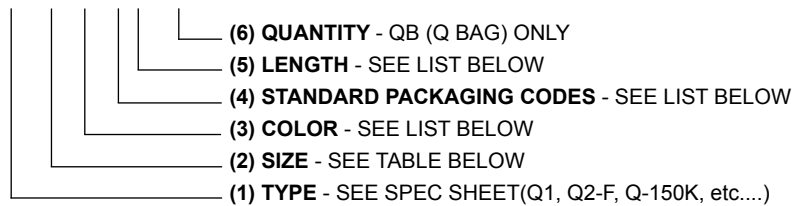


## PART NUMBER EXAMPLE: Q2-F-3/64-01-QB48IN-25

### PART NUMBER EXAM-

X - X - X - X X - X



NOTE: Table below represents information on individual spec sheet

- ④ **STANDARD PACKAGING CODES:**  
**MS** - MINI SPOOL + LENGTH (FT or M)  
**QB** - Q BAG (Polybag contains quantity specified)  
**QX** - Q BOX + LENGTH (FT or M)  
**RK** - REFILL BAG  
**SS** - STANDARD SPOOL + LENGTH (FT or M)

- ③ **COLOR CODES:**  
**01** BLACK  
**02** CLEAR  
**03** WHITE  
**04** RED  
**05** BLUE  
**06** GREEN  
**07** YELLOW  
**08** YELLOW / GREEN  
**09** BROWN  
**10** ORANGE  
**11** ASSORTED COLORS  
**12** GRAY
- ⑤ **LENGTH:**  
 FT = FEET  
 M = METERS  
 IN = INCH  
 MM = MILLIMETERS

**HEAT SHRINK THIN WALL TUBING** Qualtek Electronics

**Q2-F**  
 ENVIRONMENT FRIENDLY, FLEXIBLE,  
 HIGHLY FLAME RETARDANT, HEAT SHRINKABLE TUBING  
 SHRINK RATIO 2:1

**Features/Applications**  
 Provides both commercial and military applications electrical insulation and protects in-line components, disconnect terminals and splices with its high strength and excellent resilience. Bundles wires for very flexible light-duty harnesses. Identifies or color-codes wires, cables, terminals and components.

- Operating temperature: -55°C to +135°C
- Minimum shrink temperature: 70°C
- Full recovery temperature: 100°C
- Approval: **UL**, File No. E239137, 125°C, VW-1, 600V
- Meets: SAE-AMS-DTL-23053/5 Class 1 & 3, Sony-SS-00259
- Material: No PBES, PBES's, PBSE's, Free of Cadmium & Lead
- Standard colors: Black, red, blue, yellow, green, white, clear (class 2)
- RoHS Compliant

Technical Data		Test Method	Typical Data
Break Strength		ASTM D 2011	>100%
Expansion at 100°C		ASTM D 2011	100%
Expansion at 125°C		ASTM D 2011	100%
Expansion (Average) (100°C, 100 hrs)		ASTM D 2011	100%
Flammability		UL 24A VW-1, SAE-AMS-DTL-23053/5	20%
Heat Shrink (200°C, 4 hrs)		ASTM D 2011	No cracking
Conductivity (20°C, 1 kHz)		ASTM D 2011	Nonconductive
Dielectric Strength		ASTM D 149	200V/mm
Moisture Resistance		ASTM D 595	100% Pass
Group Comparison		UL 224	Pass
Moisture Resistance		ASTM D 595	100% Pass
Chemical Resistance		SAE-AMS-DTL-23053/5	Pass
Longitudinal Shrinkage		UL 224	±2.5%
Scarcity		UL 224	>50%

