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.

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muRata
INNOVATOR IN ELECTRONICS

SMD/BLOCK Type
EMI Suppression Filters EMIFIL®

Introduction

Murata Manufacturing Co., Ltd. has been developing the EMI suppression device market since the invention of 3 terminal capacitor DS310 series in 1979. Also, we have been striving to develop and popularize new noise countermeasure technologies as well as new products in the concept of "Develop unique products," to become our customer's best solution partner. We hope you can find the key solution to your noise problem.

Explanation of symbols in this catalog

	Features of each series	Features of each item
All Products	Flow soldering available	New product
	Reflow soldering available	Exist in design kit
	Meets large current lines	Rated current 1A or more
		Rated current 3A or more
		Rated current 10A or more
Chip Ferrite Bead	Meets high frequency noise up to 1-2GHz	
	Meets ultra high frequency noise up to 10GHz	
LC Combined Type Filter		Low cut-off frequency type for UHF band noise, which affects digital TV tuner
Chip Common Mode Choke Coil		For high speed differential signal lines (USB2.0/LVDS/IEEE1394 etc.)
		For ultra high speed differential signal lines (HDMI/DVI/Display Port/USB3.0 etc.)
		Line impedance has been matched to transmission lines

EU RoHS Compliant

- All the products in this catalog comply with EU RoHS.
- EU RoHS is "the European Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment."
- For more details, please refer to our website 'Murata's Approach for EU RoHS' (http://www.murata.com/info/rohs.html).

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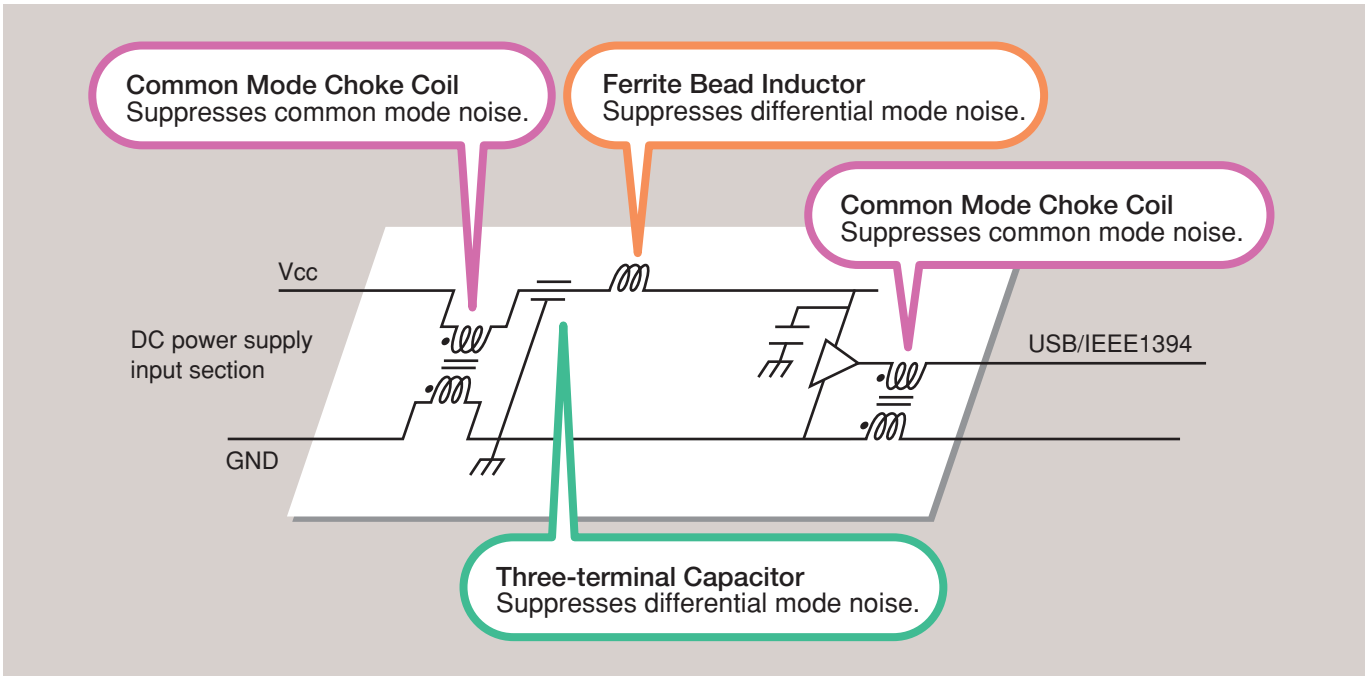
●Features & Suitable Circuits

