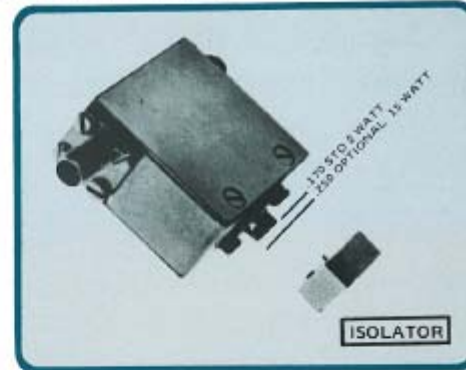
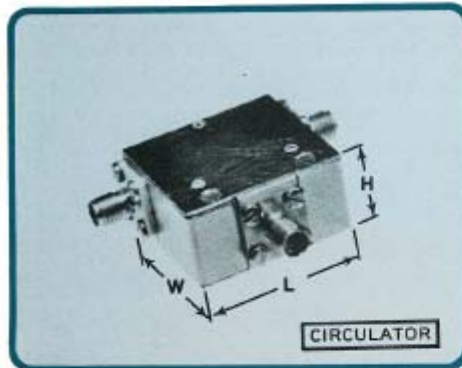




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MINIATURE COAXIAL CIRCULATORS AND ISOLATORS



UHF/VHF BAND

B.W.	Frequency* GHz	Isolation dB Min	Ins Loss dB Max	VSWR Max	Watts CW Max	Weight Oz Max	Dimensions L" W" H"		
5%	.150-.250	20	0.5	1.22	50	5	1.75	1.75	.69
	.250-.350	20	0.5	1.22	50	4.5	1.50	1.50	.69
	.350-.900	20	0.5	1.22	50	4	1.38	1.38	.69
10%	.150-.250	18	0.6	1.30	20	7	2.00	2.00	.69
	.250-.350	18	0.6	1.30	20	5	1.75	1.75	.69
	.350-.900	18	0.6	1.30	20	4.5	1.63	1.63	.69

L AND S BAND

ISOLATORS ONLY

B.W.	Frequency* GHz	Isolation dB Min	Ins Loss dB Max	VSWR Max	Watts CW Max	Weight G. Nom	Dimensions L" W" H"		
5%	1.4-2.0	15	0.6	1.25	1	25	.50	.75	.50
	2.0-2.5	15	0.6	1.25	1	20	.50	.66	.50

C AND X BAND

B.W.	Frequency* GHz	Isolation dB Min	Ins Loss dB Max	VSWR Max	Watts CW Max	Weight G. Nom	Dimensions L" W" H"		
10%	4.0-7.0	20	0.3	1.22	25	25	.63	.63	.50
	7.0-12.4	20	0.3	1.22	25	20	.50	.90	.50

* = Center Frequency to be selected by customer within this range

NOTE : Screening as MIL-STD-202 AND MIL-STD-883.



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STANDARD BANDWIDTH

Frequency GHz	Isolation dB Min	Ins Loss dB Max	VSWR Max	Watts CW Max	Weight Oz Nom	Dimensions L" W" H"		
.375-.475	20	0.5	1.22	150	16	2.75	2.87	1.00
.475-.600	20	0.5	1.22	125	14	2.25	2.38	1.00
.600-.750	20	0.5	1.22	180	10	2.25	2.38	1.00
.750-.960	20	0.5	1.22	100	6	1.88	2.12	1.00
.960-1.22	20	0.5	1.22	75	5	1.50	1.50	.75
1.25-1.40	23	0.3	1.15	75	4	1.25	1.38	.69
1.40-1.70	20	0.5	1.22	75	4	1.25	1.38	.69
1.65-2.05	20	0.4	1.25	75	3	1.00	1.00	.63
1.70-2.40	20	0.4	1.22	50	5	1.25	1.38	.69
2.2-2.3	20	0.3	1.22	50	3	1.10	1.10	.63
2.5-3.5	18	0.3	1.28	50	3	1.10	1.18	.69
3.7-4.2	23	0.2	1.15	50	3	1.00	1.13	.69
4.4-5.0	23	0.2	1.15	35	3	1.00	1.00	.63
5.4-5.9	23	0.2	1.15	35	3	1.00	1.00	.63
5.9-6.5	23	0.2	1.15	35	3	1.00	1.13	.69
7.1-8.4	23	0.2	1.15	25	3	.88	1.10	.69
7.0-11.0	20	0.4	1.22	25	3	.88	1.10	.69
8.0-12.0	20	0.4	1.22	25	2	.75	.88	.63
14.0-16.0	23	0.4	1.15	25	1	.55	.71	.50
16.0-18.0	23	0.4	1.15	25	1	.55	.71	.50

OCTAVE BANDWIDTH

Frequency GHz	Isolation dB Min	Ins Loss dB Max	VSWR Max	Watts CW Max	Weight Oz Nom	Dimensions L" W" H"		
.55-1.1	17	0.7	1.35	300	28	5.37	5.25	1.12
1.0-2.0	18	0.5	1.30	150	16	3.00	2.98	1.02
1.5-3.0	18	0.5	1.30	125	12	2.32	2.37	.75
2.0-4.0	20	0.4	1.25	100	6	1.75	1.75	.69
2.6-5.2	20	0.4	1.25	75	5	1.31	1.38	.63
3.0-6.0	20	0.4	1.25	75	5	1.62	1.72	.69
4.0-8.0	20	0.4	1.25	50	4	.88	1.12	.69
7.0-12.4	18	0.5	1.30	35	4	.88	1.10	.69
8.0-16.0	17	0.7	1.35	35	1	.63	.81	.54
8.0-18.0	15	0.8	1.50	35	1	.63	.81	.54
12.0-18.0	17	0.6	1.35	25	1	.55	.71	.50

NOTE : Screening as MIL-STD-202 AND MIL-STD-883.



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MULTI-JUNCTION UNITS

TB designs and manufactures a large variety of coaxial and waveguide multi-junction circulators for use with tunnel diode, parametric and other negative resistance type amplifiers.

These circulators are designed to provide optimum single tuned characteristic response of amplifier port impedance vs. frequency. Insertion loss between source input and amplifier port is minimized for best noise figure performance. Maximum isolation between source, amplifier and output load port is furnished for maximum stability and gain shaping.

Many units in various configurations are available in the frequency range of .4 to 40.0 GHz. Units can be supplied with the proper combination of frequency, band-width and temperature range, insertion loss between source and amplifier (single junction) of less than 0.2 dB can be provided.

