Ceramic

Bandpass Filter

BFCV-3641+

50Ω 3400 to 3850 MHz

Generic photo used for illustration purposes only

CASE STYLE: JV1210C-2

+RoHS Compliant

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

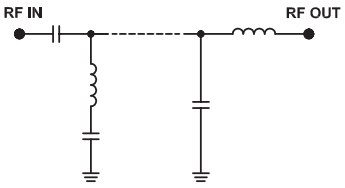
Features

- small size
- temperature stable
- hermetically sealed
- LTCC construction
- excellent stopband rejection (usable to 12 GHz, 20 dB typ.)

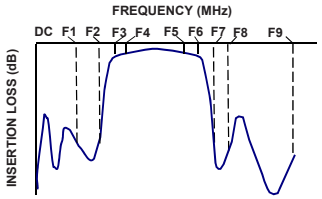
Applications

- software defined radio
- WLAN
- cellular network

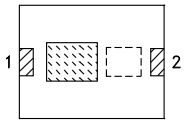
Functional Schematic



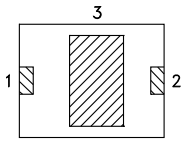
Typical Frequency Response



TOP VIEW



BOTTOM VIEW



Pad Connections

Input	1
Output	2
Ground	3

Electrical Specifications[1,2] at 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	—	3636	—	MHz
	Insertion Loss	F3-F6	3400-3850	—	1.9	3.5	dB
		F4-F5	3600-3800		1.6	—	dB
	VSWR	F3-F6	3400-3850	—	1.7	—	:1
Stop Band, Lower	Insertion Loss	DC-F1	DC-2670	26	35	—	dB
		F2	2930		20	—	dB
	VSWR	DC-F1	DC-2670	—	20	—	:1
Stop Band, Upper	Insertion Loss	F7	4650	—	20	—	dB
		F8-F9	5350-9600	30	35	—	dB
	VSWR	F8-F9	5350-9600	—	20	—	:1

(1) Measured on Mini-Circuits Characterization Test Board TB-980+

(2) This filter is not intended for use as a DC Blocking circuit element. In application where DC voltage is present at either input or output ports, blocking capacitors are required at the corresponding RF port.

Maximum Ratings

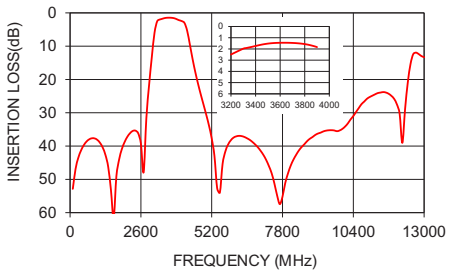
Operating Temperature	-55°C to +100°C
Storage Temperature	-55°C to +100°C
RF Power Input*	0.5W max @

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

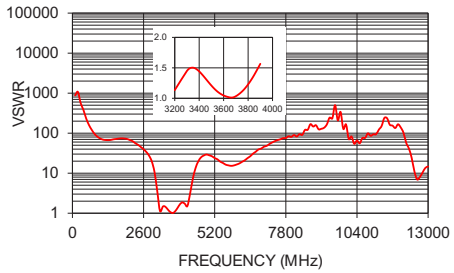
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
100	52.86	876.08
500	39.78	235.50
1000	38.14	74.48
2000	38.83	71.53
3400	1.74	1.44
3600	1.45	1.05
3800	1.57	1.23
3900	1.83	1.57
4600	17.86	19.72
5300	42.92	22.23
7000	41.47	45.89
9600	35.24	502.48
11000	25.28	93.97
12000	27.47	138.85
13000	13.31	14.68

