

COIN TYPE LITHIUM PRIMARY- BATTERIES (BR & CR SERIES)



Specification Table (Coin type lithium batteries with terminals for memory backup application)

Model No.	Tab Type		Configuration Diagram No.	Characteristics		Product Availability		CR Type	
	With P.V.C. cover	Without P.V.C. cover		Nominal Voltage (V)	Nominal capacity (mAh)	Standard	Special	Availability*1	Nominal capacity (mAh)
BR1220	/1HF	/1HE	1	3	35	⊗		⊗	(35mAh)
	/1VC	/1VB	2	3	35	⊗		⊗	(35mAh)
	/1FC		3	3	35	⊗		⊗	(35mAh)
BR1225	/1HC	/1HB	4	3	48	⊗			
	/2HC		5	6	48		⊗		
	/1VF	/1F4	6	3	48	⊗			
BR2016	/1F2		7	3	75	⊗		⊗	(90mAh)
BR2032	/1HF1	/1HE1	8	3	190	⊗		⊗	(220mAh)
	/1HM		9	3	190	⊗		⊗	(220mAh)
		/1HG	10	3	190		⊗	⊗	(220mAh)
	/1HS	/1HSE	11	3	190	⊗		⊗	(220mAh)
	/1GUF	/1GU	12	3	190		⊗	⊗	(220mAh)
	/1HF	/1HE	13	3	190	⊗		⊗	(220mAh)
	/1VC1		14	3	190	⊗		⊗	(220mAh)
	/1VC3		15	3	190		⊗	⊗	(220mAh)
	/1GVF	/1GV	16	3	190		⊗	⊗	(220mAh)
	/1T2		17	3	190	⊗		⊗	(220mAh)
	/1F4		18	3	190		⊗	⊗	(220mAh)
	/1F2		19	3	190	⊗		⊗	(220mAh)
BR2325	/1HC	/1HB	20	3	165	⊗			
	/1HM		21	3	165	⊗			
		/1HG	22	3	165		⊗		
	/2HC		23	6	165		⊗		
	/1VN		24	3	165		⊗		
BR2330	/1VC2		25	3	165	⊗			
	/1HF	/1HE	26	3	255	⊗		⊗	(265mAh)
	/1HH		27	3	255	⊗		⊗	(265mAh)
	/1GUF	/1GU	28	3	255		⊗	⊗	(265mAh)
	/1HF1	/1HE1	29	3	255	⊗		⊗	(265mAh)
	/1VC	/1VB	30	3	255	⊗		⊗	(265mAh)
	/1GVF	/1GV	31	3	255		⊗	⊗	(265mAh)
	/1F3		32	3	255	⊗		⊗	(265mAh)
BR3032	/1F4C		33	3	255		⊗	⊗	(265mAh)
	/1VC		34	3	500		⊗	⊗	(500mAh)
	/1F2		35	3	500	⊗		⊗	(500mAh)
CR1220		/1HM5	36	3	35		⊗		
CR1616		/1F2	37	3	55		⊗		
CR1632	/1HF	/1HE	38	3	125		⊗		
CR2032		/1HU3	39	3	220	⊗			
	/1VS1		40	3	220		⊗		
CR2330		/1GU7	41	3	265	⊗			
CR2354	/1HF	/1HE	42	3	560	⊗			
	/1GUF	/1GU	43	3	560		⊗		
	/1VC	/1VB	44	3	560	⊗			
CR2477	/1VC	/1VB	45	3	1,000	⊗			
	/1HF	/1HE	46	3	1,000	⊗			

Many other items with terminals are available. Please contact Panasonic for details.

*1 The same tab configurations are available for the CR types indicated. Refer to the equivalent BR type configuration diagram number for dimensions.

