

Coaxial Low Pass Filter

ZX75LP-264-S+

50Ω

DC to 264 MHz

The Big Deal

- High rejection
- Low Insertion loss, 1.1 dB typical in passband
- Fast roll-off
- Good VSWR
- Connectorized package



Generic photo used for illustration purposes only

CASE STYLE: KE1467

Product Overview

ZX75LP-264-S+ is a 50Ω low pass filter built in a connectorized package. Covering DC-264 MHz bandwidth, these units offer good matching within the passband and high rejection in stopband. This will find its applications in receivers and transmitters to suppress spurious emission and harmonics. It also finds application in ADC/DAC filtering and clock circuitry. It has repeatable performance across production lots and consistent performance across temperature.

Key Features

Feature	Advantages
Low passband insertion loss	Suitable for high performance application
Fast roll-off	Provides very good adjacent band rejection
Connectorized package	The connectorized package is easy to interface with other devices and well suited for test setups
Good VSWR	Provides good interface when used with other devices.

Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

Low Pass Filter

50Ω

DC to 264 MHz

ZX75LP-264-S+



Generic photo used for illustration purposes only

CASE STYLE: KE1467

Connectors	Model
SMA-MF	ZX75LP-264-S+

Features

- High rejection
- Low Insertion loss
- Fast roll-off
- Good VSWR
- Connectorized package

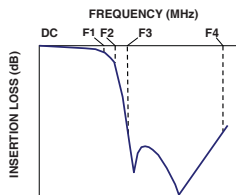
Applications

- ADC/DAC
- Clock circuitry
- Satellite
- Wireless communications
- Receivers / Transmitters

Functional Schematic



Typical Frequency Response



Electrical Specifications at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	DC-F1	—	1.1	2.0	dB
	Freq. Cut-Off	F2	—	3.0	—	dB
	VSWR	DC-F1	—	1.4	1.8	:1
Stop Band	Rejection Loss	F3-F4	20	30	—	dB
	VSWR	F3-F4	—	37	—	:1

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W max.

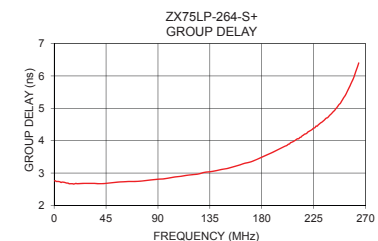
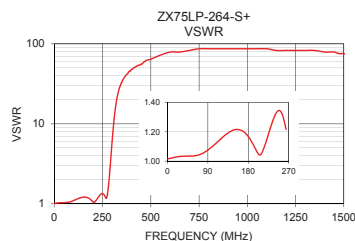
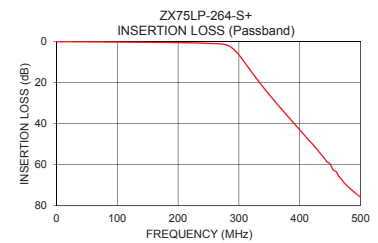
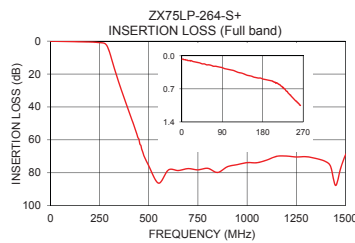
Permanent damage may occur if any of these limits are exceeded.

Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1	0.07	1.02	1	2.76
35	0.14	1.03	5	2.73
85	0.24	1.07	25	2.68
190	0.51	1.12	50	2.70
264	1.05	1.22	75	2.75
288	2.96	2.66	100	2.85
300	6.51	6.32	110	2.90
315	12.44	14.87	120	2.95
350	25.90	33.42	130	3.02
365	31.16	38.61	140	3.07
400	43.03	48.26	150	3.14
450	59.63	56.04	160	3.24
475	69.45	62.05	170	3.34
500	75.77	64.35	180	3.49
600	78.27	78.97	200	3.83
750	78.21	86.86	230	4.52
1000	73.82	86.86	240	4.82
1200	69.83	82.73	250	5.27
1300	70.23	82.73	260	5.98
1500	69.24	75.53	264	6.40