COAXIAL TO WAVEGUIDE UNITS

TB ferrite circulators and isolators efficiently combine single and multiple coaxial junction circulators with waveguide transitions. This series of units provides a means of interconnecting waveguide and coaxial transmission lines with a ferrite circulator or isolator.

These units are available from 1.0 through 18.0 GHz, and are suited for use in parametric and tunnel diode amplifiers. They can be used as isolators and duplexers in many systems applications.

Bulky waveguide units can be replaced or retrofitted by more compact, light weight equivalents. Intricate and complex variations having three or more ports, can be furnished to customer specifications.

Special options available include: bias injection, DC blocking, removable connectors, magnetic shielding, integral terminations and choice of coaxial connectors, waveguide and flange types.

CUSTOM DEVICES

TB manufactures integrated assemblies to meet specific customer requirements in both waveguide and coaxial structures. These packages include such component combinations as isolator-filters, circulator-coupler-detectors, isolator-switches, etc.

Since most package requirements cannot be met by interfacing standard catalog items, multiple components can be combined into ultra compact configurations.

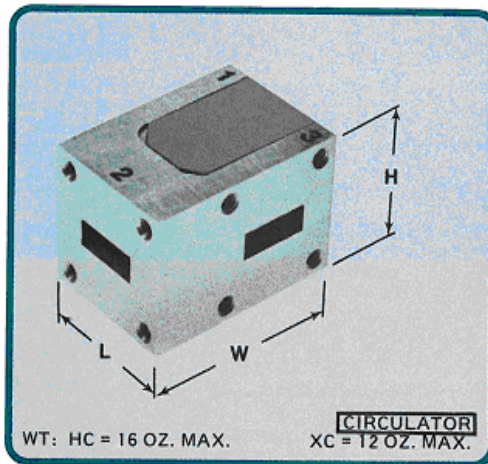
When requesting quotations on special assemblies, please provide as minimum information: frequency range, electrical characteristics, mechanical details and outline dimensions.

Assemblies are available to meet all MIL specifications including temperature, humidity, shock and vibration.



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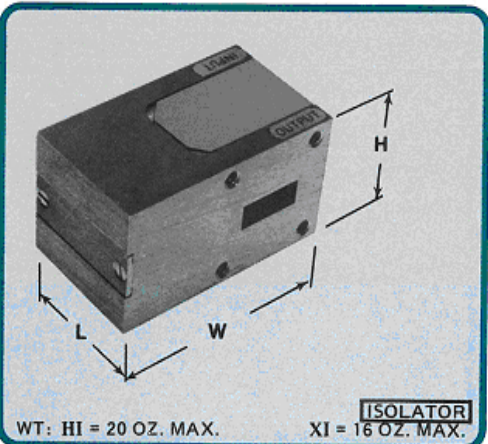
STANDARD WAVEGUIDE CIRCULATORS AND ISOLATORS



Outline Dimensions				
Band	L"	Circ W"	Iso W"	H"
H	1.875	2.50	3.25	1.88
X	1.625	2.00	2.38	1.63

Specifications			
Bandwidth GHz	Isolation dB Min	Ins Loss dB Max	VSWR Max
0.5	28	0.15	1.10
1.0	25	0.20	1.15
2.0	20	0.20	1.20

RF Power: 1 kW Peak and 10 W Average
Temperature Range: 0° to 50° C Min.
Flange Type: H Band - UG 138/U
X Band - UG 135/U
8 - 32 UNC - 2B Threads Typical



H BAND 7.05 - 10.00 GHz	X BAND 8.20 - 12.40 GHz
Frequency	Frequency
7.00 - 7.50	8.00 - 8.50
7.00 - 8.00	8.00 - 9.00
7.00 - 9.00	8.00 - 10.00
7.50 - 8.00	8.50 - 9.00
7.50 - 8.50	8.50 - 9.60
7.50 - 9.50	8.50 - 10.50
8.00 - 8.50	9.00 - 9.50
8.00 - 9.00	9.00 - 10.00
8.00 - 10.00	9.00 - 11.00
8.50 - 9.00	9.50 - 10.00
8.50 - 9.60	9.50 - 10.50
9.00 - 9.50	9.50 - 11.50
9.00 - 10.00	10.00 - 10.50
9.50 - 10.00	10.00 - 11.00
	10.00 - 12.00
	10.50 - 11.00
	10.50 - 11.50
	10.50 - 12.50
	11.00 - 11.50
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	11.50 - 12.00
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	12.00 - 12.50

NOTE : Screening as MIL-STD-202 AND MIL-STD-883.

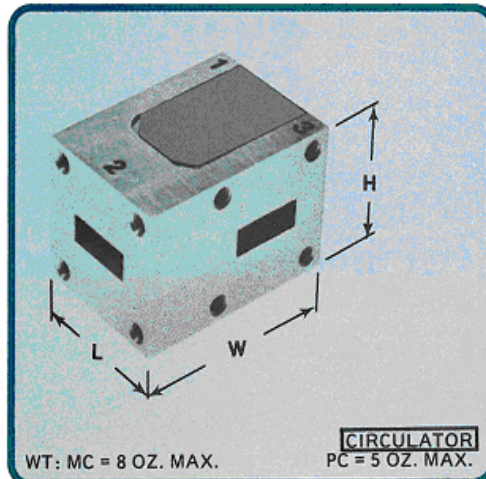


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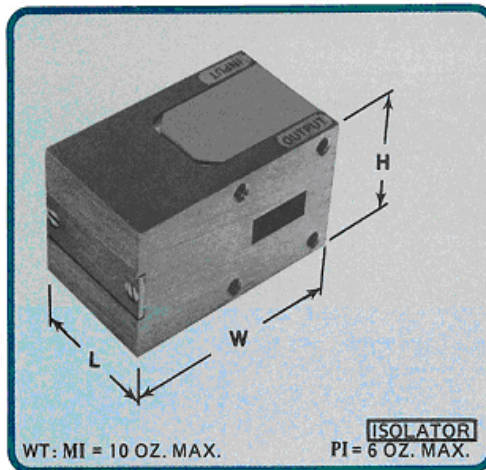
STANDARD WAVEGUIDE CIRCULATORS AND ISOLATORS



Outline Dimensions				
Band	L"	Circ W"	Iso W"	H"
M	1.500	1.88	2.25	1.50
P	1.312	1.75	2.13	1.32

Specifications				
Bandwidth GHz	Isolation dB Min	Ins Loss dB Max	VSWR Max	
0.5	28	0.25	1.10	
1.0	25	0.30	1.15	
2.0	20	0.30	1.20	

