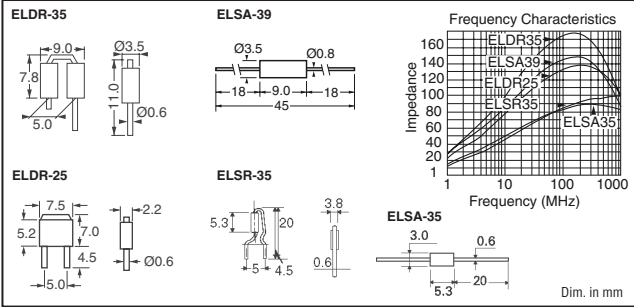


# Panasonic®

## EMI Bead Cores (For Electromagnetic Interference)



**SPECIFICATIONS:** • DC Resistance: 10mΩ maximum • Insulation Resistance: 10MΩ minimum



Description	Imp. (Ω) 100 MHz	Digi-Key Part No.	10	100	Pricing 1,000	2,000	Panasonic Part No.
Radial Dual Type (Tape and Box)	140 min.	P9817TB-ND	—	—	88.00	82.00/M	EXC-ELDR35V
Radial Dual Type (Bulk)	140 min.	P9817BK-ND	1.79	14.58	—	—	EXC-ELDR35C
Axial Single Type (Tape and Box)	110 min.	P9818TB-ND	—	—	58.00	—	EXC-ELSA39V
Axial Single Type (Bulk)	110 min.	P9818BK-ND	1.27	10.34	—	—	EXC-ELSA39C
Radial Dual Type (Tape and Box)	100 min.	P9819TB-ND	—	—	82.00/M	—	EXC-ELDR25V
Radial Dual Type (Bulk)	100 min.	P9819BK-ND	1.73	14.08	114.00	—	EXC-ELDR25C
Axial Single Type (Tape and Box)	60 min.	P9820TB-ND	—	—	58.00	—	EXC-ELSA35V
Axial Lead Type (Bulk)	60 min.	P9820BK-ND	1.27	8.78	—	—	EXC-ELSA35C
Radial Single Type (Tape and Box)	60 min.	P9821TB-ND	—	—	58.00	—	EXC-ELSR35T
Radial Form Type (Bulk)	60 min.	P9821BK-ND	1.27	8.78	—	—	EXC-ELSR35S

## Surface Mount Bead Core Array

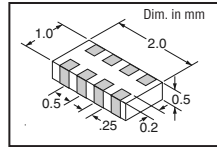


**0804 (0402x4)**

**FEATURES:** • .02 inch (0.51mm) height, lightweight (typically only 5mg), narrow pitch, compatible with SSOP pitch

**EXC-28BB Series:** • Suitable for high speed signals (over 50MHz), excellent cross talk characteristics (100MHz: <-25dB) **APPLICATIONS:** • PC, LCD, DSC, Printer, PDA, MD, CD, NAVI

**EXC-28BA Series:** • Suitable for ring suppression while maintaining wave form, excellent cross talk characteristics (100MHz: <-30dB) **APPLICATIONS:** • HDD, E-IDE (Ultra DMA 33), DVD, CD-ROM, C-DR, CDR-RW



Imp. 100 MHz ±25%	I (mA)	Rdc (Ω)	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel Pricing 5,000		Panasonic Part No.
				10	100	500		5,000	25,000	
120Ω	100	0.5	P10751CT-ND	.71	.52	.38	P10751TR-ND	298.00/M	298.00/M	EXC-28BB121U
220Ω	100	0.7	P10752CT-ND	.71	.52	.38	P10752TR-ND	298.00/M	298.00/M	EXC-28BB221U
120Ω	100	0.5	P10753CT-ND	.71	.52	.38	P10753TR-ND	298.00/M	298.00/M	EXC-28BA121U
220Ω	100	0.7	P10754CT-ND	.71	.52	.38	P10754TR-ND	298.00/M	298.00/M	EXC-28BA221U