BFCV-3641+
INSERTION LOSS



BFCV-3641+
VSWR

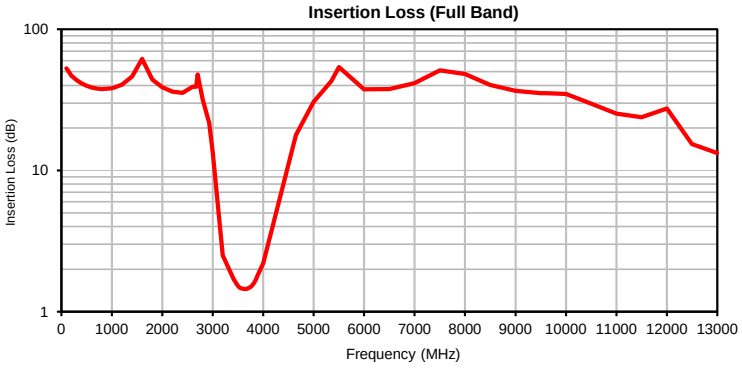


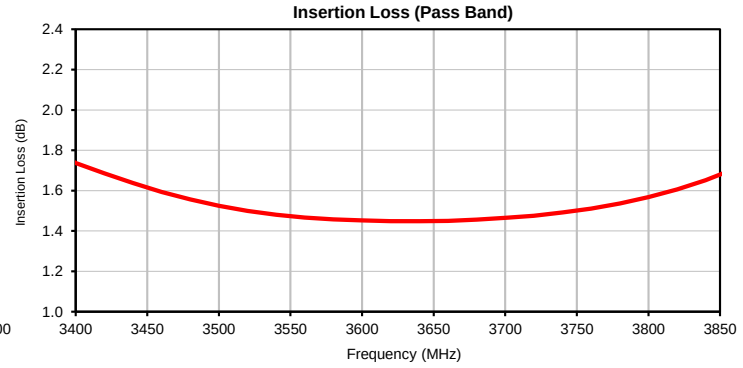
Ceramic Bandpass Filter BFCV-3641+

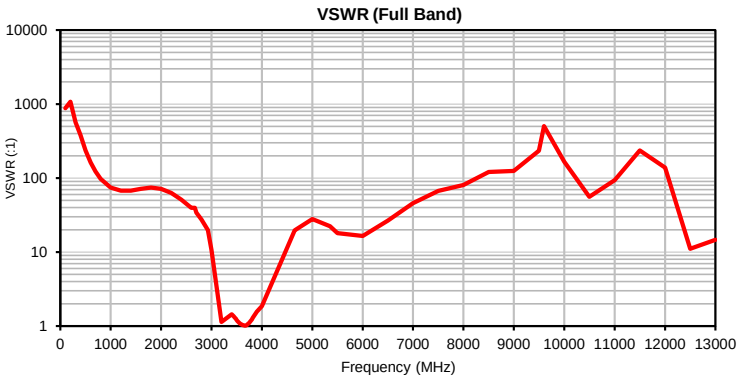
Typical Performance Data

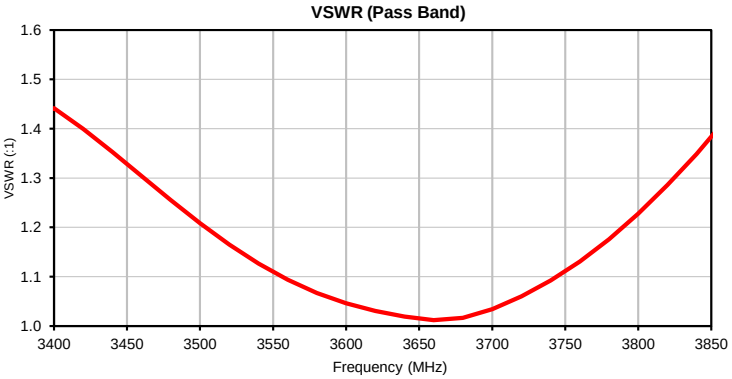
FREQUENCY (MHz)	INSERTION LOSS (dB)	VSWR (:1)
100	52.86	876.08
200	46.92	1074.59
300	43.57	564.53
400	41.36	384.59
500	39.78	235.50
600	38.68	162.13
700	37.99	122.93
800	37.67	97.57
1000	38.14	74.48
1200	40.48	67.51
1400	46.27	67.67
1600	61.67	71.57
1800	44.07	74.24
2000	38.83	71.53
2200	36.15	62.92
2400	35.37	51.16
2600	39.23	39.72
2670	39.23	39.72
2700	47.87	33.95
2800	31.69	27.49
2930	21.77	19.75
3000	13.37	10.68
3200	2.50	1.13
3400	1.74	1.44
3420	1.69	1.40
3440	1.64	1.35
3460	1.59	1.30
3480	1.56	1.26
3500	1.52	1.21
3520	1.50	1.17
3540	1.48	1.13
3560	1.47	1.09
3580	1.46	1.07
3600	1.45	1.05
3620	1.45	1.03
3640	1.45	1.02
3660	1.45	1.01
3680	1.46	1.02
3700	1.46	1.03
3720	1.48	1.06
3740	1.49	1.09
3760	1.51	1.13
3780	1.54	1.18
3800	1.57	1.23
3820	1.61	1.29
3840	1.65	1.35
3860	1.71	1.42
3880	1.77	1.49
3900	1.83	1.57
4000	2.20	1.86
4650	17.86	19.72
5000	30.61	27.97
5350	42.92	22.23
5500	53.98	18.04
6000	37.47	16.46
6500	37.68	26.52
7000	41.47	45.89
7500	51.17	67.14
8000	48.24	80.80
8500	40.31	120.90
9000	36.68	124.72
9500	35.26	233.79
9600	35.24	502.48
10000	34.84	165.77
10500	29.76	55.57
11000	25.28	93.97
11500	23.79	236.33
12000	27.47	138.85
12500	15.38	11.06
13000	13.31	14.68