Type	Features	Suitable Circuits
Ferrite Bead BLM/BLA Series 	· Miniaturized · GND connection unnecessary · Effective at low impedance line	· Application set with less noise radiation · Low impedance line
Capacitor Type NFM/NFA/NFE/NFR/ NFL/NFW Series 	· Great noise suppression effect · With effect as By-Pass capacitor (Lineup for Power) · Good noise separation from signal (LC filter for Signal) · Effective at high impedance line	· Application set with higher noise radiation · High impedance line · Circuit with By-Pass capacitor · Circuit driven by high frequency
Common Mode Choke Coil 	· Possible to suppress noise with less affect of ultra high speed signal · Great effect for common mode noise · Less magnetic saturation by current	· High speed differential signal line · I/F cable driver · Power line

●Example



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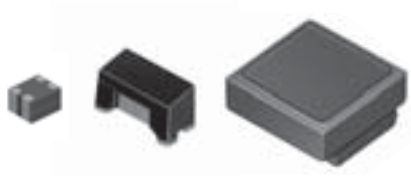
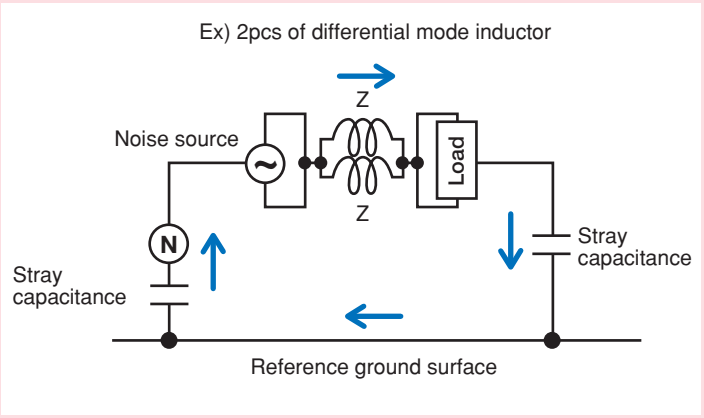
●Advantages to Using Common Mode Choke Coils



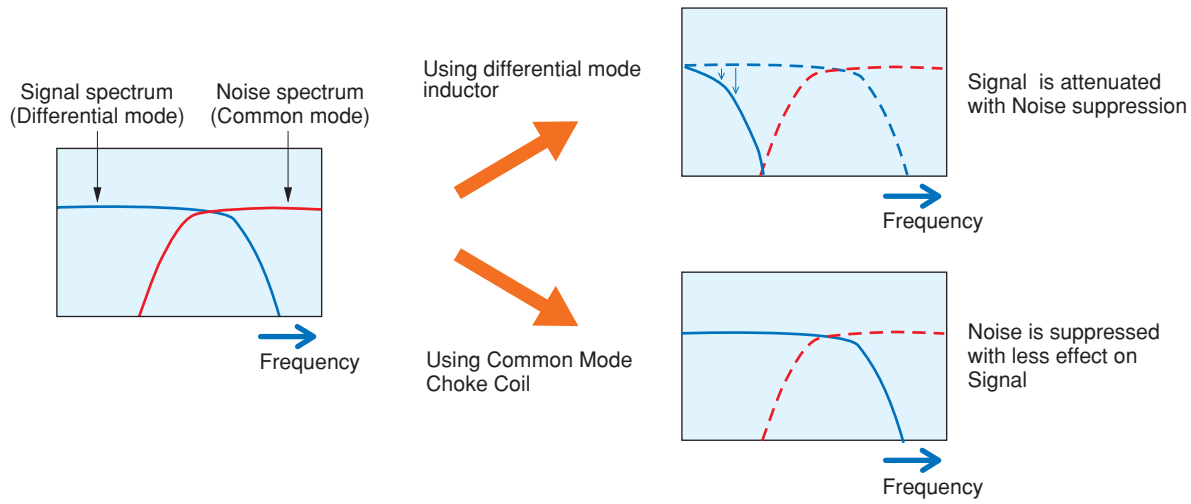
1. Great Effect for Common Mode Noise

Differential mode inductors work as a half impedance for common mode noise. Common Mode Choke Coils are effective for common mode noise.



