

Engineering Development Model

Power Splitter/Combiner

JPS-ED8013/1

2 Way-0°

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability. At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.



Please click "Back", and then click "Contact Us" for Applications support.

CASE STYLE : BH292

ELECTRICAL SPECIFICATIONS 75Ω @ +25°C				
Parameter		Min.	Typ.	Max. Units
Frequency		0.7		770 MHz
Isolation	0.7 - 7 MHz		30	dB
	7 - 385 MHz		36	dB
	385 - 770 MHz		21	dB
Insertion Loss Above 3.0 dB	0.7 - 7 MHz		0.19	dB
	7 - 385 MHz		0.19	dB
	385 - 770 MHz		0.40	dB
Phase Unbalance	0.7 - 7 MHz		0.029	deg.
	7 - 385 MHz		0.099	deg.
	385 - 770 MHz		0.122	deg.
Amplitude Unbalance	0.7 - 7 MHz		0.014	dB
	7 - 385 MHz		0.011	dB
	385 - 770 MHz		0.012	dB
VSWR	SUM Port		1.06	(:1)
	OUT Ports		1.14	(:1)

Note: Denotes 75 Ohm model, for coax connector models 75 Ohm BNC connectors are standard.

MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

PIN CONNECTIONS	
SUM PORT	1
PORT 1	3
PORT 2	4
GND EXT	2, 5, 6

Functional Diagram



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Typical Performance Data

FREQ. (MHz)	TOTAL LOSS ¹ (dB)		AMP. UNBAL. (dB)	ISOLATION (dB) 1-2	PHASE UNBAL. (deg.)	FREQ. (MHz)	VSWR (:1)		
	S-1	S-2					S	1	2
0.7	3.26	3.27	0.01	24.12	0.05	0.7	1.08	1.32	1.28
0.9	3.23	3.25	0.02	25.52	0.01	0.9	1.07	1.28	1.25
1.0	3.23	3.23	0.01	26.10	0.00	1.0	1.06	1.26	1.23
2.0	3.16	3.18	0.02	30.60	0.03	2.0	1.04	1.18	1.15
3.0	3.15	3.16	0.01	33.38	0.04	3.0	1.03	1.15	1.12
4.0	3.13	3.15	0.02	35.18	0.03	4.0	1.02	1.13	1.10
5.0	3.14	3.15	0.01	36.69	0.04	5.0	1.02	1.12	1.09
14.0	3.14	3.14	0.00	41.35	0.03	14.0	1.01	1.10	1.07
23.0	3.14	3.16	0.02	42.03	0.06	23.0	1.01	1.10	1.07
32.0	3.15	3.16	0.01	41.88	0.08	32.0	1.01	1.11	1.07
41.0	3.15	3.16	0.01	41.39	0.01	41.0	1.01	1.11	1.07
50.0	3.16	3.17	0.01	40.78	0.01	50.0	1.02	1.11	1.07
90.0	3.16	3.17	0.01	37.71	0.06	90.0	1.02	1.11	1.08
130.0	3.19	3.20	0.01	35.12	0.08	130.0	1.03	1.11	1.08
170.0	3.20	3.21	0.01	32.99	0.18	170.0	1.04	1.12	1.08
210.0	3.20	3.22	0.02	31.13	0.07	210.0	1.05	1.13	1.09
250.0	3.23	3.23	0.01	29.52	0.21	250.0	1.06	1.14	1.09
300.0	3.24	3.24	0.01	27.74	0.20	300.0	1.07	1.15	1.10
350.0	3.27	3.28	0.01	26.17	0.20	350.0	1.08	1.16	1.11
400.0	3.29	3.29	0.00	24.72	0.19	400.0	1.09	1.17	1.12
450.0	3.32	3.32	0.00	23.46	0.12	450.0	1.10	1.18	1.14
500.0	3.35	3.35	0.00	22.28	0.17	500.0	1.11	1.19	1.15
590.0	3.43	3.41	0.02	20.42	0.11	590.0	1.12	1.19	1.16
680.0	3.49	3.46	0.03	18.82	0.00	680.0	1.14	1.19	1.17
770.0	3.55	3.53	0.02	17.42	0.14	770.0	1.17	1.19	1.18