RF Power: 1 kW Peak and 10 W Average
Temperature Range: 0° to 50° C Min.
Flange Type: M Band — WR 75
P Band — UG 1665/U
6-32 UNC - 2B Threads Typical



M BAND 10.00 - 15.00 GHz	P BAND 12.40 - 18.00 GHz
Frequency	Frequency
10.00 - 10.50	12.40 - 13.00
10.00 - 11.00	12.40 - 13.50
10.00 - 12.00	12.40 - 14.50
10.50 - 11.00	13.00 - 13.50
10.50 - 11.50	13.00 - 14.00
10.50 - 12.50	13.00 - 15.00
11.00 - 11.50	13.50 - 14.00
11.00 - 12.00	13.50 - 14.50
11.00 - 13.00	13.50 - 15.50
11.50 - 12.00	14.00 - 14.50
11.50 - 12.50	14.00 - 15.00
11.50 - 13.50	14.00 - 16.00
12.00 - 12.50	14.50 - 15.00
12.00 - 13.00	14.50 - 15.50
12.00 - 14.00	14.50 - 16.50
12.50 - 13.00	15.00 - 15.50
12.50 - 13.50	15.00 - 16.00
12.50 - 14.50	15.00 - 17.00
13.00 - 13.50	15.50 - 16.00
13.00 - 14.00	15.50 - 16.50
13.00 - 15.00	15.50 - 17.50
13.50 - 14.00	16.00 - 16.50
13.50 - 14.50	16.00 - 17.00
14.00 - 14.50	16.00 - 18.00
14.00 - 15.00	16.50 - 17.00
14.50 - 15.00	16.50 - 17.50
	17.00 - 17.50
	17.00 - 18.00
	17.50 - 18.00

NOTE : Screening as MIL-STD-202 AND MIL-STD-883.



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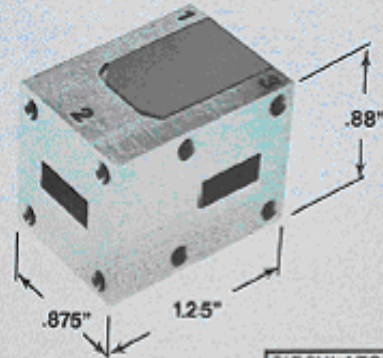
STANDARD WAVEGUIDE CIRCULATORS AND ISOLATORS

K BAND

18.00-26.50 GHz

Frequency Model No.*

18.00-19.00
 18.00-20.00
 18.50-19.50
 18.50-20.50
 19.00-20.00
 19.00-21.00
 19.50-20.50
 19.50-21.50
 20.00-21.00
 20.00-22.00
 20.50-21.50
 20.50-22.50
 21.00-22.00
 21.00-23.00
 21.50-22.50
 21.50-23.50
 22.00-23.00
 22.00-24.00
 22.50-23.50
 22.50-24.50
 23.00-24.00
 23.00-25.00
 23.50-24.50
 23.50-25.50
 24.00-25.00
 24.00-26.00
 24.50-25.50
 24.50-26.50
 25.00-26.00
 25.50-26.50

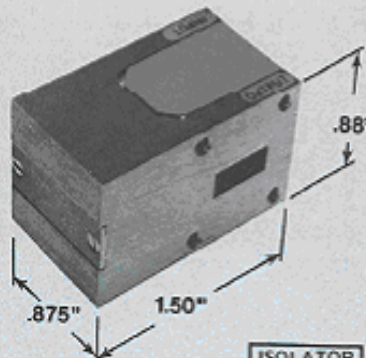


CIRCULATOR
 WT: 1.75 OZ. MAX.

Specifications

Bandwidth GHz	Isolation dB Min	Ins Loss dB Max	VSWR Max
1.0	25	0.30	1.15
2.0	20	0.40	1.20

RF Power: 1 kW Peak and 5 W Average.
 Temperature Range: -40° to +85° C.
 Flange Type: UG 597/U with 4-40 UNC-2B Threads.



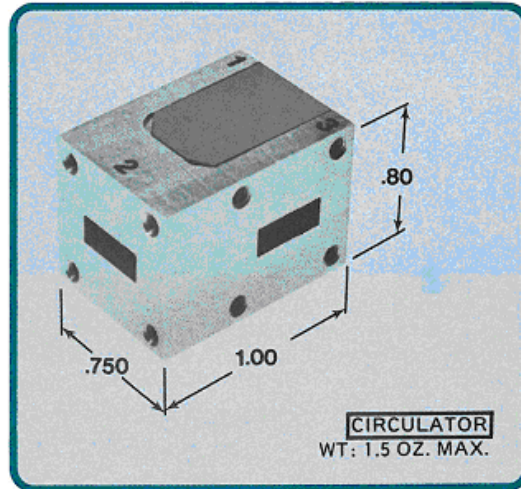
ISOLATOR
 WT: 2.25 OZ. MAX.

NOTE : Screening as MIL-STD-202 AND MIL-STD-883.



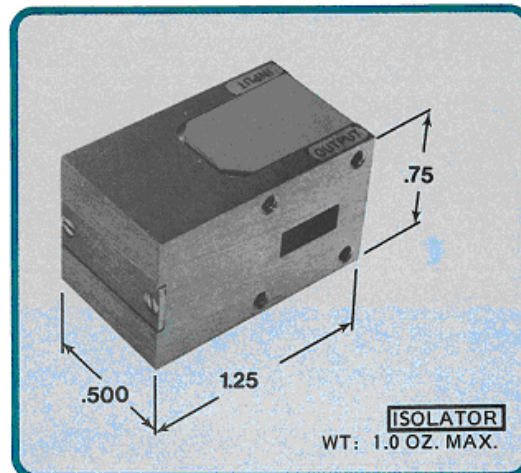
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STANDARD WAVEGUIDE CIRCULATORS AND ISOLATORS



Specifications			
Bandwidth	Isolation	Ins Loss	VSWR
GHz	dB Min	dB Max	Max
0.5	30	0.35	1.15
1.0	25	0.40	1.20
2.0	20	0.50	1.25

RF Power: 1 kW Peak and 5 W Average.
Temperature Range: -40° to +85° C.
Flange Type: UG 599/U with 4-40 UNC-2B Thds.