2. Possible to Suppress Noise with Less Affect of Ultra High Speed Signal

Common Mode Choke Coils can suppress Noise with less affect of Signal, even if the frequency range of Signal and Noise are the same, because they separate each conductive mode of current.

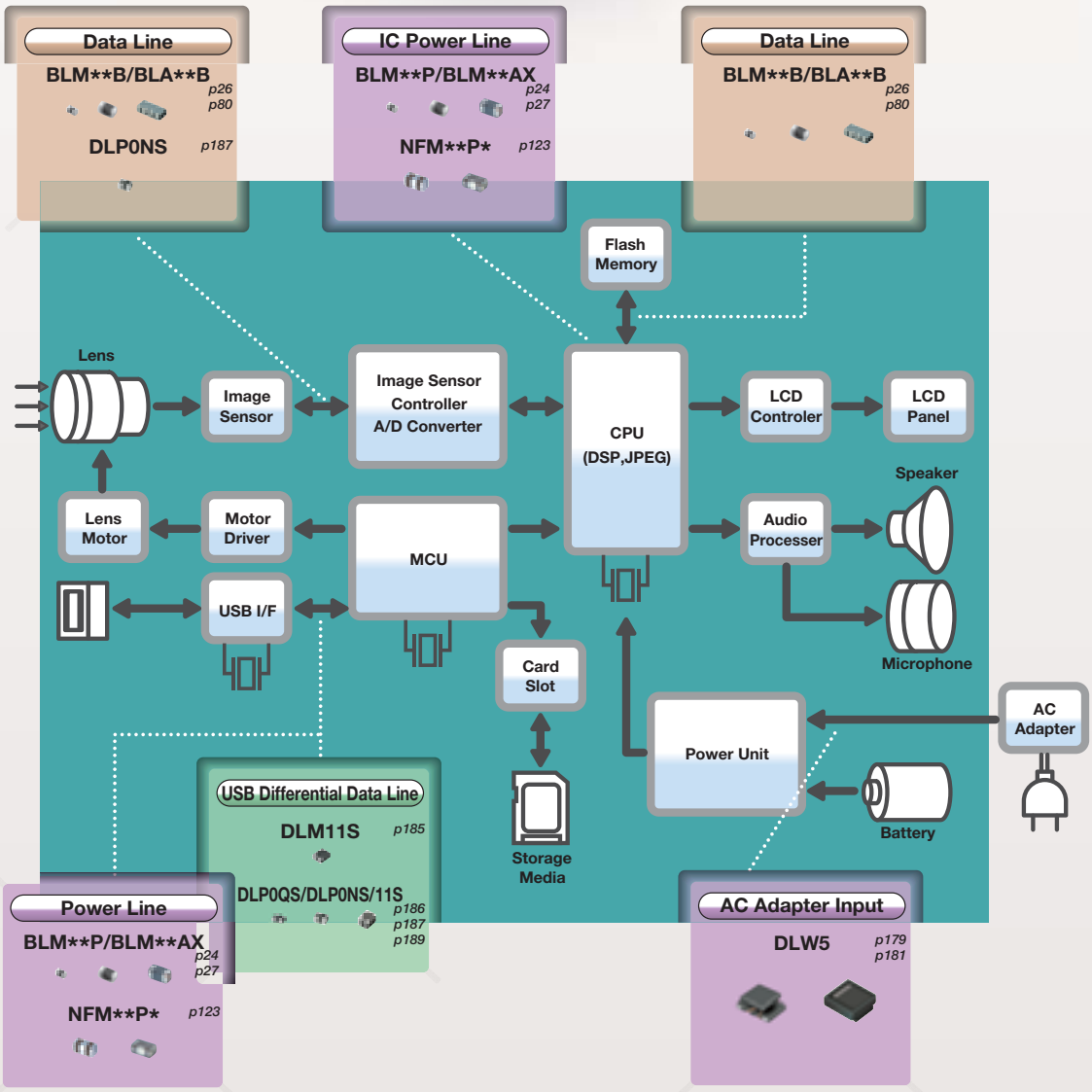


3. Less Magnetic Saturation by Current

Common Mode Choke Coils are effective for noise suppression of DC power lines, due to their less magnetic saturation at high power current, that comes from their construction of cancelling magnetic flux of differential mode current at each coil.