DIMENSIONS / MM (INCH)

Model No.	Dimension/mm (inch)	Model No.	Dimensions / mm (inch)
BR/CR1220/1HF 1HE	① 	BR/CR1220/1VC 1VB	②
BR/CR1220/1FC	③ 	BR1225/1HC 1HB	④
BR1225/2HC	⑤ 	BR1225/1F4 1VF	⑥
BR/CR2016/1F2	⑦ 	BR/CR2032/1HF1 1HE1	⑧
BR2032/1HM	⑨ 	BR/CR2032/1HG	⑩

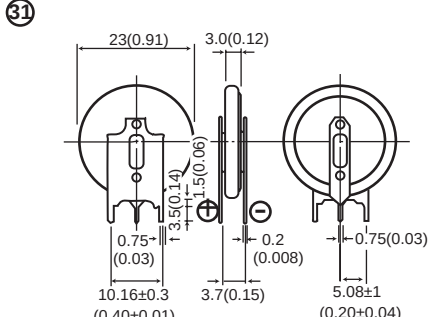
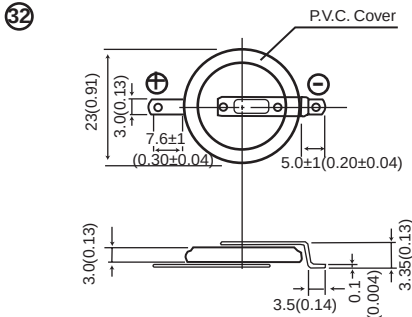
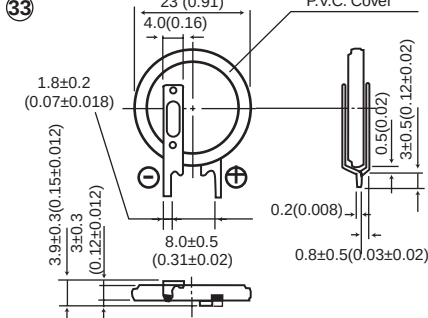
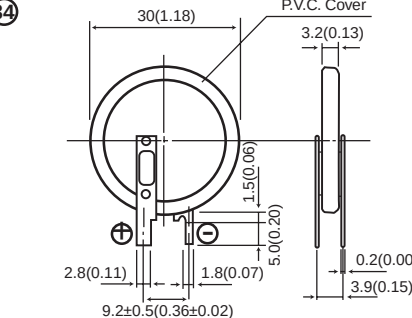
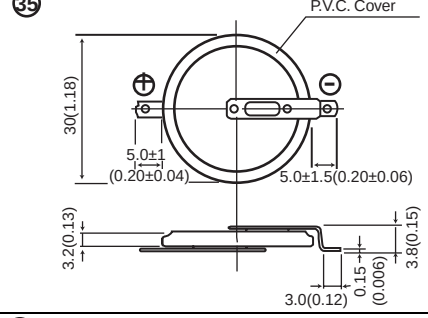
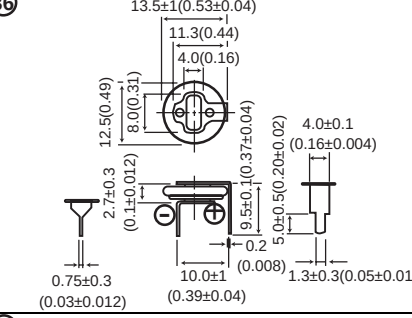
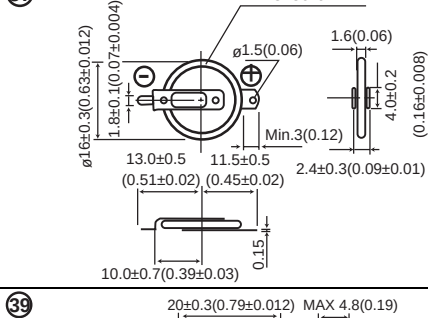
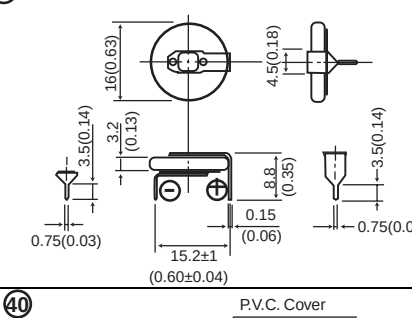
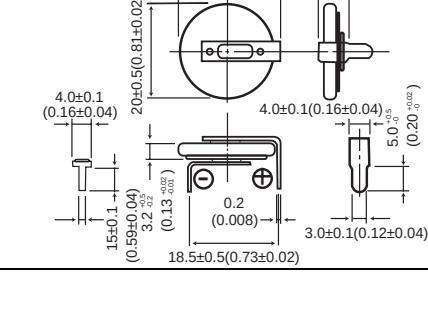
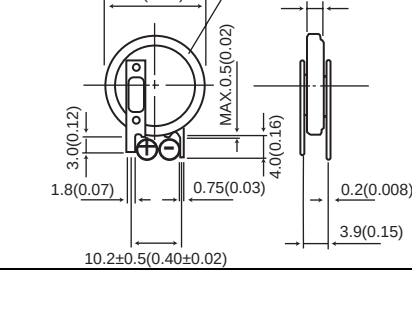
DIMENSIONS / MM (INCH) - CONTINUED

