



Precision Junction Circulators and Isolators

QJY/QJI

Characteristics

- ◆ Compact
- ◆ High Isolation
- ◆ Low Insertion Loss
- ◆ Broadband



Product Description

QuinStar Technology's **QJY** series **precision junction circulators** and **QJI** series **precision junction isolators** are available in seven waveguide bands covering the frequency range of 18 to 110 GHz. Single-junction isolators and single- and three- junction circulator versions are offered. These three-port Y-junction ferrite devices feature high isolation, low insertion loss, and broad bandwidth. The three-junction circulators effectively combine a standard circulator with input and output isolators in a compact package.

Junction circulators and isolators are used to provide load isolation in a wide variety of components including Gunn and IMPATT oscillators and amplifiers, upconverters and downconverters, power combiners, and also as duplexers at the antenna ports of millimeter-wave transceiver systems.

Specifications

FREQUENCY BAND		K	Ka	Q	U	V	E	W
Frequency Range (GHz)		18-26.5	26.5-40	33-50	40-60	50-75	60-90	75-110
Waveguide Size		WR-42	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10
Bandwidth (GHz min)		2	2	2	2	2	2	2
Isolation (dB min)	Single-Junction	20	20	20	20	20	18	18
	Three-Junction (Circulator Only)	35	35	35	35	35	35	35
Insertion Loss (dB max)	Single-Junction	0.3	0.5	0.5	0.6	0.7	0.8	1.0
	Three-Junction (Circulator Only)	1.0	1.0	1.1	1.2	1.3	1.5	1.6
VSWR (max)		1.2:1	1.2:1	1.2:1	1.2:1	1.3:1	1.3:1	1.3:1
Power Rating (Watts max), QJY Junction Circulator		10	8	8	6	5	5	4
Power Rating (Watts max), QJI Junction Isolator		3	3	2	2	1.5	1	1

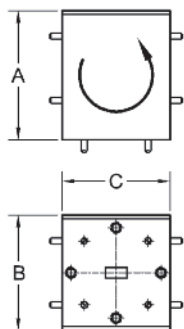
Other waveguide sizes are available.



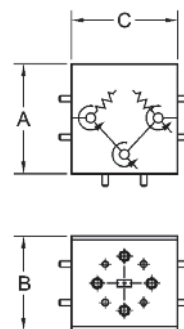
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Outline Drawings/Mechanical Specifications



Single-Junction Circulators and Isolators
(round flange pattern shown)



Three-Junction Circulators
(round flange pattern shown)

FREQUENCY BAND	WAVEGUIDE SIZE	FLANGE PATTERN	SINGLE JUNCTION OUTLINE DIMENSIONS, inches/mm			THREE-JUNCTION OUTLINE DIMENSIONS, inches/mm		
			A	B	C	A	B	C
K	WR-42	UG-595/U	1.20/30.5	0.88/22.4	1.00/25.4	1.50/38.1	1.20/30.5	2.00/50.8
Ka	WR-28	UG599/U	0.90/22.9	0.80/20.3	0.90/22.9	1.25/31.8	1.20/30.5	1.50/38.1
Q	WR-22	UG-383/U	1.45/36.8	1.20/30.5	1.13/28.7	1.25/31.8	1.20/30.5	1.50/38.1
U	WR-19	UG-383/U	1.45/36.8	1.20/30.5	1.13/28.7	1.25/31.8	1.20/30.5	1.50/38.1
V	WR-15	UG-385/U	1.05/26.7	0.85/21.6	1.00/25.4	1.14/29.0	0.98/24.9	1.10/27.9
E	WR-12	UG-387/U	1.05/26.7	0.85/21.6	1.00/25.4	1.14/29.0	0.98/24.9	1.10/27.9
W	WR-10	UG-387/U	1.05/26.7	0.85/21.6	1.00/25.4	1.14/29.0	0.98/24.9	1.10/27.9

Ordering Information

Model Number **QJ_ - AB CD E F**

model prefix

Y = circulator
I = isolator

center frequency rounded to nearest GHz

(A0 = 100 GHz, A1 = 101 GHz,
B0 = 110 GHz, etc.)

bandwidth rounded to nearest GHz

waveguide band designator

K = K-band V = V-band
A = Ka-band E = E-band
Q = Q-band W = W-band
U = U-band

number of junctions

1 = single
3 = three (circulators only)