Typical Performance Curves





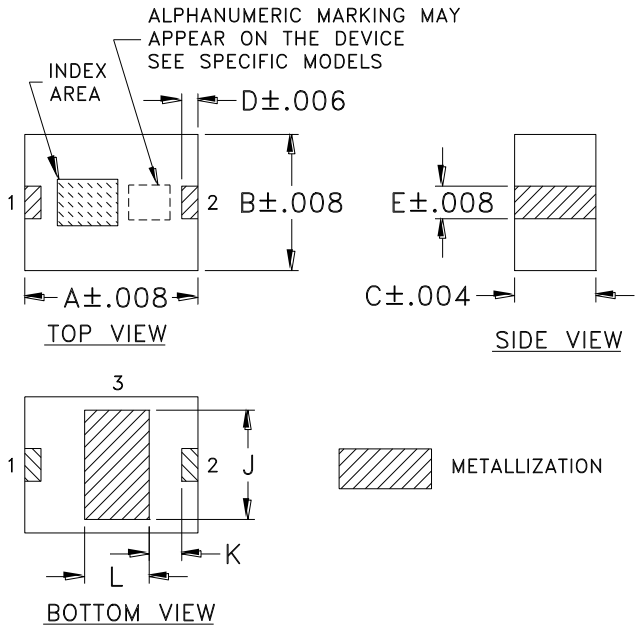


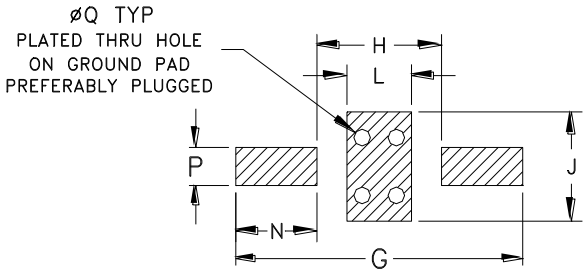


Case Style JV

Outline Dimensions JV1210C-2

PCB Land Pattern





Suggested Layout,
Tolerance to be within ±.002

CASE #	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	WT. GRAM
JV1210C-2	.126 (3.2)	.098 (2.5)	.059 (1.5)	.012 (0.3)	.024 (0.6)	-- --	.205 (5.2)	.087 (2.2)	.079 (2.0)	.028 (0.70)	.047 (1.2)	-- --	.059 (1.5)	.026 (0.65)	.012 (0.3)	.045

Dimensions are in inches (mm). Tolerances: 2 Pl. ± .01; 3 Pl. ± .005

Notes:

1. Open style, ceramic base.
2. Termination finish: **as shown below or indicated on Data Sheet.**
   For RoHS Case Styles: Tin plate over Nickel plate. All models, (+) suffix.
   For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.
3. Pad tolerance is non-cumulative. Minimum spacing between each pad is .004.

Tape & Reel Packaging TR-F74

DEVICE ORIENTATION IN T&R

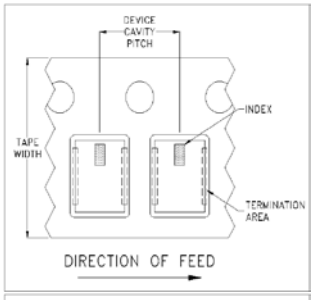


ILLUSTRATION 1

Applicable Case Styles
GE0805C-1
GE0805C-1AP
JV1210C-1
GU2939

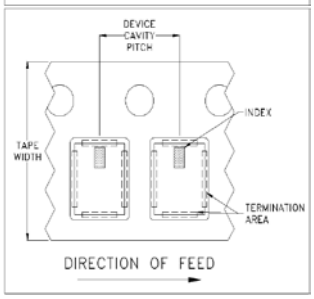


ILLUSTRATION 2

Applicable Case Styles
JV1210C
JV1210C-2
JV1210C-3
JV1210C-4
JV1210C-5
JV1210C-6
JV1210C-11

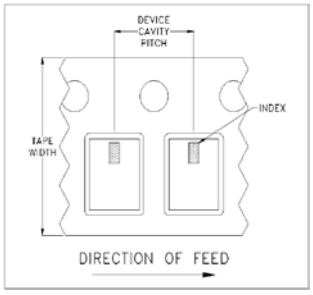


ILLUSTRATION 3

Applicable Case Styles
JC0603C-8
JV1210C-7
JV1210C-8
JV1210C-9
JV1210C-10
JV1210C-13
GE0805C-13

Tape Width, mm	Device Cavity Pitch, mm	Real Size, inches	Devices per Reel	
8	4	7	Small quantity standards **(see note)**	20
				50
				100
				200
				500
				1000
			Standard	2000
				4000

Note: Small reel availability varies by model. Refer to pricing and availability on individual model dashboard.