Digital Still Camera

Application Sample



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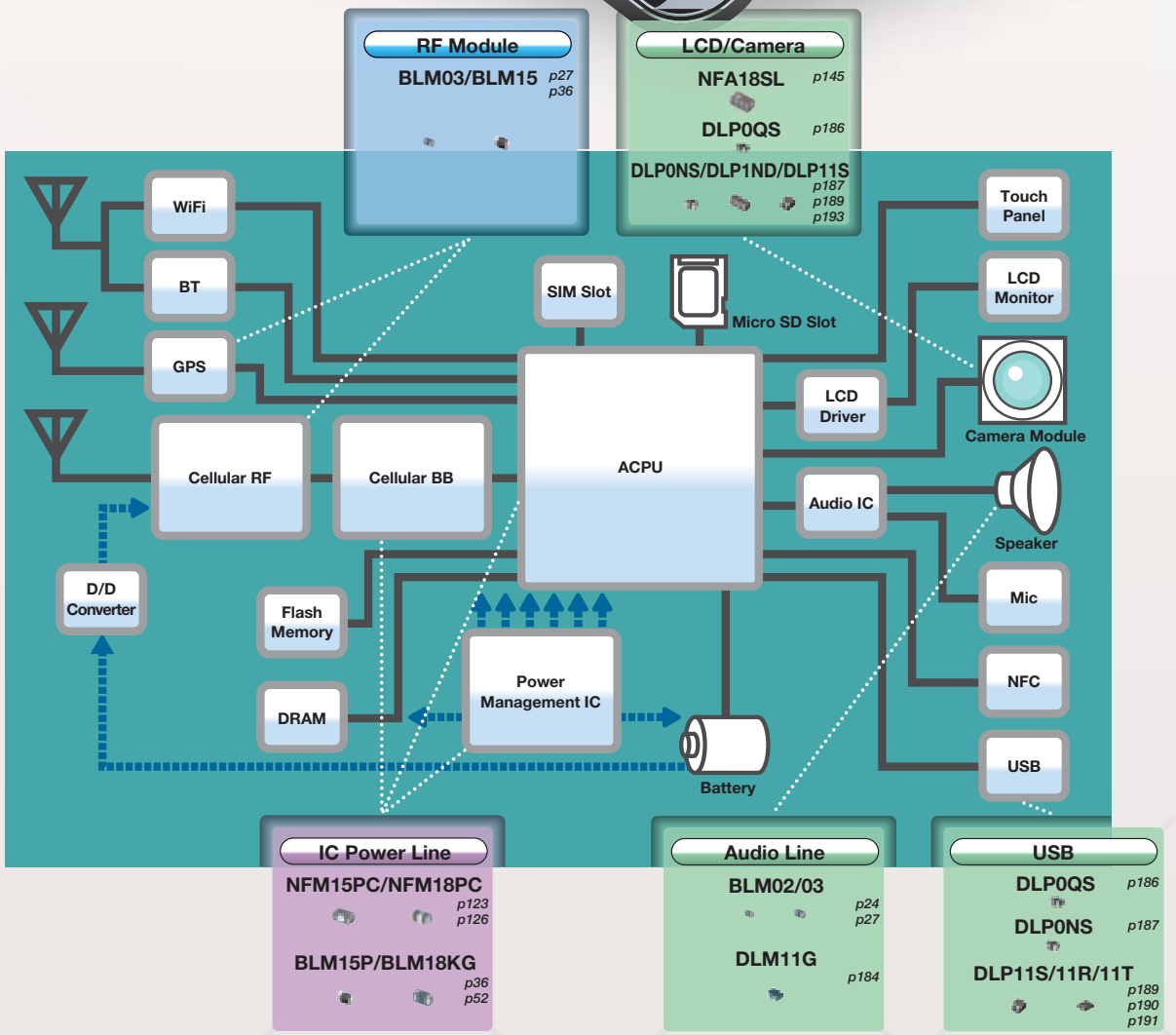
Smartphone
Application Sample