Model No.	Dimension/mm (inch)	Model No.	Dimensions / mm (inch)
BR/CR2032/1HS 1HSE	⑪ P.V.C. Cover 3.2(0.13) 20(0.79) 0.75(0.03) 3.5(0.14) 3.9(0.15) 15.2±0.5(0.60±0.02) 9.1(0.36) 0.2(0.008) 0.75(0.03) 3.5(0.14)	BR/CR2032/1GUF 1GU	⑫ 3.2(0.13) 20(0.79) 0.75(0.03) 3.5(0.14) 4.0(0.16) 17.8±0.5(0.70±0.02) 9.1(0.36) 0.2(0.008) 0.75(0.03) 3.5(0.14) 5.08(0.20) 10.16(0.40)
BR/CR2032/1HF 1HE	⑬ P.V.C. Cover 4.0(0.16) 20.5(0.81) 20(0.79) 0.75(0.03) 3.5(0.14) 3.9(0.15) 20.5±0.5(0.81±0.02) 0.2(0.008) 9.1(0.36) 0.75(0.03) 3.5(0.14)	BR/CR2032/1VC1	⑭ P.V.C. Cover 3.2(0.13) 20(0.79) 1.8(0.07) 0.75(0.03) 10.2±0.5(0.40±0.02) 3.9(0.15) 4.5(0.06) 5.0(0.20) 0.2(0.008)
BR/CR2032/1VC3	⑮ P.V.C. Cover 3.2(0.13) 20(0.79) 2.8(0.11) 1.8(0.07) 9.2±0.5(0.36±0.02) 3.0(0.12) 5.0(0.20) 0.2(0.008) 3.9(0.15)	BR/CR2032/1GVF 1GV	⑯ 20(0.79) 3.2(0.13) 10.16±0.3(0.40±0.01) 3.9(0.15) 5.08±1(0.20±0.04) 0.75(0.03) 0.2(0.008) 3.5(0.14) 3.0(0.12)
BR/CR2032/1T2	⑰ P.V.C. Cover 20(0.79) 3.0(0.12) 7(0.28) 10±1(0.39±0.04) 2(0.08) 1.3(0.05) 7±1(0.28±0.04) 0.15(0.006) 3.8(0.15)	BR/CR2032/1F4	⑱ P.V.C. Cover 20(0.79) 7.45±0.5(0.29±0.02) 3.2(0.13) 5.0(0.40) 0.15(0.006) 3.8(0.15)
BR/CR2032/1F2	⑲ P.V.C. Cover 20(0.79) 3.0(0.13) 7.0±0.5(0.28±0.02) 7.0±1(0.28±0.04) 3.2(0.13) 5.0(0.20) 0.15(0.006) 3.8(0.15)	BR2325/1HC 1HB	⑳ P.V.C. Cover 23(0.91) 2.5(0.10) 0.75(0.03) 5.0(0.20) 20.5±1(0.81±0.04) 0.2(0.008) 0.75(0.03) 9.9(0.39) 5.0(0.20)

