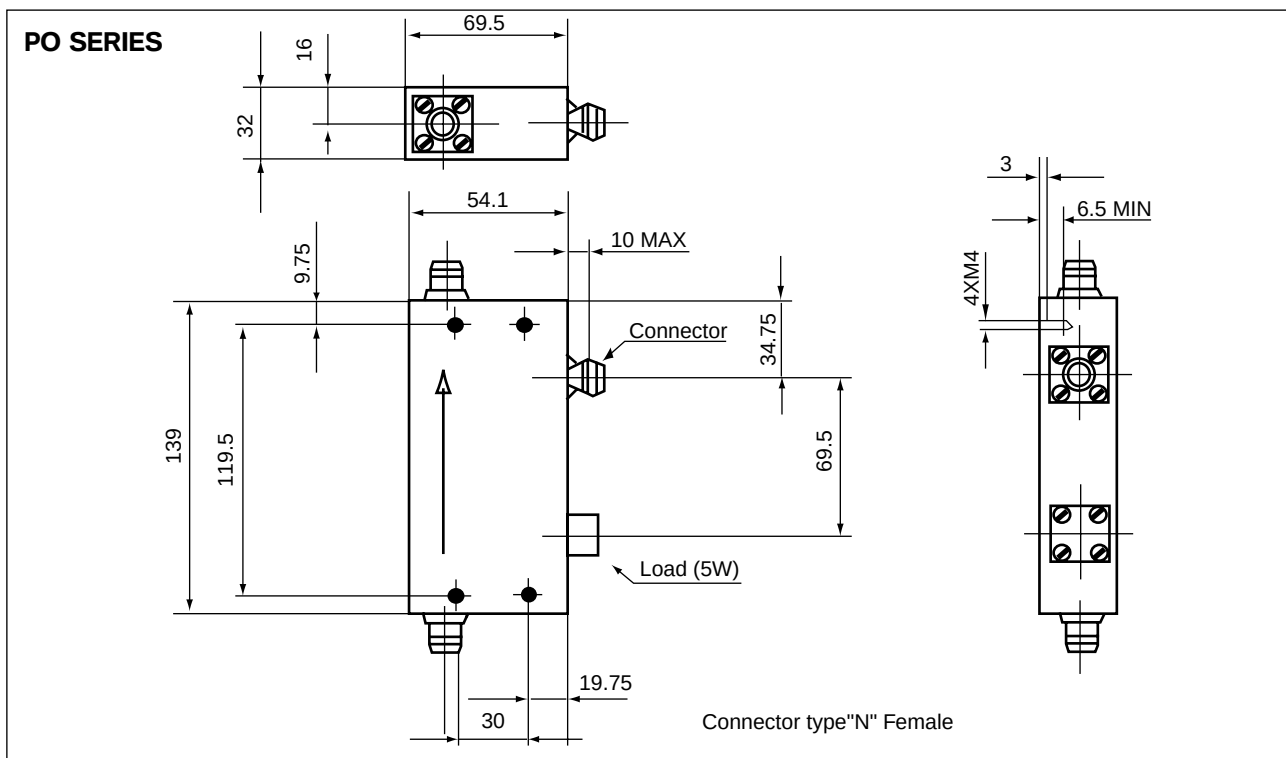
NOTE:

On request: reverse direction

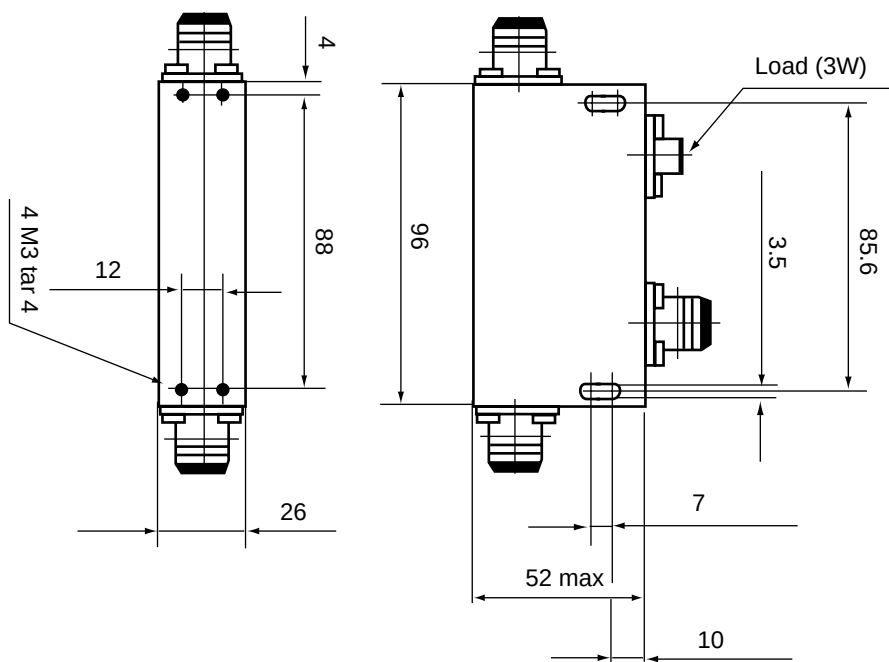
Dimensions in mm

Tolerances ± 0.5

On request "H" configuration



All dimensions supporting an asterisk (*) are measured "under flanges."


P2 SERIES

P4 SERIES