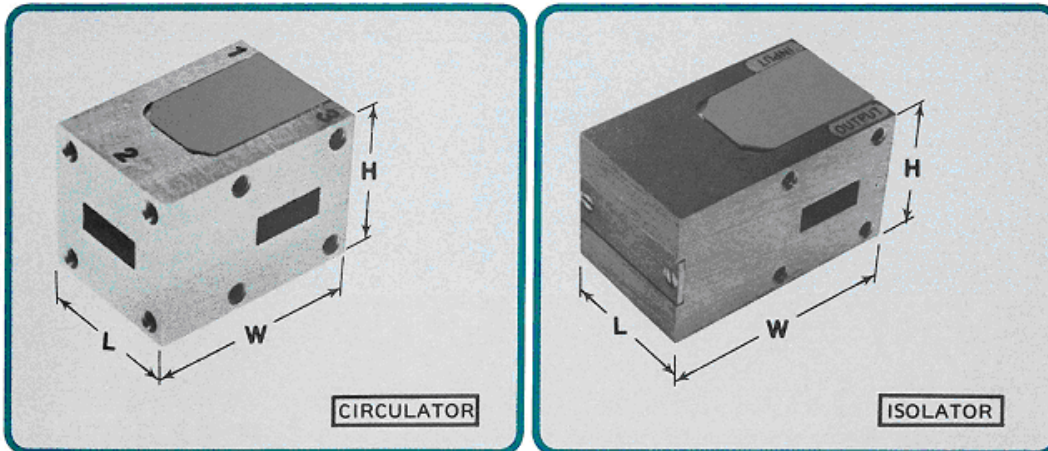
R BAND	
26.50 - 40.00 GHz	
Frequency	Frequency
26.50-27.00	33.00-33.50
26.50-27.50	33.00-34.00
26.50-28.50	33.00-35.00
27.00-27.50	33.50-34.00
27.00-28.00	33.50-34.50
27.00-29.00	33.50-35.50
27.50-28.00	34.00-34.50
27.50-28.50	34.00-35.00
27.50-29.50	34.00-36.00
28.00-28.50	34.50-35.00
28.00-29.00	34.50-35.50
28.00-30.00	34.50-36.50
28.50-29.00	35.00-35.50
28.50-29.50	35.00-36.00
28.50-30.50	35.00-37.00
29.00-29.50	35.50-36.00
29.00-30.00	35.50-36.50
29.00-31.00	35.50-37.50
29.50-30.00	36.00-36.50
29.50-30.50	36.00-37.00
29.50-31.50	36.00-38.00
30.00-30.50	36.50-37.00
30.00-31.00	36.50-37.50
30.00-32.00	36.50-38.50
30.50-31.00	37.00-37.50
30.50-31.50	37.00-38.00
30.50-32.50	37.00-39.00
31.00-31.50	37.50-38.00
31.00-32.00	37.50-38.50
31.00-33.00	37.50-39.50
31.50-32.00	38.00-38.50
31.50-32.50	38.00-39.00
31.50-33.50	38.00-40.00
32.00-32.50	38.50-39.00
32.00-33.00	38.50-39.50
32.00-34.00	39.00-39.50
32.50-33.00	39.00-40.00
32.50-33.50	39.50-40.00
32.50-34.50	

NOTE : Screening as MIL-STD-202 AND MIL-STD-883.



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BROAD BAND WAVEGUIDE CIRCULATORS AND ISOLATORS



Band	Frequency GHz	Isolation dB Min	Ins Loss dB Max	VSWR Max	Flange Type	Weight Oz Max	Dimensions L" W" H"		
X	8.20-12.40	20	0.50	1.20:1	UG 135/U	10 12	1.750 1.750	2.25 3.25	1.63 1.63
P	12.40-18.00	18	0.50	1.30:1	UG 1665/U	9.0 11	1.312 1.312	1.75 2.50	1.32 1.32
K	18.00-26.5	16	0.50	1.35:1	UG 597/U	3.0 3.5	1.000 1.000	1.25 1.75	1.25 1.25
R	26.50-31.50	18	0.50	1.30:1	UG 599/U	1.5 2.0	0.750 0.750	1.00 1.50	0.80 0.80
R	29.50-34.00	18	0.50	1.30:1	UG 599/U	1.5 2.0	0.750 0.750	1.00 1.50	0.80 0.80
R	31.50-36.00	18	0.50	1.30:1	UG 599/U	1.5 2.0	0.750 0.750	1.00 1.50	0.80 0.80
R	34.00-38.00	18	0.50	1.30:1	UG 599/U	1.5 2.0	0.750 0.750	1.00 1.50	0.80 0.80
R	36.00-40.00	18	0.50	1.30:1	UG 599/U	1.5 2.0	0.750 0.750	1.00 1.50	0.80 0.80

- RF Power: 1 kW Peak typical all units; 10W Average at X and P Band with 5 W Average at K and R Band.
- Temperature Range: -40° to +85° C Typical.
- Flange Holes: UNC - 2B threads, standard.
- Flange Thread Option: Non-locking steel inserts, add suffix "H" to Model Number. (i.e. 100RIH)

NOTE : Screening as MIL-STD-202 AND MIL-STD-883.

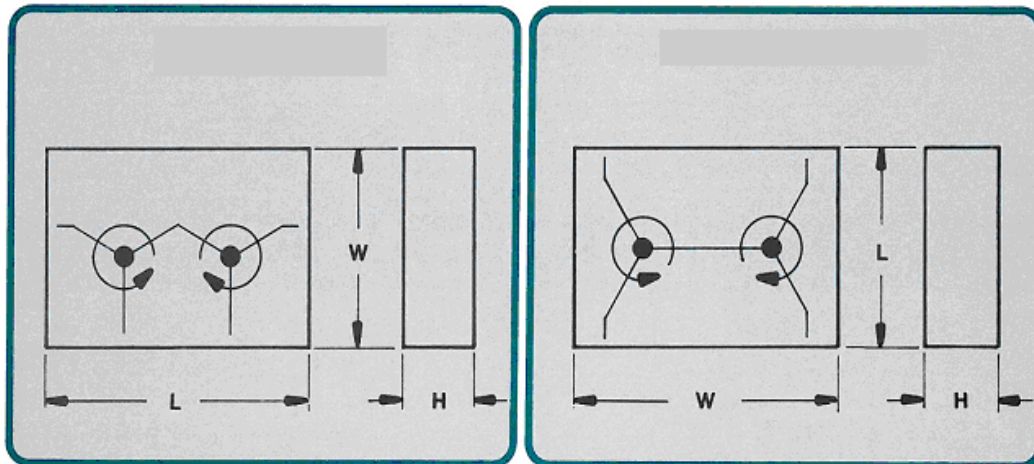


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STANDARD 4-PORT WAVEGUIDE CIRCULATORS



