



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# Customer Specification

## PART NO. M213224

### Construction

		<b>Diameters (In)</b>			
1) Component 1		4 X 1 PAIR			
a) Conductor		22 (7/30) AWG BC		0.030	
b) Insulation		0.010" Wall, Nom. PVC		0.050	
(1) Color Code		Alpha Wire Color Code A1			
Pair	Color	Pair	Color	Pair	Color
1	BLACK-RED	3	BLACK-GREEN		
2	BLACK-WHITE	4	BLACK-BLUE		
c) Pair		2/Cond Cabled Together			
(1) Twists:		8.0 Twists/foot (min)			
2) Cable Assembly		4 Components Cabled			
a) Twists:		4.0 Twists/foot (min)			
3) Shield:		Alum/Mylar Tape, 25% Overlap, Min.			
a) Foil Direction		Foil Facing Out			
b) Drain Wire		24 (7/32) AWG TC			
4) Jacket		0.015" Wall, Nom.,PVC		0.232 (0.244 Max.)	
a) Color(s)		SLATE			
b) Print		ALPHA WIRE-* P/N M213224 4PR 22 AWG EXXXXXX SHIELDED 75C CMR (UL) C(UL) CE ROHS * = Factory Code <i>[Note: Product may have c(UL) or CSA markings depending upon plant of manufacture.]</i>			

### Applicable Specifications

1) UL	CMR	75°C
2) CSA International	C(UL) TYPE CMR	75°C
3) CE:	EU Low Voltage Directive 2006/95/EC	

### Environmental

1) CE: EU Directive 2011/65/EU(RoHS2):	
	This product complies with European Directive 2011/65/EU (RoHS Directive) of the European Parliament and of the Council of 8 June 2011. No Exemptions are required for RoHS Compliance on this item. Consult Alpha Wire's web site for RoHS C of C.
2) REACH Regulation (EC 1907/2006):	
	This product does not contain Substances of Very High Concern (SVHC) listed on the European Union's REACH candidate list in excess of 0.1% mass of the item. For up-to-date information, please see Alpha's REACH SVHC Declaration.
3) California Proposition 65:	
	The outer surface materials used in the manufacture of this part meet the requirements of California Proposition 65.

## Properties

Physical & Mechanical Properties	
1) Temperature Range	-20 to 75°C
2) Bend Radius	10X Cable Diameter
3) Pull Tension	48 Lbs, Maximum
Electrical Properties (For Engineering purposes only)	
1) Voltage Rating	300 V <sub>RMS</sub>
2) Mutual Capacitance	38 pf/ft @1 kHz, Nominal
3) Ground Capacitance	68 pf/ft @1 kHz, Nominal
4) Characteristic Impedance	59 Ω
5) Inductance	0.18 μH/ft, Nominal
6) Conductor DCR	15.4 Ω/1000ft @20°C, Nominal
7) OA Shield DCR	15.9 Ω/1000ft @20°C, Nominal

## Other

<b>Packaging</b>	Flange x Traverse x Barrel (inches)
a) 1000 FT	12 x 10 x 5 Continuous length
b) 500 FT	12 x 4.5 x 3.5 Continuous length
c) 100 FT	6.5 x 4 x 2.5 Continuous length
d) Bulk(Made-to-order)	
	<i>[Spool dimensions may vary slightly]</i>

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# EU/China ROHS CERTIFICATE OF COMPLIANCE

To Whom It May Concern:

Alpha Wire Part Number: M213224

M213224 , RoHS-Compliant Commencing With 1/1/2006 Production

This document certifies that the Alpha part number cited above is manufactured in accordance with Directive 2011/65/EU of the European Parliament, better known as the RoHS Directive, with regards to restrictions of the use of certain hazardous substances used in the manufacture of electrical and electronic equipment. The reader is referred to this Directive for the specific definitions and extents of this Directive. **No Exemptions are required for RoHS Compliance on this item.** It should be noted that this product does not fall within the scope of Directive 2011/65/EU, but this Certificate is offered for cases where this product will be used within EEE that does fit within the Directive's scope. Additionally, Alpha certifies that the listed part number is in compliance with China RoHS "Marking for Control of Pollution by Electronic Information Products" standard SJ/T 11364-2006.

Substance	Maximum Control Value
Lead	0.1% by weight (1000 ppm)
Mercury	0.1% by weight (1000 ppm)
Cadmium	0.01% by weight (100 ppm)
Hexavalent Chromium	0.1% by weight (1000 ppm )
Polybrominated Biphenyls (PBB)	0.1% by weight (1000 ppm)
Polybrominated Diphenyl Ethers (PBDE) , Including Deca-BDE	0.1% by weight (1000 ppm)

The information provided in this document and disclosure is correct to the best of Alpha Wire's knowledge, information and belief at the date of its release. The information provided is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it will become part of. The intent of this document is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.

Authorized Signatory for the Alpha Wire Company:

Dave Watson, Director of Engineering & QA

5/13/2013