¹ Total Loss = Insertion Loss + 3dB Splitter Loss

REV. X2

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100707

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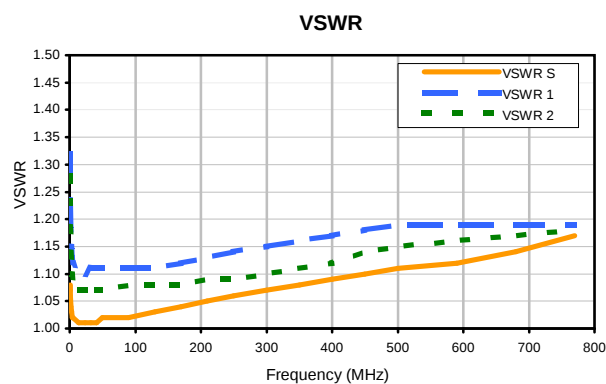
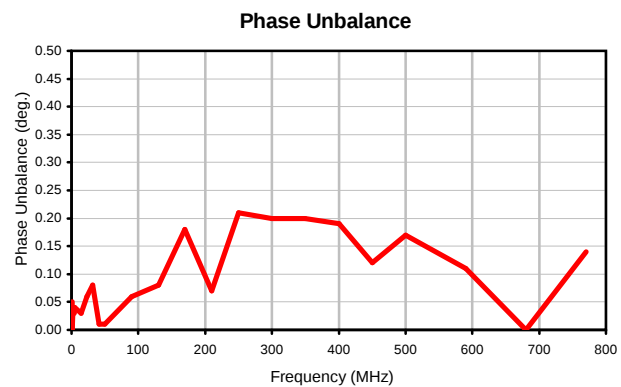
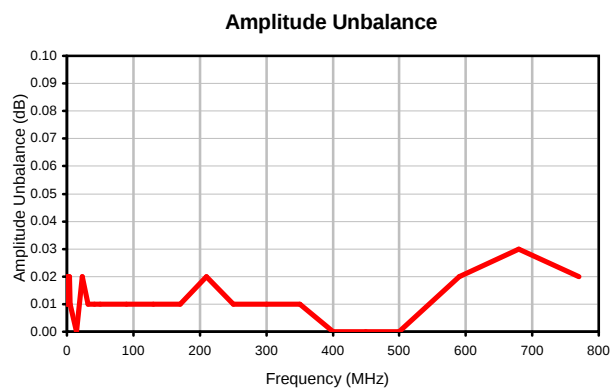
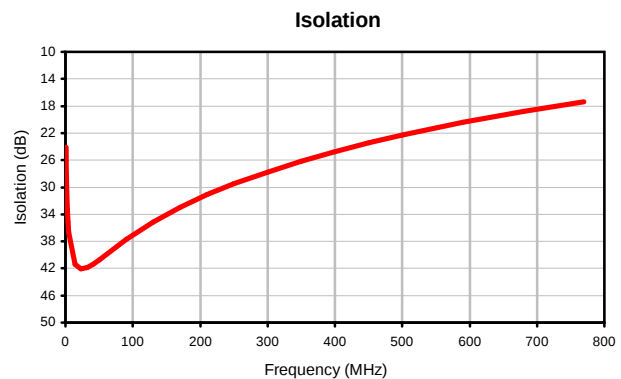
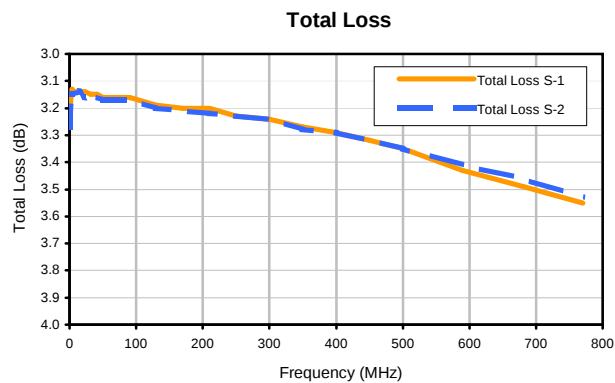
The Design Engineers Search Engine finds the model you need, instantly • For detailed performance specs & shopping online see