Size (inch)	As Supplied (mm)			After Recovered (mm)			Standard Packaging			
	Inside Diameter (min.)	Inside Diameter (max.)	Wall Thickness (min.)	Mini Spool (MS) (Feet)	Standard Spool (SS) (Feet)	Box Length (QX) (Feet)	Box Length (QX) (Feet)	Box Length (QX) (Feet)	Cut to Length Pcs. (QB) Qty per bag	
3/64	1.2	0.6	0.40	100	1000	50	40	25		
1/16	1.6	0.8	0.40	100	1000	50	36	25		
3/32	2.4	1.2	0.48	100	500	50	32	25		
1/8	3.2	1.6	0.48	100	500	50	28	25		
3/16	4.8	2.4	0.48	100	500	30	24	25		
1/4	6.4	3.2	0.56	100	500	30	20	25		
5/16	8.0	4.0	0.62	100	250	30	18	25		
3/8	9.5	4.8	0.62	100	250	30	16	25		
1/2	12.7	6.4	0.62	100	200	15	14	5		
5/8	15.9	8.0	0.68	50	200	15	14	5		
3/4	19.1	9.5	0.68	50	200	15	12	5		
1	25.4	12.7	0.87	50	200	15	8	5		
1 1/4	31.8	15.9	1.00	50	100	-	8	5		
1 1/2	38.1	19.1	1.00	50	100	-	5	5		
2	50.8	25.4	1.10	50	100	-	3	5		
3	76.2	38.1	1.20	-	100	-	2	2		
4	102.0	50.8	1.35	-	100	-	1	2		
5	125.0	63.5	1.40	-	50	-	1	2		
6	151.0	75.0	1.40	-	50	-	1	2		

Notes:  
 1 - See page 6 - Part Number Guide for standard packaging codes.  
 2 - Cross Reference Guide located on page 1.  
 3 - Special sizes, packaging, colors and cut pieces are available upon request.

ISO-9001 Company www.qualtekusa.com

SAMPLE TABLE: Q2-F

② **Product Dimensions**

Size (inch)	As Supplied (mm)	After Recovered (mm)			Standard Packaging			
	Inside Diameter (max.)	Inside Diameter (max.)	Wall Thickness (min.)	Mini Spool *(MS) (Feet)	Standard Spool *(SS) (Feet)	Box Length *(QX) (Feet)	Cut to Length Pcs. *(QB) Qty per bag	
							6"	48"
3/64	1.2	0.6	0.40	100	1000	50	40	25
1/16	1.6	0.8	0.40	100	1000	50	36	25
3/32	2.4	1.2	0.48	100	500	50	32	25
1/8	3.2	1.6	0.48	100	500	50	28	25
3/16	4.8	2.4	0.48	100	500	30	24	25
1/4	6.4	3.2	0.56	100	500	30	20	25
5/16	8.0	4.0	0.62	100	250	30	18	25
3/8	9.5	4.8	0.62	100	250	30	16	25
1/2	12.7	6.4	0.62	100	200	15	14	5
5/8	15.9	8.0	0.68	50	200	15	14	5
3/4	19.1	9.5	0.68	50	200	15	12	5
1	25.4	12.7	0.87	50	200	15	8	5
1 1/4	31.8	15.9	1.00	50	100	-	8	5
1 1/2	38.1	19.1	1.00	50	100	-	5	5
2	50.8	25.4	1.10	50	100	-	3	5
3	76.2	38.1	1.20	-	100	-	2	2
4	102.0	50.8	1.35	-	100	-	1	2
5	125.0	63.5	1.40	-	50	-	1	2
6	151.0	75.0	1.40	-	50	-	1	2

⑥

## Q2-Z RoHS Compliant

**ENVIRONMENT FRIENDLY, FLEXIBLE  
FLAME RETARDANT, HEAT SHRINKABLE TUBING  
SHRINK RATIO 2:1**

### Features/Applications

An environment friendly, flame retardant shrink tubing. Specially designed formulation to meet UL 224 and CSA 22.2 on the basis of no harmful substance such as PBB, PBBE, PBBO and toxic metal compounds. Widely used for insulation, strain relief, harnessing, bundling and color coding of wire with a low shrink temperature. Good flexibility and superior mechanical strength in such fields as electronics, communication and automobile.