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications



Notes

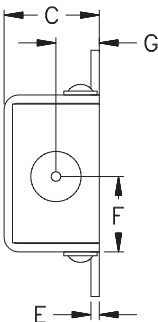
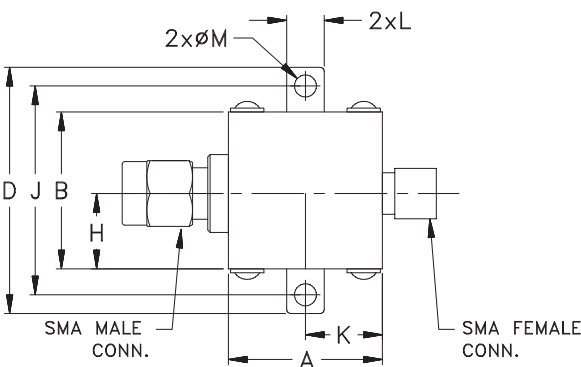
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
 B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
 C. The parts covered by this specification document are subject to Mini-Circuits' standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



Coaxial Connections

INPUT	SMA-Male
OUTPUT	SMA-Female

Outline Drawing



Outline Dimensions (inch mm)

A	B	C	D	E	F	G
.74	.75	.46	1.18	.04	.362	.21
18.80	19.05	11.68	29.97	1.02	9.19	5.33
H	J	K	L	M		Wt.
.362	1.00	.37	.18	.11		grams
9.19	25.40	9.40	4.57	2.79		24.4

Note: Please refer to case style drawing for details

Notes
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

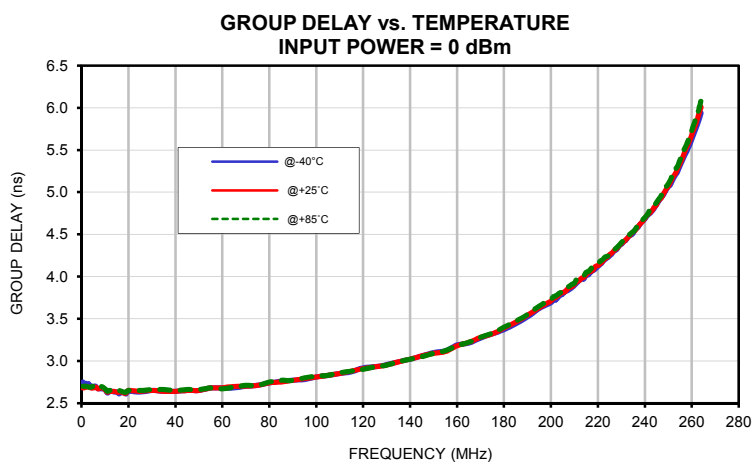
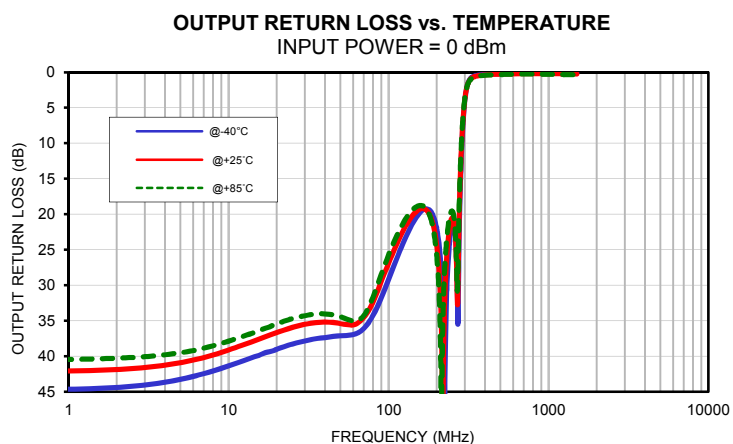
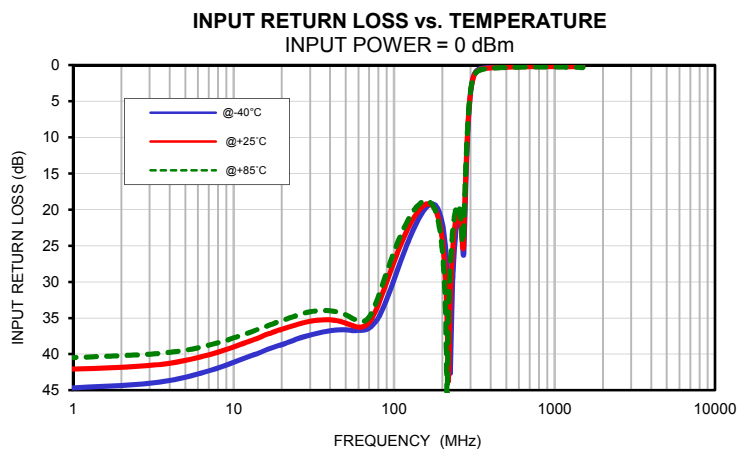
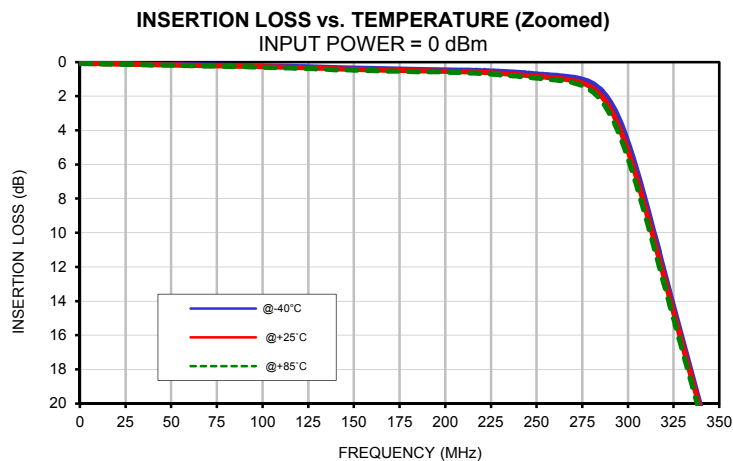
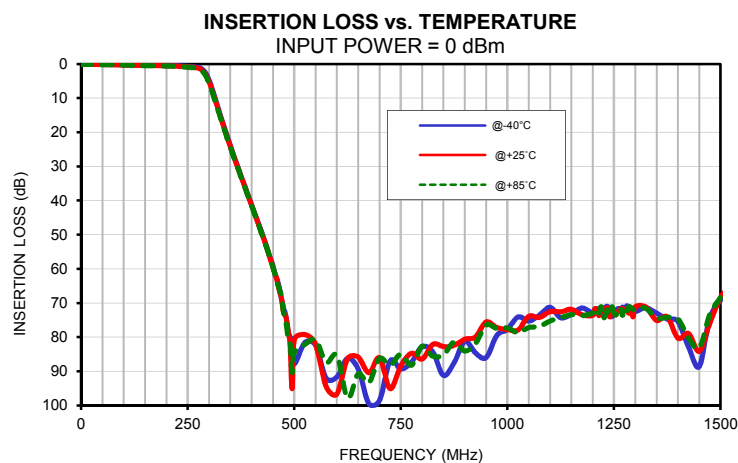
Typical Performance Data