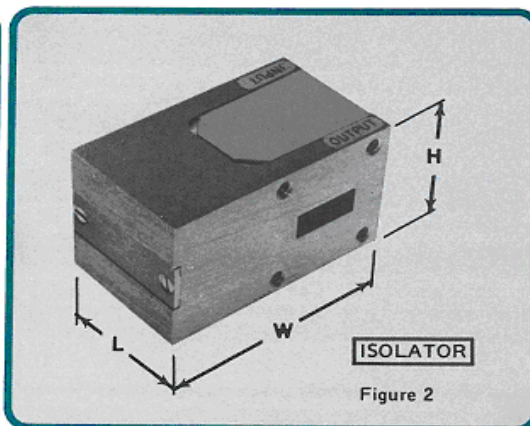
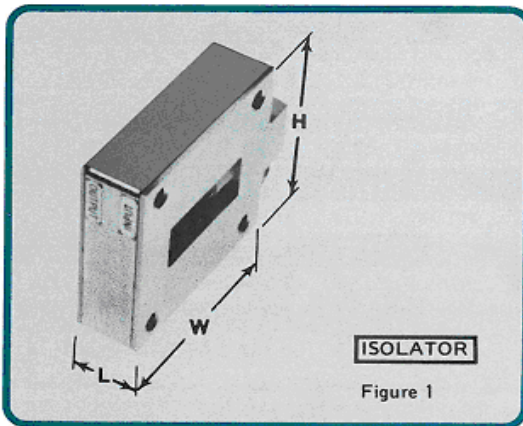
Band	Frequency Range (GHz)	Flange Type	Weight Oz Max	Dimensions		
				L"	W"	H"
H	7.05 - 10.00	UG 138/U	28	4.125	2.50	1.88
				1.875	5.00	1.88
X	8.20 - 12.40	UG 135/U	20	3.500	2.00	1.63
				1.625	4.00	1.63
M	10.00 - 15.00	WR 75	16	3.062	1.88	1.50
				1.500	3.75	1.50
P	12.40 - 18.00	UG 1665/U	9	2.687	1.75	1.32
				1.312	3.38	1.32
K	18.00 - 26.50	UG 597/U	5	2.000	1.25	0.88
				0.875	2.13	0.88
R	26.50 - 40.00	UG 599/U	4	1.562	1.00	0.80
				0.750	1.75	0.80

1. Bandwidths and specifications assigned at factory for all units. (Check Std. Circulators for guidelines.)
2. Terminated ports or Internal terminations require additional length to dimensions shown. (Check with factory for dimensions.)
3. Standard Circulation as illustrated in above diagrams. (i.e. CCW Junction 1 and CW Junction 2.) Specify on P.O. if circulation other than standard is required. UNC - 2B threaded flange holes standard.
4. Helicoil inserts are available on all units listed at a nominal cost.

NOTE : Screening as MIL-STD-202 AND MIL-STD-883.



MINIATURE WAVEGUIDE ISOLATORS



Band	Frequency Range (GHz)	B W MHz	Isolation dB Max	Ins dB Max	Loss VSWR Max	Flange Type	Wt Oz Max	Dimensions L"	W"	H"	Figure
H	7.05-10.00	100 200	25 20	0.4 0.5	1.20 1.30	UG 138/U	2.8	.625	2.25	1.88	1
X	8 20-12.40	100 200	23 20	0.4 0.5	1.20 1.25	UG 135/U	2.3	.500	1.90	1.63	1
P	12.40-18.00	100 200	25 20	0.4 0.5	1.15 1.20	UG 1665/U	1.5	.500	1.63	1.32	1
K	18.00-26.50	250 500	25 20	0.3 0.4	1.15 1.20	UG 597/U	1.7	.687	1.50	0.88	2

NOTES:

- RF Power: 1 kW Peak and 10 W Average Bands H, X, and K.
5 W Average Band P.
2 W Reverse Maximum all Bands.
- Temperature Range: -40° to +85° C Typical
- Flange Holes: UNC - 2B threads Standard.
- Tabulated Model Number Data Sheets available from factory upon special request.

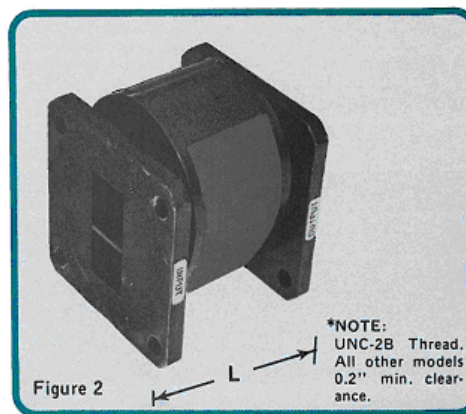
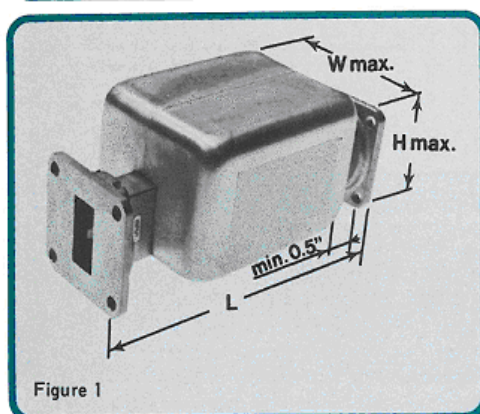
NOTE : Screening as MIL-STD-202 AND MIL-STD-883.



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FULL BANDWIDTH WAVEGUIDE ISOLATORS (FIG. 1)

Band	Frequency GHz	Isolation dB Min	Ins loss dB Max	VSWR Bilateral Max	Power kW Pk	Max W Ave	Flange Type	Weight Pounds	Dimensions L" W" H"		
C	3.95-5.85	30	1.0	1.15	20	20	UG149A/U	5.0	8.250	3.25	3.75
J	5.85-8.20	30	1.0	1.15	20	20	UG344/U	3.5	6.125	2.60	3.30
H	7.05-10.0	30	1.0	1.15	10	20	UG51/U	2.0	6.000	2.50	2.70
X	8.20-12.4	30	1.0	1.15	10	20	UG39/U	1.9	5.000	2.50	2.50
M	10.0-15.0	30	1.0	1.15	10	20	WR-75	1.9	5.000	2.50	2.25
P	12.4-18.0	30	1.0	1.15	10	20	UG419/U	1.8	5.000	2.50	2.25
O	15.0-22.0	30	1.0	1.15	5	10	WR-51	1.8	5.000	3.00	2.25
K	18.0-26.5	30	1.2	1.20	5	10	UG595/U	1.8	4.500	3.00	2.25
R	26.5-40.0	20	1.2	1.25	2	5	UG599/U	1.5	3.750	2.80	2.50



