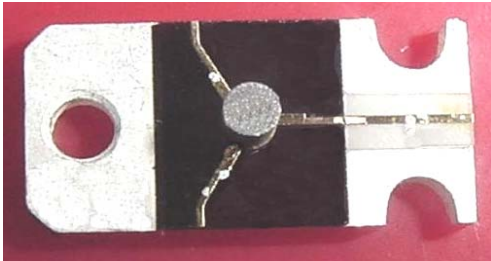


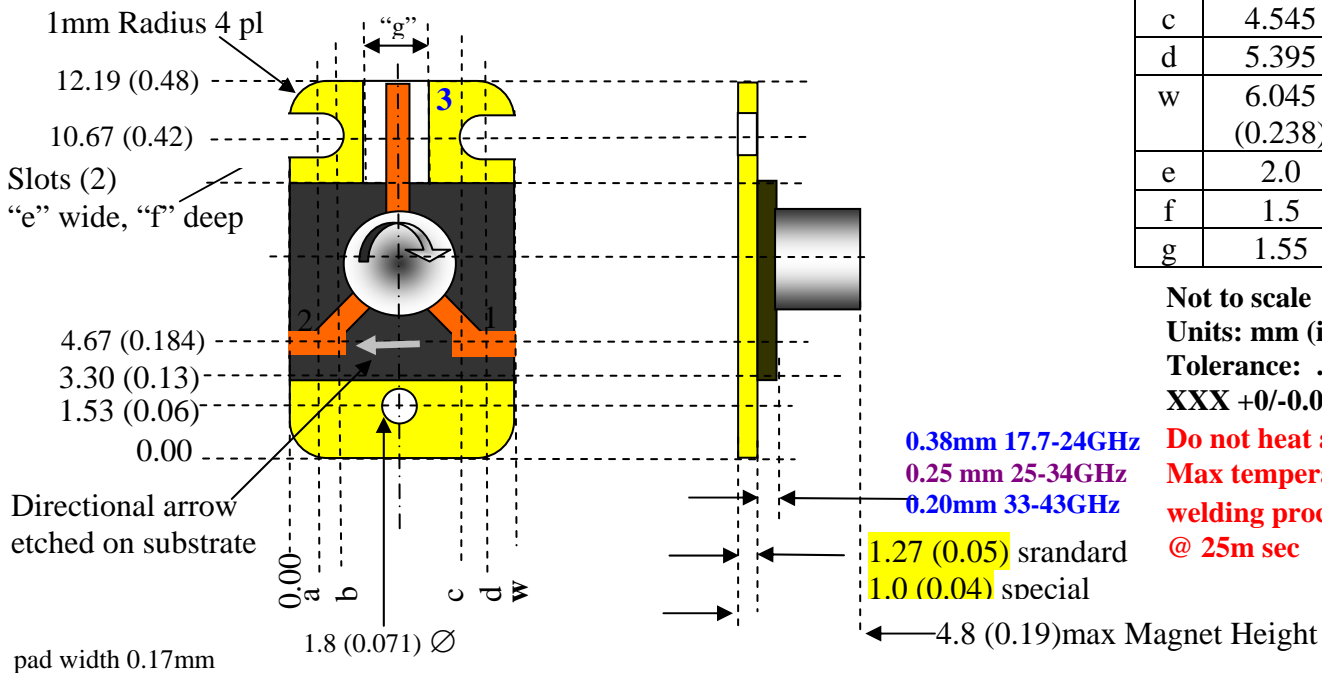
17.7-43GHz Microstrip Circulator on carrier MS21 & MS31 1 to 4 GHz Bandwidth

Part #: Frequency Range (GHz)-
Power-Rotation
RADC-35.0-36.5-MS31-2.0WR



Direction of RF:	
R	Clockwise
L	Counter Clockwise

	MS31	MS21
	17.7-34G	34-43G
a	0.65	0.0085
b	1.50	1.00
c	4.545	4.00
d	5.395	4.915
w	6.045 (0.238)	5.00 (0.197)
e	2.0	1.8
f	1.5	1.0
g	1.55	1.8



Not to scale
Units: mm (inch)
Tolerance: .XX ± ±0.03
XXX +0/-0.02 mm
Do not heat above 130°C
Max temperature during welding process +350°C
@ 25m sec

General Specifications:						Units
Bandwidth	1.0	1.5	2.0	3.0	4.0	GHz
Insertion loss (I.L.)	0.8	0.9	1.0	1.1	1.3	dB (maximum)
Isolation	20	20	20	20	16.5	dB (minimum)
VSWR	1.3	1.3	1.3	1.3	1.35	:1
Return loss	17.7	17.7	17.7	17.7	18.4	dB
Rated power- Forward	2.0	2.0	2.0	2.0	2.0	Watts (maximum)
Rated power- Reverse	2.0	2.0	2.0	2.0	2.0	Watts (maximum)
	b	b	b	b	b	

Standard Operating Temperature -40 to 75°C. Storage Temperature: -40 to 85°C
High temperature option (-HT): 85°C: (I.L. Spec. increases by 0.1 dB, isolation decreases to 18 dB VSWR < 1.3:1)

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Detailed Specifications

Model	Freq. GHz	Insert Loss <dB P1-P2	Insert Loss <dB P2-P3 P3-P1	Isol. >dB	Return loss >dB	VSWR :1	Power Fwd Watts	Power Rev Watts	Temperature °C	Code
MS31	18.86-19.26	0.8		20	17.7	1.3	2	2	-40 to +70	p
MS31	22-25	1.1	1.15	17	17.7	1.3	2	2	-40 to +70	p
MS31	23-25	0.8 0.9		20 20	17.7 19.2	1.30 1.25	10	1	+25 -30 to +60	b
MS31	24.0-25.5	0.8		20		1.25	2	2	-40 to +70	p
MS31	29.0-30.5	0.9		19	17.7	1.3	2	2	-40 to +70	p
MS21	33-35	1.0		18	17.7	1.3	2	2	-40 to +70	p
MS21	33.5-34.5	0.9		18	17.7	1.3	2	2	-40 to +70	e
MS21	34-36	1.0		20	17.7	1.3	4	4	-30 to +70	b
MS21	34-36 -55 to 85C	1.0 (1.3)	1.1	20 (18)	17.7 (15.6)	1.3 (1.4)	1	1	Room (-55 to 85)	b
MS21	34.35-34.65	0.7 (0.9)		23 (20)	20.8 (17.7)	1.2 (1.3)	5	5	Room (-30 to +70)	b
MS21	34.5-35.5	0.9		18	17.7	1.3	1	1	-30 to +70	e
MS21	35.4-35.6	0.9		17	16.7	1.35	0.5	0.53	-30 to +70	e
MS21	35.48-35.52	0.8		20	17.7	1.3	3	3	-30 to +70	b