FREQ. (MHz)	INSERTION LOSS			INPUT RETURN LOSS			OUTPUT RETURN LOSS		
	(dB)			(dB)			(dB)		
	@-40°C	@+25°C	@+85°C	@-40°C	@+25°C	@+85°C	@-40°C	@+25°C	@+85°C
0.5	0.05	0.07	0.08	44.82	42.13	40.56	44.80	42.17	40.55
1	0.05	0.07	0.08	44.66	42.07	40.46	44.65	42.06	40.47
10	0.07	0.08	0.10	41.14	39.01	37.76	41.37	39.14	37.89
35	0.12	0.14	0.16	36.99	35.28	33.97	37.53	35.28	34.04
40	0.13	0.15	0.17	36.76	35.26	34.01	37.39	35.20	34.04
50	0.14	0.17	0.18	36.63	35.71	34.55	37.14	35.43	34.44
60	0.16	0.19	0.21	36.72	36.26	35.40	36.94	35.59	35.03
70	0.18	0.21	0.23	36.40	35.60	34.86	36.07	34.59	34.28
80	0.19	0.23	0.25	34.92	33.09	31.99	34.24	32.32	31.64
85	0.19	0.24	0.26	33.74	31.51	30.30	33.10	30.93	30.05
90	0.21	0.25	0.27	32.42	30.02	28.68	31.80	29.51	28.50
100	0.22	0.27	0.30	29.69	27.21	25.83	29.20	26.92	25.74
120	0.26	0.33	0.36	24.93	22.94	21.78	24.67	22.82	21.74
140	0.33	0.39	0.45	21.58	20.35	19.48	21.45	20.29	19.47
150	0.35	0.42	0.47	20.40	19.57	18.89	20.34	19.57	18.92
160	0.38	0.45	0.50	19.61	19.20	18.76	19.61	19.21	18.77
180	0.43	0.51	0.55	19.35	19.94	20.04	19.41	19.98	20.08
200	0.46	0.54	0.58	21.92	24.21	25.77	22.02	24.31	25.83
240	0.61	0.74	0.83	24.20	21.98	20.44	24.23	22.10	20.55
250	0.69	0.84	0.94	21.25	20.32	19.33	21.42	20.50	19.56
264	0.81	0.97	1.09	22.99	23.22	22.85	24.12	24.87	24.79
270	0.89	1.08	1.21	26.27	25.27	24.17	33.33	32.75	30.27
280	1.20	1.48	1.68	16.35	14.89	13.95	17.19	15.60	14.59
285	1.59	1.94	2.20	11.59	10.69	10.02	11.98	11.02	10.33
286	1.70	2.06	2.34	10.81	9.98	9.36	11.14	10.28	9.65
287	1.82	2.20	2.49	10.07	9.31	8.75	10.37	9.59	9.00
288	1.95	2.35	2.66	9.37	8.69	8.16	9.64	8.94	8.39
290	2.26	2.69	3.02	8.09	7.54	7.10	8.31	7.74	7.29
295	3.27	3.76	4.16	5.54	5.26	4.99	5.69	5.39	5.12
300	4.66	5.19	5.63	3.76	3.66	3.51	3.88	3.76	3.61
310	8.25	8.74	9.19	1.83	1.89	1.89	1.90	1.96	1.95
315	10.24	10.70	11.13	1.35	1.45	1.47	1.41	1.49	1.52
320	12.28	12.68	13.08	1.04	1.15	1.19	1.08	1.18	1.22
330	16.32	16.64	16.98	0.70	0.81	0.87	0.75	0.85	0.90
340	20.20	20.47	20.76	0.55	0.66	0.71	0.58	0.67	0.73
350	23.96	24.15	24.40	0.46	0.56	0.62	0.48	0.57	0.62
360	27.54	27.72	27.94	0.40	0.49	0.55	0.42	0.51	0.56
365	29.32	29.49	29.69	0.38	0.48	0.54	0.40	0.48	0.54
370	31.05	31.21	31.39	0.36	0.45	0.51	0.38	0.46	0.52
380	34.47	34.65	34.83	0.33	0.42	0.48	0.34	0.42	0.48
390	37.88	38.04	38.15	0.32	0.40	0.45	0.32	0.40	0.45
400	41.24	41.40	41.57	0.30	0.38	0.43	0.30	0.37	0.43
450	59.13	59.61	59.62	0.24	0.31	0.37	0.23	0.31	0.36
475	71.63	72.88	72.70	0.23	0.29	0.35	0.21	0.29	0.34
500	87.83	80.87	84.59	0.21	0.28	0.33	0.20	0.27	0.33
700	98.57	86.05	86.28	0.11	0.20	0.26	0.12	0.21	0.26
750	89.32	88.43	85.03	0.10	0.20	0.26	0.11	0.21	0.26
800	82.84	86.42	82.68	0.10	0.19	0.26	0.10	0.20	0.26
850	91.22	82.76	85.19	0.08	0.19	0.26	0.10	0.20	0.26
900	81.23	80.61	84.08	0.07	0.19	0.26	0.10	0.21	0.27
950	86.02	75.58	76.45	0.07	0.19	0.26	0.10	0.21	0.28
1000	77.73	77.79	77.32	0.06	0.18	0.26	0.09	0.21	0.28
1050	75.31	73.92	77.18	0.06	0.19	0.27	0.10	0.22	0.28
1100	71.28	72.57	75.29	0.06	0.19	0.27	0.09	0.22	0.30
1150	73.32	71.87	73.44	0.06	0.19	0.27	0.09	0.22	0.30
1200	73.00	73.64	72.93	0.06	0.20	0.28	0.08	0.23	0.30
1250	72.42	73.16	72.82	0.06	0.20	0.29	0.09	0.23	0.32
1300	72.52	71.10	71.41	0.07	0.20	0.29	0.09	0.24	0.32
1400	75.43	80.30	74.68	0.07	0.21	0.31	0.09	0.25	0.34
1500	69.26	68.38	68.40	0.09	0.23	0.32	0.10	0.26	0.35