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.
Go to: www.minicircuits.com/pages/pdfs/tape.pdf

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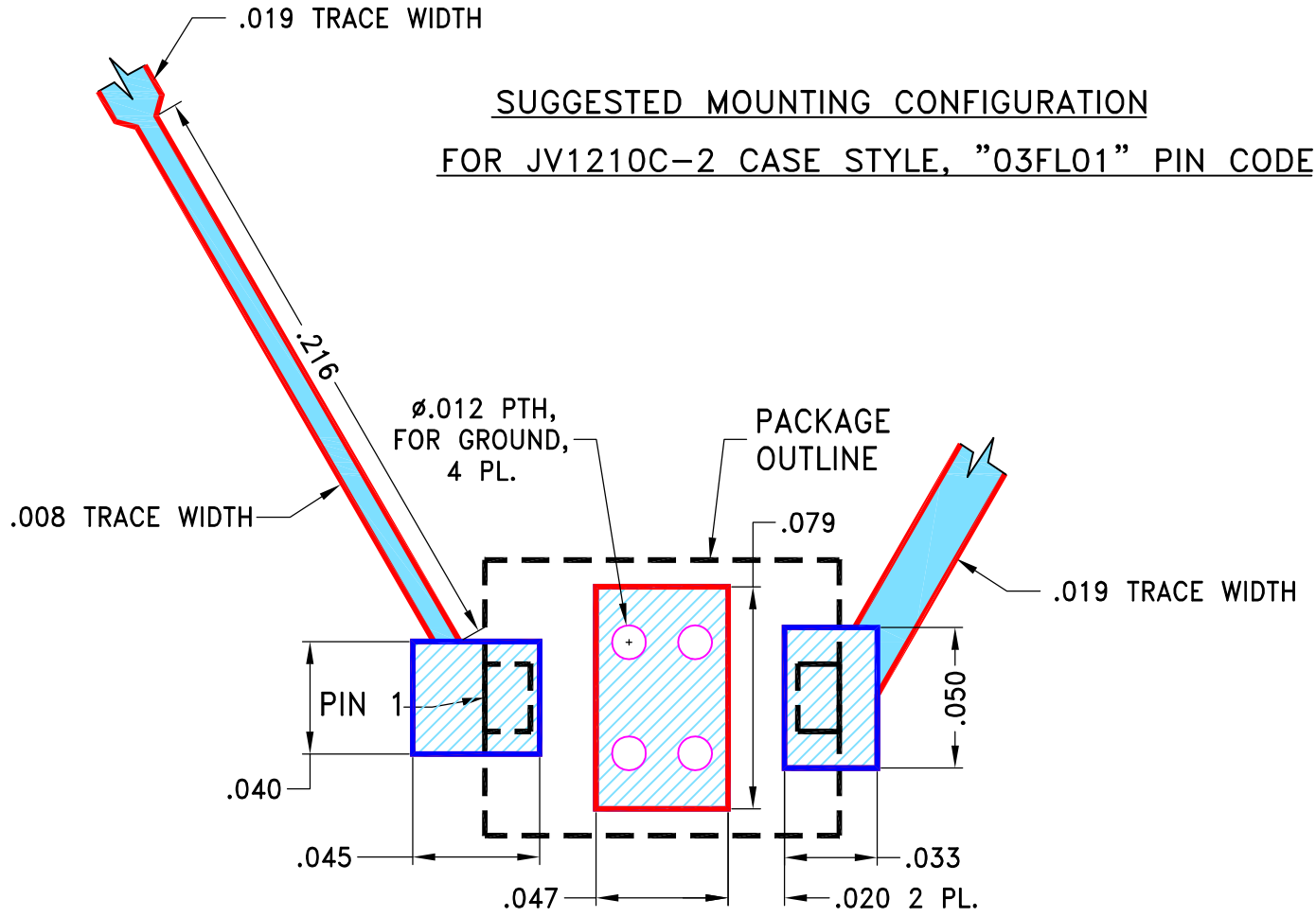
THIRD ANGLE PROJECTION