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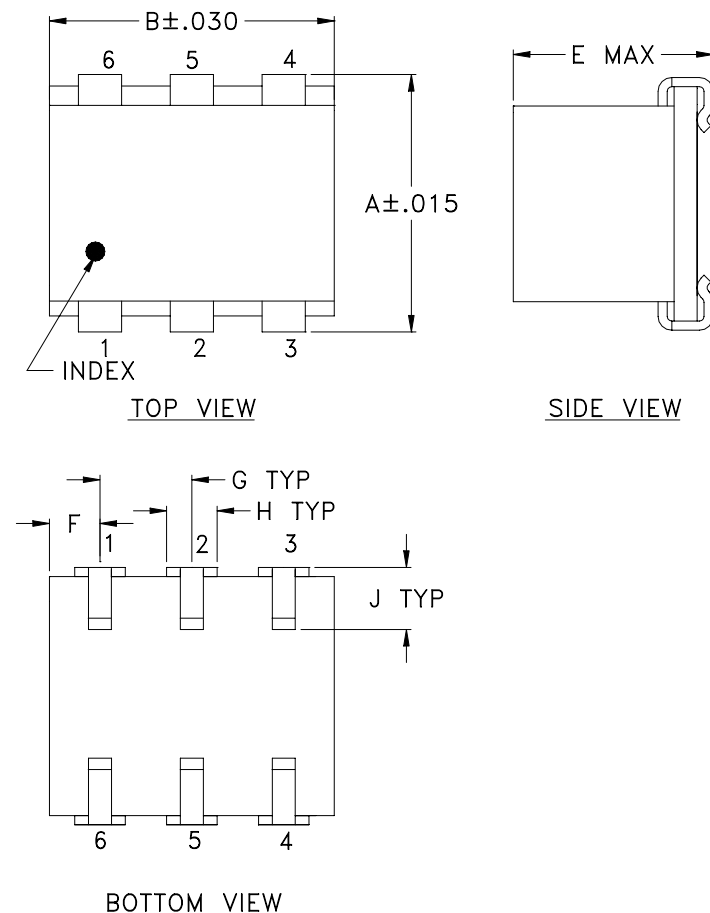
JPS-ED8013/1