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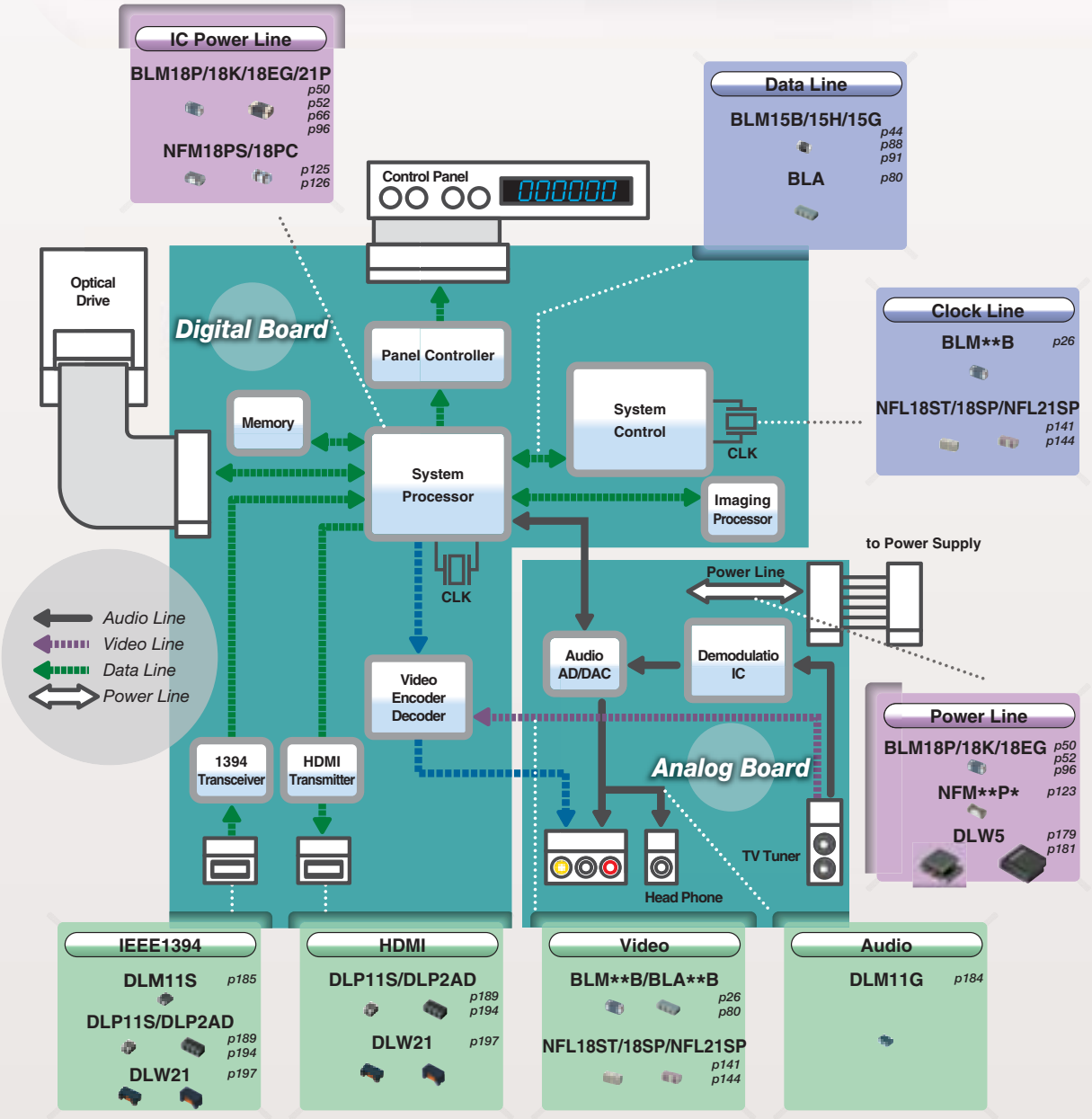
Blu-ray/DVD