## Common Mode Noise Filter

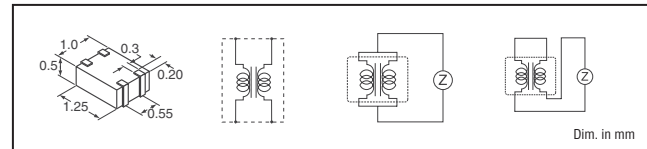


**0504**

**Features:** • Low profile • Low DC resistance • High reliability and high mounting efficiency due to multilayer construction

**Applications:** General electronic equipment

**Specifications:** Temperature Range: -40°C - 85°C



Imp. @ 100MHz Common Mode	Differential Mode	Rated Volt. (V DC)	Rated Current (mA DC)	Rdc (Ω Max.)	Digi-Key Part No.	Cut Tape Price Each			Tape & Reel Pricing* 5,000	Panasonic Part No.
						1	10	100		
90Ω	15Ω	5	160	1.75	P12972CT-ND	.61	.46	.34	192.00/M	EXC-24CE900U
120Ω	18Ω	5	140	2.20	P12970CT-ND	.61	.46	.34	192.00/M	EXC-24CE121U
200Ω	20Ω	5	130	2.70	P12971CT-ND	.61	.46	.34	192.00/M	EXC-24CE201U

\* For Tape and Reel part number, change CT-ND to TR-ND.

## Common Mode Noise Filter Array



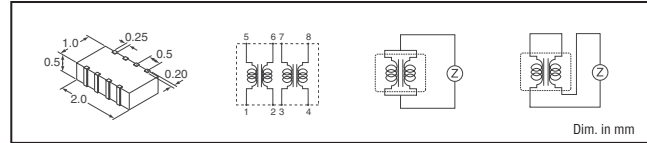
**0804**

**Features:** • Low profile • Low DC resistance • High reliability and high mounting efficiency due to multilayer construction

• 2 filters in one small package

**Applications:** General electronic equipment

**Specifications:** Temperature Range: -40°C - 85°C



Imp. @ 100MHz Common Mode	Differential Mode	Rated Volt. (V DC)	Rated Current (mA DC)	Rdc (Ω Max.)	Digi-Key Part No.	Cut Tape Price Each			Tape & Reel Pricing* 5,000	Panasonic Part No.
						1	10	100		
90Ω	15Ω	5	160	1.5	P12975CT-ND	.88	.66	.49	277.00/M	EXC-28CE900U
120Ω	18Ω	5	140	2.0	P12973CT-ND	.88	.66	.49	277.00/M	EXC-28CE121U
200Ω	20Ω	5	130	2.5	P12974CT-ND	.88	.66	.49	277.00/M	EXC-28CE201U

\* For Tape and Reel part number, change CT-ND to TR-ND.

E

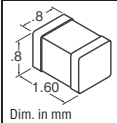
## Surface Mount Bead Cores



**0603**

**FEATURES:** EXC-3BB Series: • High impedance for high speed signal line • Increase the A characteristics sharply above 40MHz and is applicable for radiated noise in the 100MHz - 300MHz range EXC-3BP Series: • Reduced DC resistance for EMI suppression • High current rating • Effective noise suppression at high frequency, up to 2GHz

**APPLICATIONS:** Clock line, signal line, I/O interface circuit



Imp. 100 MHz ±25%	I (mA)	Rdc (Ω)	Digi-Key Part No.	Cut Tape Pricing			Digi-Key Part No.	Tape & Reel Pricing 4,000		Panasonic Part No.
				10	100	500		3,000	4,000	
220Ω	200	0.3	P10188CT-ND	1.52	10.23	34.65	P10188TR-ND	45.00/M	EXC-3BB221H	
600Ω	100	0.8	P10189CT-ND	1.52	10.23	34.65	P10189TR-ND	45.00/M	EXC-3BB601H	
1000Ω	50	1	P10190CT-ND	1.52	10.23	34.65	P10190TR-ND	45.00/M	EXC-3BB102H	
60Ω	1000	0.07	P10749CT-ND	1.72	12.10	41.80	P10749TR-ND	66.00/M	EXC-3BP600H	
120Ω	500	0.1	P10750CT-ND	1.72	12.10	41.80	P10750TR-ND	66.00/M	EXC-3BP121H	