DIMENSIONS / MM (INCH) - CONTINUED

Model No.	Dimension/mm (inch)	Model No.	Dimensions / mm (inch)
BR2325/1HM	21 P.V.C. Cover 2.5(0.10) 23(0.91) 3.4(0.13) 0.75(0.03) 5.0(0.20) 12.4(0.49) 20.5±1 0.81±0.04 0.2 0.75(0.03) 5.0(0.20)	BR2325/1HG	22 P.V.C. Cover 2.5(0.10) 23(0.91) 3.4(0.13) 0.75(0.03) 3.5(0.14) 5.0(0.20) 12.4(0.49) 20.5±1 0.81±0.04 0.2 0.75(0.03) 5.0(0.20) 3.75(0.15) 7.5(0.30)
BR2325/2HC	23 P.V.C. Cover 5.5(0.22) 23(0.91) 6.4(0.25) 0.75(0.03) 5.0(0.20) 12.4(0.49) 20.5±1 0.81±0.04 0.2 0.75(0.03) 5.0(0.20)	BR2325/1VN	24 P.V.C. Cover 2.7(0.11) 23(0.91) 23.3(0.92) 4(0.16) 0.5(0.02) 0.2(0.008) 7.45±0.5(0.29±0.02) 10.16±0.5(0.40±0.02) 15.16±0.7(0.60±0.03) 10.40±0.02 15.16±0.7 0.60±0.03 0.2(0.008)
BR2325/1VC2	25 P.V.C. Cover 2.5(0.10) 23(0.91) 1.5(0.06) 5.0(0.20) 0.2 0.2(0.008) 1.8(0.07) 9.7±0.5(0.38±0.02) 3.2(0.13)	BR/CR2330/1HF 1HE	26 P.V.C. Cover 3.0(0.12) 23(0.91) 3.7(0.15) 1.8(0.07) 3.5(0.14) 20.5±0.5 0.81±0.02 0.2 0.008 1.8(0.07) 3.5(0.14)
BR/CR2330/1HH	27 P.V.C. Cover 3.0(0.12) 23(0.91) 3.7(0.15) 1.8(0.07) 3.5(0.14) 20.5±1 0.81±0.02 0.2 0.008 1.8(0.07) 3.5(0.14)	BR/CR2330/1GU 1GUF	28 P.V.C. Cover 3.0(0.12) 23(0.91) 3.8(0.15) 0.75(0.03) 3.5(0.14) 17.8±0.5 0.70±0.02 0.2(0.008) 0.75(0.03) 3.5(0.14)
BR/CR2330/1HF1 1HE1	29 P.V.C. Cover 8.9(0.35) 24±1(0.94±0.04) 23(0.91) 3.1(0.13) 3.9(0.15) 0.75(0.03) 20.5±1 0.81±0.04 0.2 0.008 1.8(0.07) 3.5(0.14)	BR/CR2330/1VC 1VB	30 P.V.C. Cover 3.0(0.12) 23.1(0.91) 3.725(0.15) 4.0(0.16) 1.4(0.055) 23.0(0.91) 18.0(0.71) 5.0(0.20) 10.8(0.43) 10.8(0.43) 1.8(0.07) 11.45±0.5(0.45±0.02) 0.45(0.018) 0.45(0.018) 0.2(0.008) 3.9(0.15)

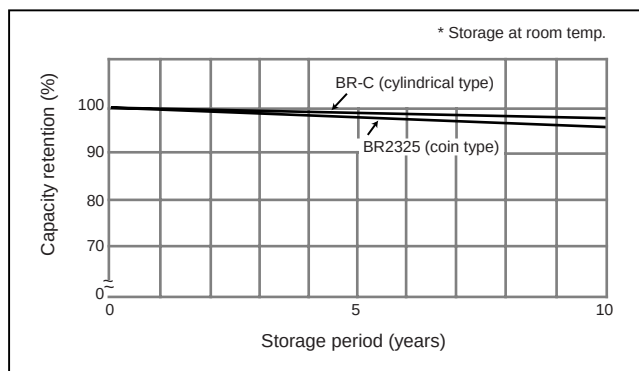
DIMENSIONS / MM (INCH) - CONTINUED

Model No.	Dimension/mm (inch)	Model No.	Dimensions / mm (inch)
BR/CR2330/1GVF 1GV		BR/CR2330/1F3	
BR/CR2330/1F4C		BR/CR3032/1VC	
BR/CR3032/1F2		CR1220/HM5	
CR1616/1F2		CR1632/1HE 1HF	
CR2032/1HU3		CR2032/1VS1	

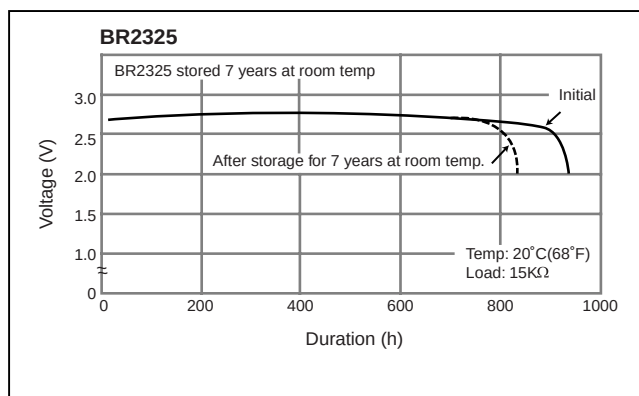
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CHARACTERISTICS