REDUCED LENGTH — HI PERFORMANCE — WAVEGUIDE ISOLATORS (FIG. 2)

Band	Frequency GHz	Isolation dB Min	Ins loss dB Max	VSWR Bilateral Max	Power kW Pk	Max W Ave	Flange Type	Weight Pounds	L"
J	5.925-6.425	25	0.50	1.05	20	20	UG344/U	1.5	5.00
X	8.5-9.6	30	0.60	1.10	10	20	UG39/U	0.9	3.00
X	8.2-8.7	20	0.45	1.10	10	20	UG135/U*	0.5	1.50
X	8.5-9.6	20	0.45	1.25	10	20	UG135/U*	0.5	1.50
X	8.7-9.2	25	0.50	1.10	10	20	UG135/U*	0.5	1.50
X	9.2-9.7	30	0.50	1.10	10	20	UG135/U*	0.5	1.50
X	9.7-10.2	30	0.50	1.10	10	20	UG135/U*	0.5	1.50
X	10.2-10.7	30	0.50	1.10	10	20	UG135/U*	0.5	1.50
P	16.0-17.0	25	0.60	1.10	10	20	UG419/U	1.3	3.00
K	18.0-22.0	25	0.60	1.15	5	10	UG595/U	1.3	3.00
R	27.0-31.0	25	0.60	1.15	2	5	UG599/U	1.3	3.00

NOTE : Screening as MIL-STD-202 AND MIL-STD-883.

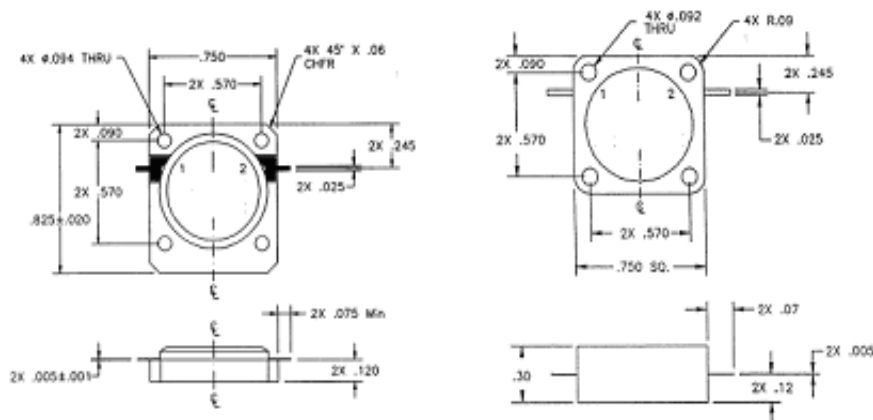


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DROP-IN ISOLATOR

FREQUENCY GHz	ISOLATION dB, MIN	INSERTION LOSS dB, MAX	VSWR MAX	POWER, WATTS		DIMENSIONS IN INCHES
				FWD	REV	
0.234 - 0.246	20	0.500	1.250:1	30	30	1.180 x 1.180 x 0.510
0.245 - 0.258	20	0.500	1.250:1	30	30	1.180 x 1.180 x 0.510
0.258 - 0.270	20	0.500	1.250:1	30	30	1.180 x 1.180 x 0.510
0.270 - 0.284	20	0.500	1.250:1	30	30	1.180 x 1.180 x 0.510
0.284 - 0.298	20	0.500	1.250:1	30	30	1.180 x 1.180 x 0.510
0.298 - 0.314	20	0.500	1.250:1	30	30	1.180 x 1.180 x 0.510
0.307 - 0.323	20	0.500	1.250:1	30	30	1.180 x 1.180 x 0.510
0.320 - 0.330	20	0.500	1.250:1	30	30	1.180 x 1.180 x 0.510
0.326 - 0.346	20	0.500	1.250:1	30	30	1.180 x 1.180 x 0.510
0.346 - 0.364	20	0.500	1.250:1	30	30	1.180 x 1.180 x 0.510
0.365 - 0.385	20	0.500	1.250:1	30	30	1.180 x 1.180 x 0.510
0.380 - 0.400	20	0.500	1.250:1	30	30	1.180 x 1.180 x 0.510
0.380 - 0.430	18	0.500	1.250:1	90	10	1.990 x 1.950 x 0.450
0.430 - 0.450	20	0.500	1.250:1	30	30	1.180 x 1.180 x 0.510
0.450 - 0.470	20	0.500	1.250:1	30	30	1.180 x 1.180 x 0.510
0.470 - 0.520	20	0.500	1.250:1	90	10	1.990 x 1.950 x 0.450
0.520 - 0.576	20	0.500	1.250:1	90	10	1.990 x 1.950 x 0.450
0.576 - 0.638	20	0.500	1.250:1	90	10	1.990 x 1.950 x 0.450
0.638 - 0.704	20	0.500	1.250:1	90	10	1.990 x 1.950 x 0.450
0.704 - 0.800	18	0.500	1.250:1	90	10	1.990 x 1.950 x 0.450
0.800 - 0.960	15	0.800	1.450:1	50	10	1.000 x 1.250 x 0.230
0.824 - 0.960	18	0.500	1.300:1	50	10	1.250 x 1.250 x 0.230
0.820 - 0.960	20	0.500	1.250:1	10	10	1.000 x 1.000 x 0.230
0.869 - 0.894	23	0.400	1.250:1	65	65	1.000 x 1.250 x 0.230
0.869 - 0.894	22	0.300	1.200:1	100	65	1.250 x 1.250 x 0.230
0.925 - 0.960	23	0.400	1.180:1	100	65	1.000 x 1.250 x 0.230
1.030 - 1.090	20	0.400	1.250:1	170	50	1.000 x 1.375 x 0.300
1.100 - 1.300	18	0.500	1.300:1	50	10	1.000 x 1.000 x 0.300
1.280 - 1.430	18	0.600	1.300:1	50	10	0.750 x 0.750 x 0.300
1.375 - 1.535	20	0.500	1.250:1	50	10	0.750 x 0.750 x 0.300