- Operating temperature: -55°C to +125°C
- Minimum shrink temperature: 70°C
- Full recovery temperature: 100°C
- Approvals: File No. E236137, File No. 242540, 125°C, VW-1, 600V
- Meets: Sony SS-00259,
- Material: No PBB's, PBBO's, PBBE's
- Cadmium content <5 ppm, Lead content <10 ppm
- Standard color: Black, red, blue, yellow, green, white
- Other colors are available upon request.
- RoHS Compliant



### Technical Data Product Dimensions

Property	Test Method	Typical Data
Operating Temperature	UL 224	-55°C to +125°C
Tensile Strength	ASTM D 2671	> 14 MPa
Ultimate Elongation	ASTM D 2671	> 400%
Longitudinal Shrinkage	UL 224	0 ± 5%
Eccentricity	ASTM D 2671	< 30%
Heat Aging Tensile Strength Ultimate Elongation	158°C, 168 hrs.	> 12 MPa > 350%
Flammability	VW-1	Pass
Voltage Withstand	ASTM D 2671 / AC 2500, 1 min.	No Breakdown
Volume Resistance	IEC 93	> 10 <sup>14</sup> Ω.cm
Copper Stability	UL 224	Pass
Copper Corrosion	UL 224	No Corrosion

### Product Dimensions

Size (Inch)	As Supplied (mm)		After Recovered (mm)		Standard Packaging			
	Inside Diameter (min.)	Wall Thickness (min.)	Inside Diameter (max.)	Mini Spool (MS)* (Feet)	Standard Spool (SS)* (Feet)	Box Length (QX)* (Feet)	Cut to Length Pcs. (QB)* Qty per bag	
							6"	48"
3/64	1.2	0.33	0.60	100	1000	50	40	25
1/16	1.6	0.36	0.80	100	1000	50	36	25
3/32	2.4	0.44	1.20	100	500	50	32	25
1/8	3.2	0.44	1.60	100	500	50	28	25
3/16	4.8	0.56	2.40	100	500	30	24	25
1/4	6.4	0.56	3.20	100	500	30	20	25
5/16	8.0	0.56	4.00	100	250	30	18	25
3/8	9.5	0.56	4.80	100	250	30	16	25
1/2	12.7	0.65	6.40	100	200	15	14	5
5/8	15.9	0.69	8.00	50	200	15	14	5
3/4	19.1	0.80	9.50	50	200	15	12	5
1	25.4	0.90	12.70	50	200	15	8	5
1 1/4	31.8	0.90	15.90	50	100	-	8	5
1 1/2	38.1	1.02	19.10	50	100	-	5	5
2	50.8	1.02	25.40	50	100	-	3	5
3	76.2	1.20	38.10	-	100	-	2	2
4	101.6	1.30	50.80	-	100	-	1	2
5	126.0	1.30	63.50	-	50	-	1	2
6	150.0	1.30	76.00	-	50	-	1	2

Size (mm)	As Supplied (mm)	After Recovered (mm)		Standard Spool *(SS) (Meter)
	Inside Diameter (min.)	Inside Diameter (max.)	Wall Thickness (min.)	
1.0	1.0	0.50	0.33	200
1.5	1.5	0.75	0.36	200
2.0	2.0	1.00	0.44	200
2.5	2.5	1.25	0.44	200
3.0	3.0	1.50	0.44	200
3.5	3.5	1.75	0.44	200
4.0	4.0	2.00	0.44	200
5.0	5.0	2.50	0.56	100
6.0	6.0	3.00	0.56	100
7.0	7.0	3.50	0.56	100
8.0	8.0	4.00	0.56	100
9.0	9.0	4.50	0.56	100
10.0	10.0	5.00	0.56	100
11.0	11.0	5.50	0.56	100
12.0	12.0	6.00	0.56	50
13.0	13.0	6.50	0.65	50
14.0	14.0	7.00	0.69	50
15.0	15.0	7.50	0.69	50
16.0	16.0	8.00	0.69	50
18.0	18.0	9.00	0.80	50
20.0	20.0	10.00	0.80	50
22.0	22.0	11.00	0.80	50
25.0	25.0	12.50	0.90	50
28.0	28.0	14.00	0.90	50
30.0	30.0	15.00	0.90	50
35.0	35.0	17.50	0.90	50
40.0	40.0	20.00	1.00	50
50.0	50.0	25.00	1.00	50
60.0	60.0	30.00	1.00	30
70.0	70.0	35.00	1.20	30
80.0	80.0	40.00	1.20	30
100.0	100.0	50.80	1.30	30
125.0	125.0	63.50	1.30	15
150.0	150.0	76.00	1.30	15

Notes:  
 1. \* See page 4 - Part Number Guide for standard packaging codes.  
 2. Cross Reference Guide located on page 1.  
 3. Special sizes, packaging, colors and cut pieces are available upon request.