Application Sample



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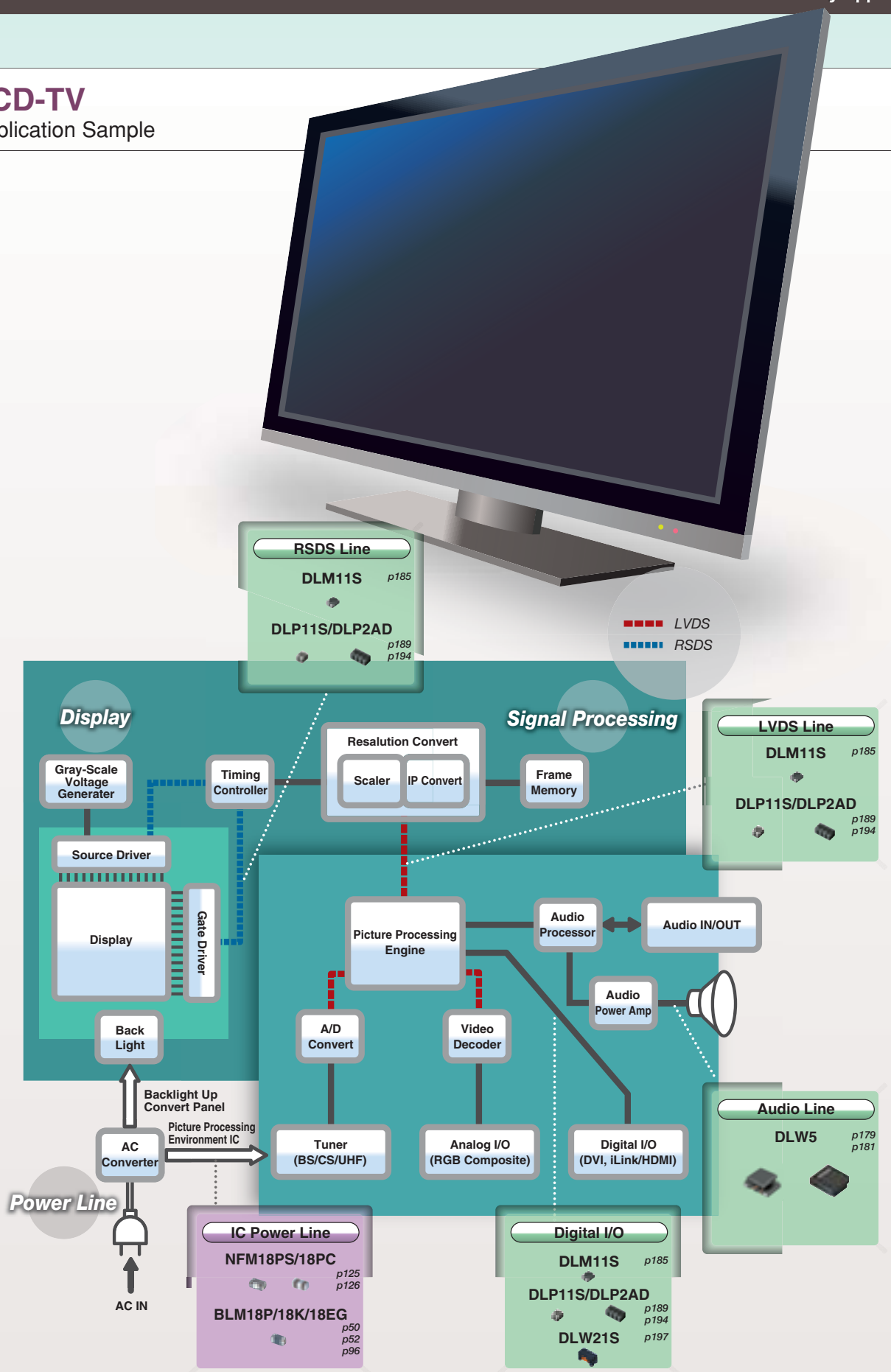
LCD-TV

Application Sample



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EMI Filter Selection by Circuits and Noise Frequency

●Chip Ferrite Bead / Chip EMIFIL®

Noise Frequency?

Circuit Type?