REVISIONS					
REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M169330	NEW RELEASE	08/08/18	GF	BK

SUGGESTED MOUNTING CONFIGURATION

FOR JV1210C-2 CASE STYLE, "03FL01" PIN CODE



NOTES:

1. TRACE WIDTH IS SHOWN FOR FR4 (IT-180A) WITH DIELECTRIC THICKNESS .010±.001. COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
3. UNIT LAND PATTERN WAS ADJUSTED FOR HIGH FREQUENCY PERFORMANCE AND DIFFERENT FROM SUGESTED LAYOUT AS PER JV1210C-2.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

UNLESS OTHERWISE SPECIFIED		INITIALS	DATE
DIMENSIONS ARE IN INCHES	DRAWN	GF	08/02/18
TOLERANCES ON:	CHECKED	IL	08/07/18
2 PL DECIMALS ±	APPROVED	BK	08/08/18
3 PL DECIMALS ± .005			
ANGLES ±			
FRACTIONS ±			

ASHEETA1.DWG REV:A DATE:01/12/95

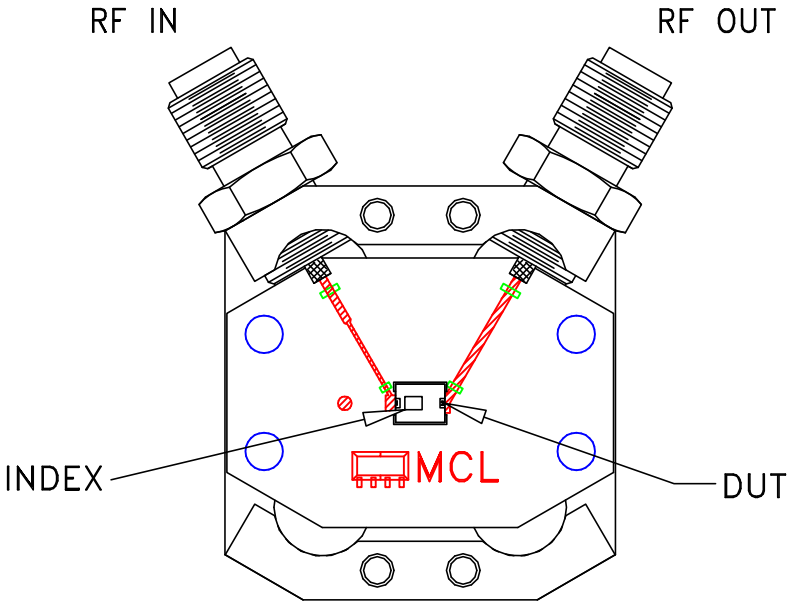
Mini-Circuits® 13 Neptune Avenue Brooklyn NY 11235

PL, 03FL01, JV1210C-2, TB-980+

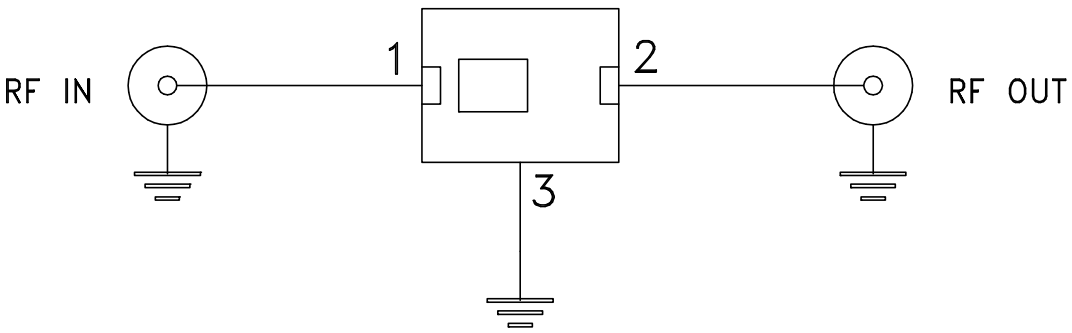
SIZE	CODE IDENT	DRAWING NO:	REV:
A	15542	98-PL-542	0R

FILE:	SCALE:	SHEET:
98PL542	15:1	1 OF 1

Evaluation Board and Circuit



TB-980+



Schematic Diagram

Notes:

1. SMA Female connectors.
2. PCB Material: FR4 or equivalent,
   Dielectric Constant=4.5, Thickness=.010 inch.

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Environmental Specifications ENV06

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	-55° to 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Solder Reflow Heat	Sn-Pb Eutetic Process: 225°C peak Pb-Free Process 245° - 250°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, Para 4.2.5, Test S, 95% Coverage
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	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A