Typical Performance Curves

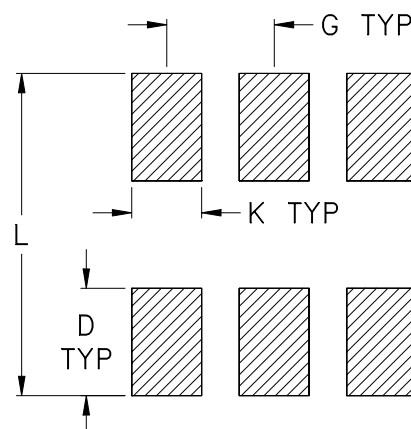


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Outline Dimensions



PCB Land Pattern



Suggested Layout,
Tolerance to be within $\pm .002$

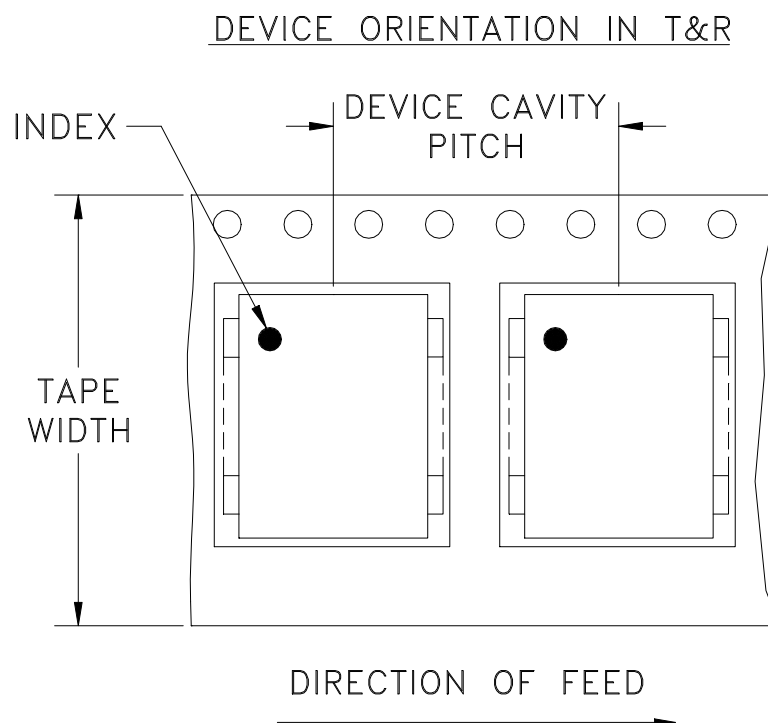
CASE #	A	B	C	D	E	F	G	H	J	K	L	WT. GRAM
BH292	.280 (7.11)	.310 (7.87)	- -	.100 (2.54)	.225 (5.72)	.055 (1.40)	.100 (2.54)	.047 (1.19)	.065 (1.65)	.065 (1.65)	.300 (7.62)	.45

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

Notes:

- Case material: Ceramic.
- Termination finish:
For RoHS Case Styles: Tin plate over Nickel plate. All models, (+) suffix.
For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.

Tape & Reel Packaging TR-F24



Tape Width, mm	Device Cavity Pitch, mm	Reel Size, inches	Devices per Reel
16	12	13	500

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.

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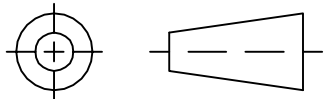
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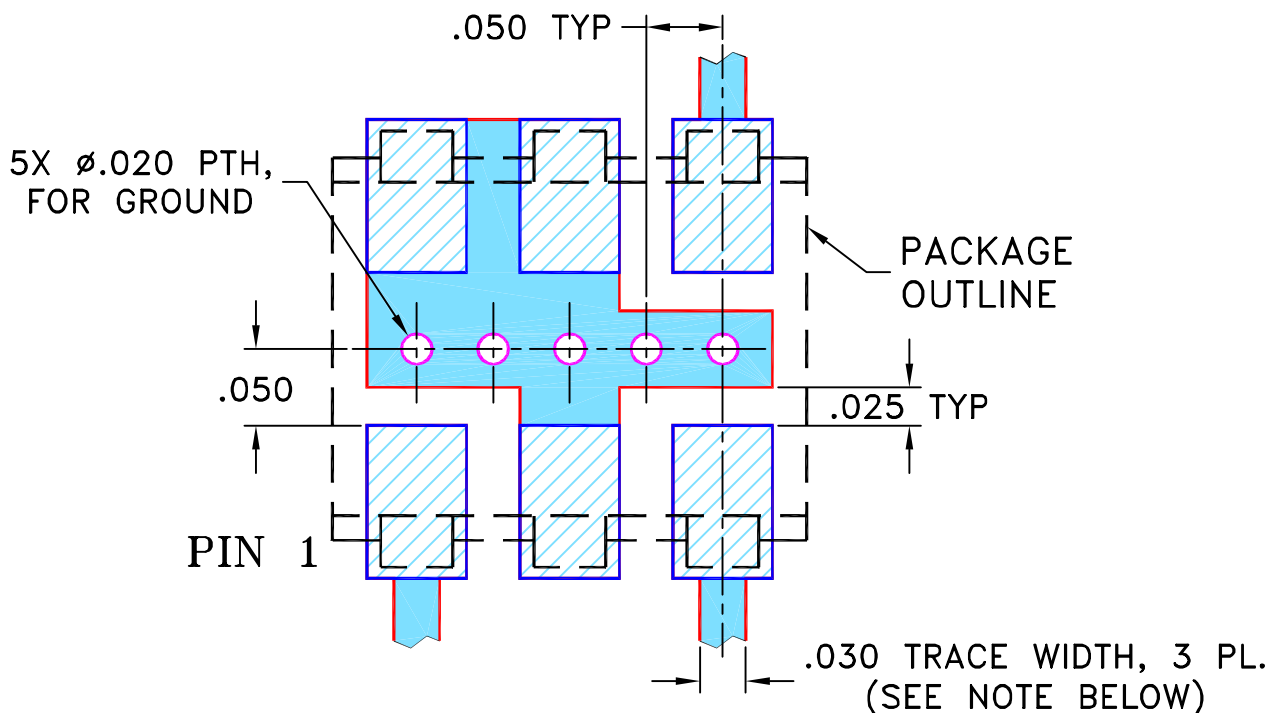
THIRD ANGLE PROJECTION