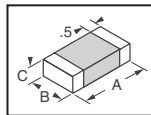
### High Current

**FEATURES:**

• Super small, high self-resonant frequency and excellent tolerance

**SPECIFICATIONS:**

• Tolerance: ±25% • Test Frequency: 100MHz



Size	Imp (Ω)	I (A)	Rdc (mΩ)	Dim. (mm)			Digi-Key Part No.	Cut Tape Pricing			Tape and Reel Pricing* 3,000	4,000	Panasonic Part No.
				A	B	C		10	100	500			
0603	27	4	6	1.6	0.8	0.8	P10436CT-ND	2.61	18.43	63.65	—	87.00/M	EXC-ML16A270U
0805	39	4	8	2.0	1.2	0.9	P10191CT-ND	2.61	18.43	63.65	—	87.00/M	EXC-ML20A390U
1206	68	3	12	3.2	1.6	0.9	P10437CT-ND	2.56	18.25	65.70	102.00/M	—	EXC-ML32A680U
1806	91	3	16	4.5	1.6	1.1	P11956CT-ND	2.82	20.13	72.45	121.00/M	—	EXC-ML45A910H

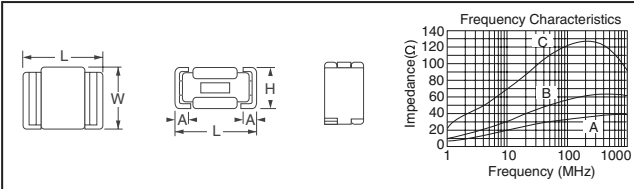
\* For Tape and Reel part number, change CT-ND to TR-ND.

**Surface Mount Bead Core Assortment Kit:**

EXC-KIT-ND 20 each of 9 values (180 pieces) (RoHS Compliant).....\$61.95

## Surface Mount Bead Cores

**SPECIFICATIONS:** • Tolerance: ±25% • Test Frequency: 100MHz • Rated Current: 2 (A) • Flow/Reflow Soldering



Dia. (mm)	Imp. (Ω)	Dimensions (mm)			Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel Pricing		Panasonic Part No.
		L	W	H		10	100	2,000		10,000		
A	25	3.2	1.6	1.6	0.5	P9810CT-ND	.41	.31	P9810TR-ND	173.00/M	160.00/M	EXC-CL3216U1
B	45	3.2	2.5	1.6	0.5	P9811CT-ND	.53	.39	P9811TR-ND	221.00/M	205.00/M	EXC-CL3225U1
C	115	4.5	3.2	1.8	0.5	P9812CT-ND	.62	.46	P9812TR-ND	—	240.00/M	EXC-CL4532U1

• RoHS Compliant

## LC/LR Composite Devices



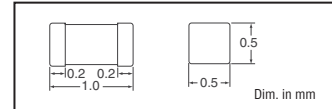
**Features:**

• Effective for noise and ESD at the same time

• Simple pattern without connecting GND pattern

**Applications:**

• Information/communication devices with LCD displays



Inductance @ 100MHz ±20% Nom.	Q	Imp. @ 100 MHz (mΩ)	SRF @ 50MHz Nom. (MHz)	RDC Max. (Ω)	IDC Max. (mA)	Digi-Key Part No.	Cut Tape Pricing			Tape & Reel Pricing* 10,000	Panasonic Part No.
							1	10	100		
99nH	4	1500Ω	850	10	90	P13345CT-ND	.16	1.35	10.58	61.00/M	ELW-CF800F01

Inductance @ 100MHz ±5% Nom.	DCR @ 20% Nom.	SRF Min. (MHz)	IDC Max. (mA)	Digi-Key Part No.	Cut Tape Pricing			Tape & Reel Pricing* 10,000	Panasonic Part No.
					1	10	100		
100nH	100Ω	1200	23	P13346CT-ND	.15	1.26	9.87	57.00/M	ELW-RFR10101F

\* For Tape and Reel part number, change CT-ND to TR-ND.

More Product Available Online: [www.digkey.com](http://www.digkey.com)

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