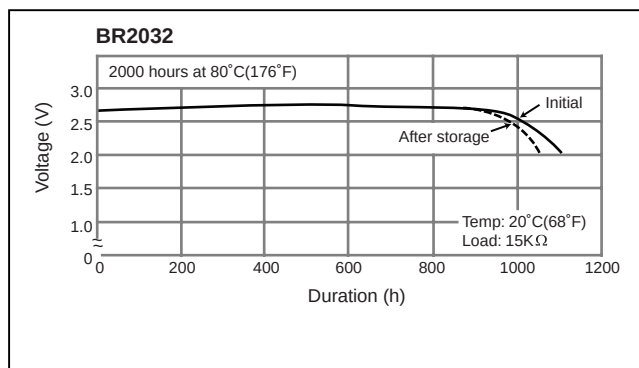
Storage characteristics (BR coin type)



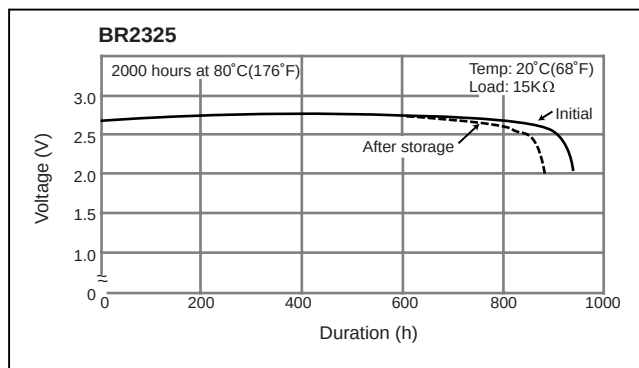
Long term storage characteristics: BR2325



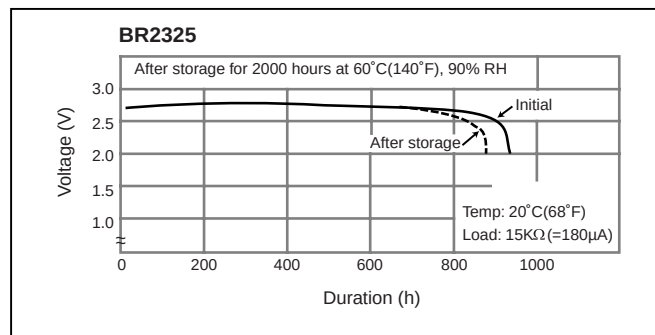
High temperature storage characteristics (80°C (176°F)): BR2032



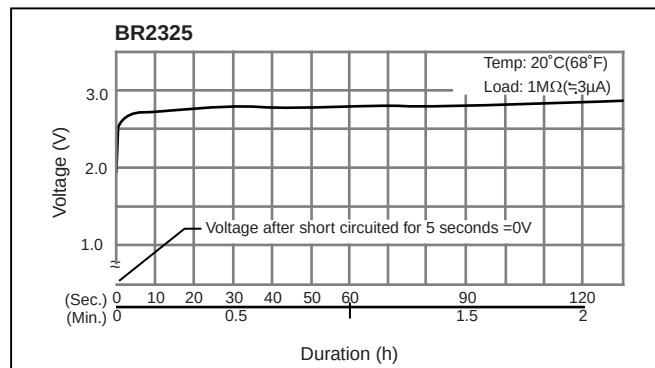
High temperature storage characteristics (80°C (176°F)): BR2325