REVISIONS

REV	ECN No.	DESCRIPTION	DATE	DR	AUTH
OR	M82272	NEW RELEASE	08/05/02	GF	DJ
A	M101117	UPDATED DWG.	11/21/05	MMG	HY
B	M102713	ADDED "...WITH SMOBC"	01/17/06	MMG	IL

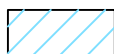
SUGGESTED MOUNTING CONFIGURATION
FOR BH292 CASE STYLE, "me" PIN CONNECTION



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" $\pm$ 0.002"; 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.



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

TOLERANCES ON:

2 PL DECIMALS $\pm$ 3 PL DECIMALS $\pm$.005ANGLES $\pm$ FRACTIONS $\pm$

DRAWN

GF

07/18/02

CHECKED

HY

08/01/02

APPROVED

DJ

08/05/02



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

SIZE
A

CODE IDENT
15542

DRAWING NO:
98-PL-054

REV:
B

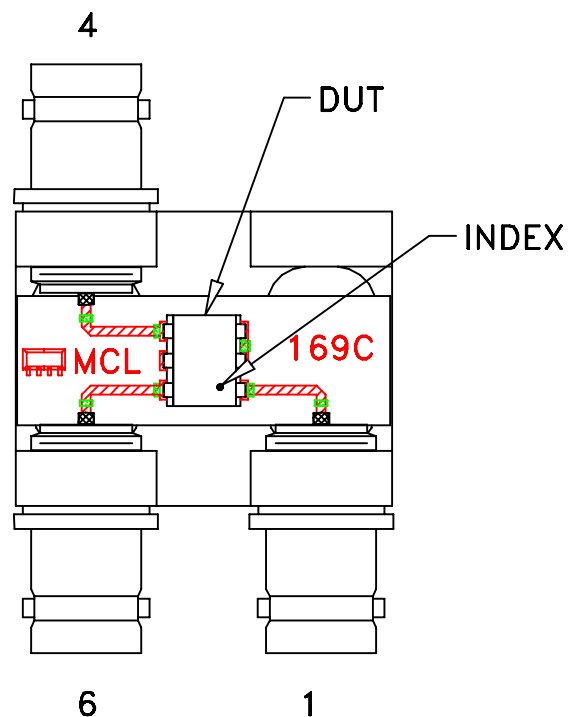
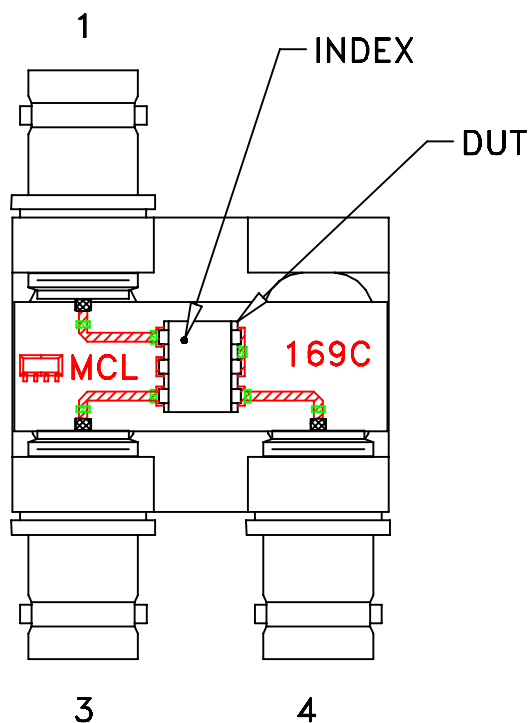
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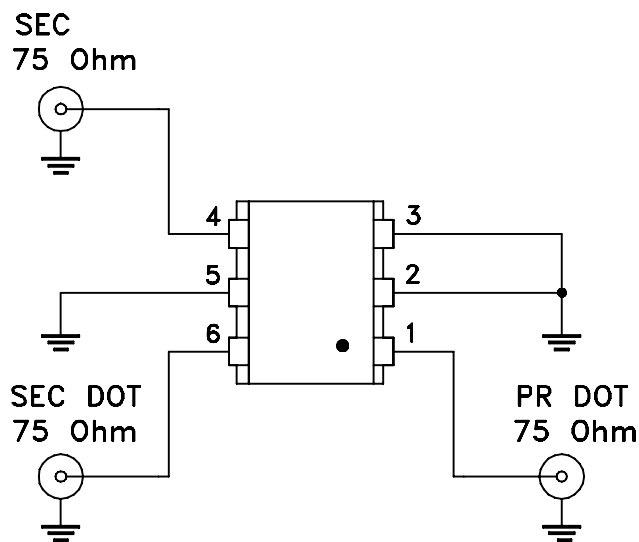
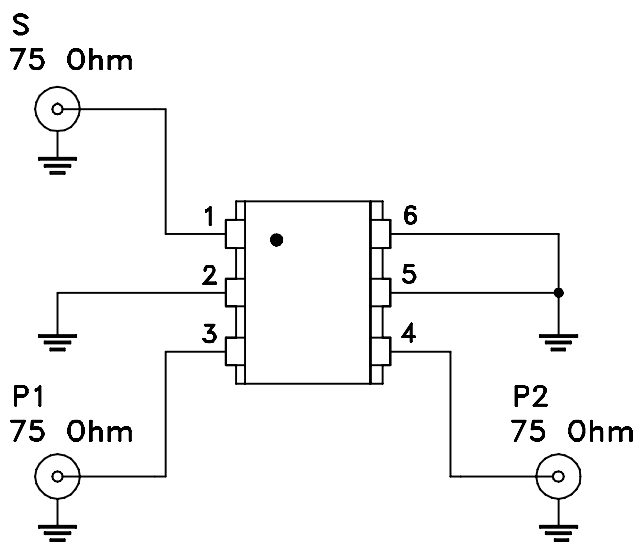
SHEET: 1 OF 1

Evaluation Board and Circuit

For Pin Connections and DUT Orientation Refer to
Data Sheet of the DUT



TB-169



Schematic Diagram

Notes:

1. BNC Female connectors.
2. PCB Material: Rogers R04350 or equivalent,
Dielectric Constant=3.5, Thickness=.030 inch.

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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 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
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
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, 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
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215