TYPICAL PACKAGE DIMENSIONS



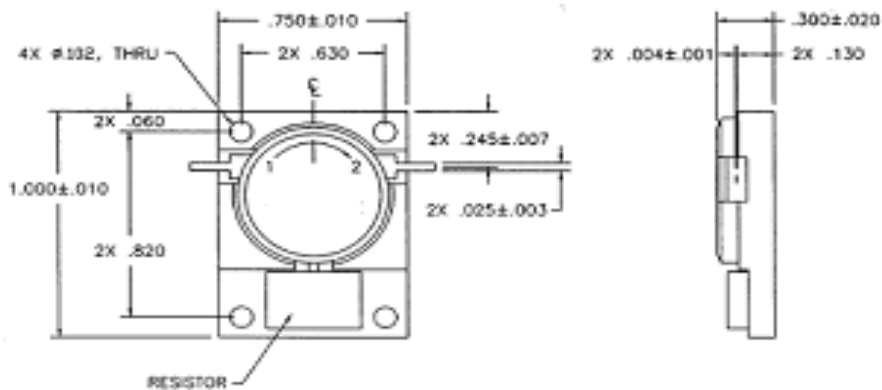


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DROP-IN ISOLATOR

FREQUENCY GHz	ISOLATION dB, MIN	INSERTION LOSS dB, MAX	VSWR MAX	POWER WATTS		DIMENSIONS IN INCHES
				FWD	REV	
1.400 - 1.600	18	0.400	1.300:1	50	10	0.750 x 0.750 x 0.300
1.625 - 1.660	20	0.300	1.200:1	80	70	0.750 x 1.000 x 0.300
1.600 - 1.800	20	0.500	1.250:1	50	10	0.750 x 0.750 x 0.300
1.700 - 1.900	20	0.500	1.250:1	50	10	0.750 x 0.750 x 0.300
1.700 - 1.800	20	0.500	1.250:1	50	10	0.750 x 0.750 x 0.300
1.840 - 1.870	22	0.300	1.200:1	125	70	0.750 x 1.000 x 0.300
1.930 - 1.990	22	0.300	1.200:1	65	65	0.750 x 0.825 x 0.220
1.800 - 2.000	20	0.500	1.250:1	50	10	0.750 x 0.750 x 0.300
1.900 - 2.100	20	0.300	1.250:1	50	10	0.750 x 0.750 x 0.220
2.110 - 2.170	22	0.300	1.200:1	125	70	0.750 x 1.000 x 0.300
2.100 - 2.200	20	0.300	1.180:1	125	125	0.750 x 1.000 x 0.300
2.000 - 2.500	20	0.500	1.250:1	50	10	0.875 x 0.875 x 0.345
2.500 - 2.700	20	0.400	1.200:1	100	70	0.750 x 1.250 x 0.310
2.700 - 2.900	20	0.300	1.200:1	50	10	0.750 x 0.750 x 0.300
2.900 - 3.200	20	0.500	1.250:1	50	10	0.750 x 0.750 x 0.300
3.100 - 3.500	18	0.600	1.300:1	50	10	0.500 x 0.500 x 0.180
3.200 - 3.600	20	0.500	1.200:1	50	10	0.750 x 0.750 x 0.250
3.600 - 4.200	18	0.500	1.300:1	50	10	0.500 x 0.500 x 0.180
4.200 - 4.400	20	0.400	1.250:1	50	10	0.500 x 0.500 x 0.210
4.400 - 5.000	18	0.400	1.300:1	50	10	0.500 x 0.500 x 0.180
5.000 - 6.000	20	0.500	1.200:1	50	10	0.500 x 0.500 x 0.180
6.000 - 7.000	19	0.500	1.200:1	50	10	0.500 x 0.500 x 0.180
7.000 - 8.500	20	0.500	1.200:1	50	10	0.500 x 0.500 x 0.180
5.800 - 6.400	20	0.500	1.250:1	50	10	0.500 x 0.500 x 0.180
6.400 - 7.200	20	0.500	1.220:1	50	10	0.500 x 0.500 x 0.180
9.000 - 10.000	20	0.050	1.500:1	50	10	0.500 x 0.500 x 0.180
10.000 - 11.000	20	0.500	1.250:1	50	10	0.500 x 0.500 x 0.180
10.950 - 12.750	21	0.500	1.250:1	50	10	0.500 x 0.500 x 0.180
13.750 - 14.500	20	0.500	1.250:1	50	10	0.500 x 0.500 x 0.180
13.750 - 14.500	20	0.500	1.250:1	50	21	0.500 x 0.750 x 0.180
14.500 - 15.500	20	0.500	1.250:1	10	1	0.250 x 0.250 x 0.130

TYPICAL PACKAGE DIMENSIONS





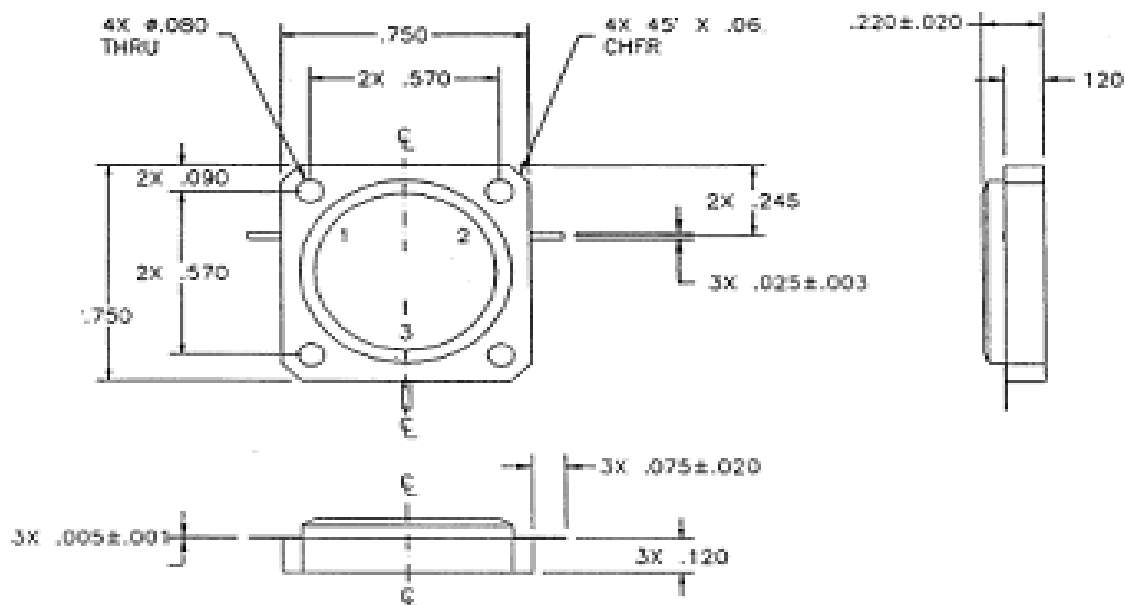
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OP - IN C I R C U L A T O R S

DROP-IN ISOLATORS/CIRCULATORS .2 GHZ TO 18 GHZ

STANDARD UNITS HAVE DROP-IN TABS AND A STANDARD LOAD THAT WILL HANDLE 100 WATTS (PK), 10 WATTS (AVG). OPTIONS AVAILABLE UPON REQUEST INCLUDE: TERMINATION TYPE AND LOCATION, TAB TYPE AND LOCATION, POWER HANDLING, MOUNTING HOLES, BROADER TEMPERATURE RANGES, RF AND MAGNETIC SHIELDING, AND DIRECTION OF CIRCULATION.