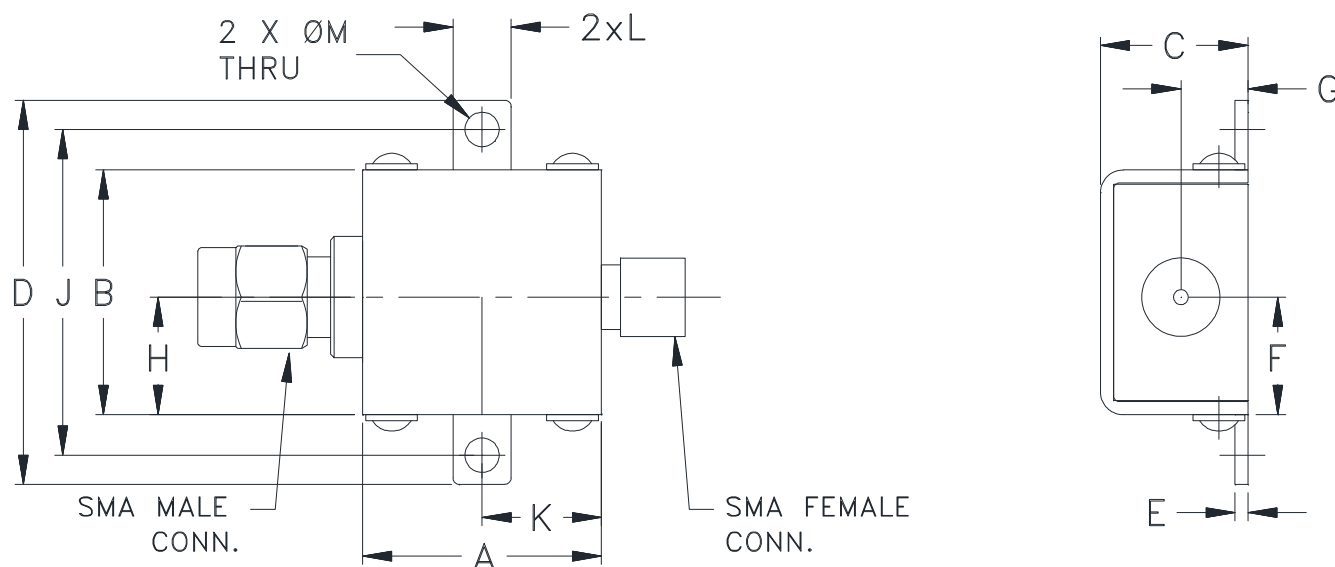
Typical Performance Data

FREQ.	GROUP DELAY		
(MHz)	(ns)		
	@-40°C	@+25°C	@+85°C
0.5	2.75	2.68	2.70
1	2.74	2.68	2.70
10	2.66	2.66	2.67
20	2.64	2.65	2.65
30	2.65	2.65	2.66
35	2.64	2.64	2.66
40	2.64	2.64	2.65
50	2.65	2.65	2.66
55	2.68	2.68	2.68
60	2.68	2.68	2.67
65	2.68	2.70	2.69
70	2.70	2.70	2.71
75	2.71	2.71	2.71
80	2.74	2.74	2.75
85	2.76	2.75	2.77
90	2.77	2.77	2.77
95	2.78	2.79	2.80
100	2.81	2.81	2.82
105	2.83	2.83	2.83
110	2.85	2.85	2.86
115	2.87	2.88	2.88
120	2.92	2.91	2.90
125	2.93	2.93	2.93
130	2.96	2.95	2.95
135	2.99	2.99	2.99
140	3.02	3.02	3.02
145	3.06	3.06	3.05
150	3.10	3.09	3.09
155	3.12	3.11	3.12
160	3.19	3.18	3.18
165	3.21	3.22	3.22
170	3.27	3.28	3.28
175	3.32	3.32	3.33
180	3.37	3.39	3.40
185	3.44	3.46	3.47
190	3.52	3.54	3.55
195	3.62	3.63	3.65
200	3.69	3.71	3.73
205	3.79	3.81	3.82
210	3.89	3.91	3.92
215	4.02	4.02	4.05
220	4.12	4.13	4.16
225	4.24	4.26	4.26
230	4.38	4.39	4.40
235	4.51	4.53	4.53
240	4.68	4.69	4.70
245	4.85	4.85	4.88
250	5.06	5.07	5.10
255	5.31	5.34	5.38
260	5.62	5.68	5.73
264	5.94	6.01	6.09

Typical Performance Curves



Outline Dimensions



CASE #.	A	B	C	D	E	F	G	H	J	K	L	M
KE1467	.74 (18.80)	.75 (19.05)	.46 (11.68)	1.18 (29.97)	.04 (1.02)	.362 (9.19)	.21 (5.33)	.362 (9.19)	1.00 (25.40)	.37 (9.40)	.18 (4.57)	.11 (2.79)

CASE #.	WT. GRAM
KE1467	24.4

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .03$; 3Pl. $\pm .015$

Tolerance on hole size and interaxes dimensions to be $\pm .005$.

Note:

1. Case material: Brass
2. Case finish: Gold
3. Cover: Nickel plated.



INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-40° to 85°C	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I