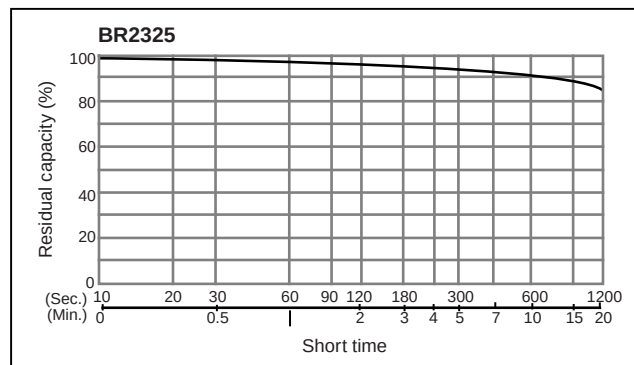
High temperature and high humidity storage characteristics



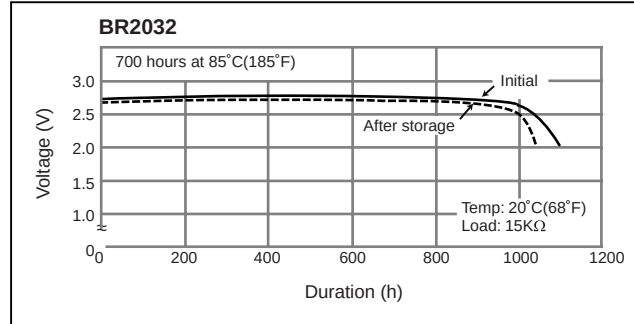
Example of voltage recovery after short-circuited: BR2325



Capacity retention after short-circuited: BR2325



High temperature storage characteristics (80°C (176°F)): BR2032



PRECAUTIONS

(Please be sure to observe the following instructions. Improper handling of batteries may cause deterioration of their performance.)

1. Short

- When batteries are shorted, it takes time for the voltage to recover. Checking should not be done immediately because shorting also leads to deterioration of capacity, avoid shorting batteries except in dip-soldering.
- For measuring voltage, select an instrument with high input impedance (10 M Ω or higher).

2. Charge

- Non-rechargeable batteries require an inverse current blocking diode in the equipment circuit. The inverse current of the diode must be very small. For coin type lithium batteries, select a diode whose total charging capacity is within 3 % of the nominal capacity of the concerned battery; and for cylindrical type lithium batteries, select a diode of total charging capacity within 1 % of the battery nominal capacity.

3. Battery terminal soldering

- When mounting batteries onto circuits, do not solder directly to batteries; instead use batteries with terminals. When soldering batteries with terminals, observe the following directions:
- Never use reflow soldering
In reflow soldering, the battery body is directly heated to high temperatures, causing solution leakage; deterioration of battery performance; or danger of rupture or ignition.
- Soldering with a soldering iron
Take care not to touch the battery body directly with the soldering iron. Maintain the iron tip temperature at 350°C(662°F); perform soldering quickly (within 5 seconds).
- Automatic dip-soldering
Do not allow the temperature of the battery body to exceed 85°C(185°F). Use caution; it is possible to have a temperature rise in the battery after dipping due to ambient heat depending on the temperature conditions in the dipping device. The basic conditions should be: Solder dipping bath temperature of up to 260°C(500°F), dipping time of within 5 seconds, and within twice dipping.

4. Cleaning and drying

- Use a non-conductive cleaning solution. In a conductive solution, batteries may discharge, causing deterioration of battery performance such as voltage drop. Make sure to dry batteries at a temperature below 85°C(185°F). If the temperature of the battery body exceeds 85°C(185 F), the gasket may be deformed by heat, causing solution leakage or deterioration of battery performance.

5. Mounting

- Position batteries so that the inter-electrode insulation is not soiled by foreign materials, such as dust.
- Avoid exposing batteries to high temperatures for a long period of time by positioning them away from high-temperature locations.
- Do not place a battery-mounted PC board on a conductive table during assembly, or the batteries may short.
- Do not bring a battery-mounted PC board, etc. into contact with conductive antistatic mats during transportation, as this will form a discharge circuit, draining battery capacity. Substitute an insulative material for the mat.

6. Handling batteries

- Avoid inversion of polarity, disassembling, heating or exposure to high temperatures, and direct application of solder or spot-welding.
- Do not apply an excessive force to battery terminals as the terminals may become detached or broken.
- Wear gloves or finger caps of rubber or cotton when handling batteries to keep them clean.
- For long-term storage, keep batteries below ordinary temperature and humidity, to help avoid deterioration of capacity due to shorting, etc.

7. UL standard

- In handling/using UL-standard application batteries, observe the conditions outlined in this catalog.