TYPICAL PACKAGE DIMENSIONS





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DROP-IN CIRCULATOR

FREQUENCY GHz	ISOLATION dB, MIN	INSERTION Loss dB, MAX	VSWR MAX	POWER WATTS	DIMENSIONS IN INCHES
0.234 - 0.246	20	0.500	1.250:1	30	1.180 X 1.180 X 0.510
0.245 - 0.258	20	0.500	1.250:1	30	1.180 X 1.180 X 0.510
0.258 - 0.270	20	0.500	1.250:1	30	1.180 X 1.180 X 0.510
0.270 - 0.284	20	0.500	1.250:1	30	1.180 X 1.180 X 0.510
0.284 - 0.298	20	0.500	1.250:1	30	1.180 X 1.180 X 0.510
0.298 - 0.314	20	0.500	1.250:1	30	1.180 X 1.180 X 0.510
0.307 - 0.323	20	0.500	1.250:1	30	1.180 X 1.180 X 0.510
0.320 - 0.330	20	0.500	1.250:1	30	1.180 X 1.180 X 0.510
0.326 - 0.346	20	0.500	1.250:1	30	1.180 X 1.180 X 0.510
0.346 - 0.364	20	0.500	1.250:1	30	1.180 X 1.180 X 0.510
0.365 - 0.385	20	0.500	1.250:1	30	1.180 X 1.180 X 0.510
0.380 - 0.400	20	0.500	1.250:1	30	1.180 X 1.180 X 0.510
0.380 - 0.430	18	0.500	1.250:1	90	1.990 X 1.950 X 0.450
0.430 - 0.450	20	0.500	1.250:1	30	1.180 X 1.180 X 0.510
0.450 - 0.470	20	0.500	1.250:1	30	1.180 X 1.180 X 0.510
0.470 - 0.520	20	0.500	1.250:1	90	1.990 X 1.950 X 0.450
0.520 - 0.576	20	0.500	1.250:1	90	1.990 X 1.950 X 0.450
0.576 - 0.638	20	0.500	1.250:1	90	1.990 X 1.950 X 0.450
0.638 - 0.704	20	0.500	1.250:1	90	1.990 X 1.950 X 0.450
0.704 - 0.800	18	0.500	1.250:1	90	1.990 X 1.950 X 0.450
0.800 - 1.000	15	0.500	1.250:1	50	1.250 X 1.250 X 0.365
0.824 - 0.960	18	0.500	1.300:1	50	1.250 X 1.250 X 0.365
0.820 - 0.960	20	0.300	1.250:1	50	1.000 X 1.000 X 0.230
0.869 - 0.894	23	0.200	1.150:1	50	1.250 X 1.250 X 0.365
0.869 - 0.894	22	0.300	1.200:1	50	1.250 X 1.250 X 0.365
0.925 - 0.960	23	0.300	1.150:1	50	1.250 X 1.250 X 0.365
1.030 - 1.090	20	0.500	1.250:1	50	1.000 X 1.000 X 0.300
1.100 - 1.300	20	0.500	1.250:1	50	1.000 X 1.000 X 0.300
1.200 - 1.400	20	0.300	1.250:1	50	1.000 X 1.000 X 0.300
1.400 - 1.600	20	0.500	1.250:1	50	0.750 X 0.750 X 0.300
1.500 - 1.800	20	0.500	1.250:1	50	0.750 X 0.750 X 0.300
1.700 - 1.900	20	0.500	1.250:1	50	0.750 X 0.750 X 0.300
1.700 - 1.800	20	0.400	1.250:1	50	0.750 X 0.750 X 0.300
1.800 - 2.000	20	0.300	1.250:1	50	0.750 X 0.750 X 0.300
1.900 - 2.200	20	0.500	1.250:1	50	0.750 X 0.750 X 0.230
2.200 - 2.400	20	0.400	1.300:1	50	0.750 X 0.750 X 0.300
2.500 - 2.700	21	0.400	1.200:1	50	0.750 X 0.750 X 0.230
2.700 - 2.900	20	0.350	1.250:1	50	0.750 X 0.750 X 0.200
3.100 - 3.500	18	0.500	1.300:1	50	0.750 X 0.750 X 0.300
3.400 - 3.600	20	0.300	1.250:1	50	0.750 X 0.750 X 0.300
3.600 - 4.200	20	0.500	1.250:1	50	0.750 X 0.750 X 0.250
4.200 - 4.400	20	0.500	1.250:1	50	0.500 X 0.500 X 0.180
4.400 - 5.000	20	0.500	1.250:1	50	0.500 X 0.500 X 0.180
5.000 - 6.000	20	0.500	1.250:1	50	0.500 X 0.500 X 0.180
6.000 - 7.000	20	0.500	1.250:1	50	0.500 X 0.500 X 0.180
7.000 - 8.500	20	0.500	1.250:1	50	0.500 X 0.500 X 0.180
5.800 - 6.400	20	0.500	1.250:1	50	0.500 X 0.500 X 0.180
6.400 - 7.200	20	0.500	1.250:1	50	0.500 X 0.500 X 0.180
9.000 - 10.000	20	0.500	1.250:1	50	0.500 X 0.500 X 0.180
10.000 - 11.000	20	0.500	1.250:1	50	0.500 X 0.500 X 0.180
10.950 - 12.750	20	0.500	1.250:1	50	0.500 X 0.500 X 0.180
13.750 - 14.500	20	0.500	1.250:1	50	0.500 X 0.500 X 0.180
14.500 - 15.500	20	0.500	1.250:1	50	0.500 X 0.500 X 0.180

NOTE : Screening as MIL-STD-202 AND MIL-STD-883.