Noise Frequency	Circuit Type	Power Line	General Signal Line (Under 10MHz)	High Speed Signal Line (Over 10MHz)
Noise Frequency: Under 1GHz	Inductor Type (Suppression Effect: Normal)	**BLM02AX** p24 01005(0402)/Imp.10-120Ω		**BLM02BX** p26 01005(0402)/Imp.150Ω
		BLM03AX p30 0201(0603)/0.2-1A/Imp.10-1000Ω		**BLM03B** p34 0201(0603)/Imp.10-600Ω
		BLM03PG p27 0201(0603)/0.75-0.9A/Imp.22-33Ω	**BLM03AG** p32 0201(0603)/Imp.10-1000Ω	**BLM15BX** p44 0402(1005)/0.25-0.6A/Imp.75-1800Ω
		Low DC Resistance / High Current Type	**BLM15AG** p42 0402(1005)/Imp.10-1000Ω	**BLM15B** p46 0402(1005)/Imp.5-1800Ω
		BLM03PX p28 0201(0603)/1-1.8A/Imp.22-80Ω	**BLM18A** p56 0603(1608)/Imp.120-1000Ω	**BLM18B** p58 0603(1608)/Imp.5-2500Ω
		BLM15AX p40 0402(1005)/0.35-1.74A/Imp.10-1000Ω		**BLM21B** p70 0805(2012)/Imp.5-2700Ω
		BLM15PX p36 0402(1005)/0.9-3A/Imp.33-600Ω	**BLM18T** p62 0603(1608)/Imp.120-1000Ω	Array Type
		BLM15PG/PD p38 0402(1005)/1-2.2A/Imp.10-120Ω	**BLM18R** p63 0603(1608)/Imp.120-1000Ω	**BLA2AB** p80 0804(2010)/Imp.10-1000Ω
		BLM18P p50 0603(1608)/0.5-3A/Imp.30-470Ω	**BLM21A** p68 0805(2012)/Imp.120-1000Ω	**BLA31B** p83 1206(3216)/Imp.120-1000Ω
		BLM21P p66 0805(2012)/1.5-6A/Imp.22-330Ω	**BLM21R** p73 0805(2012)/Imp.120-1000Ω	
		BLM31P p75 1206(3216)/1.5-6A/Imp.33-600Ω	Array Type	
		BLM41P p77 1806(4516)/1.5-6A/Imp.60-1000Ω	**BLA2AA** p80 0804(2010)/Imp.120-1000Ω	
		BLE32P p79 1210(3225)/10A/Imp.30Ω	**BLA31A** p83 1206(3216)/Imp.30-1000Ω	
		Low DC Resistance Type		
		BLM18K p52 0603(1608)/1.3-6A/Imp.26-600Ω		
		BLM18S p54 0603(1608)/1.5-6A/Imp.26-330Ω		
	Capacitor Type (Suppression Effect: High)	**NFM15PC** p123 0402(1005)/Cap.0.047-4.3μF	**NFM15CC** p134 0402(1005)/Cap.2200-22000pF	LC Combined
		NFM18PC p126 0603(1608)/2-4A/Cap.0.1-2.2μF	**NFM18CC** p135 0603(1608)/Cap.22-22000pF	**NFL15ST** p140 0402(1005)/Cut off 150-500MHz
		NFM21PC p129 0805(2012)/2-6A/Cap.0.1-4.7μF	**NFM21CC** p136 0805(2012)/Cap.22-22000pF	**NFL18ST** p141 0603(1608)/Cut off 50-500MHz
		NFM3DPC p130 1205(3212)/2A/Cap.0.022μF	**NFM3DCC** p137 1205(3212)/Cap.22-22000pF	**NFL18SP** p143 0603(1608)/Cut off 150-500MHz
		NFM31PC p131 1206(3216)/6A/Cap.27μF	**NFM41CC** p138 1806(4516)/Cap.22-22000pF	**NFL21SP** p144 0805(2012)/Cut off 10-500MHz
		NFM31KC p132 1206(3216)/6-10A/Cap.0.01-0.1μF	Array Type	**NFW31SP** p150 1206(3216)/Cut off 10-500MHz
		NFM41PC p133 1806(4516)/2-6A/Cap.0.2-1.5μF	**NFA31CC** p139 1206(3216)/Cap.22-22000pF	RC Combined
		T Circuit Filter Feed Through Type	T Circuit Filter Feed Through Type	**NFR21GD** p152 0805(2012)/22-100Ω/Cap.10-100pF
		NFE31PT p121 1206(3216)/6A/Cap.22-2200pF	**NFE31PT** p121 1206(3216)/Cap.22-2200pF	Array Type (RC/LC Combined)
		NFE61PT p122 2706(6816)/2A/Cap.33-4700pF	**NFE61PT** p122 2706(6816)/Cap.33-4700pF	**NFA31GD** p153 1206(3216)/6.8-100Ω/Cap.10-100pF
		Block Type		**NFA18SL/NFA18SD** p145 p147 0603(1608)/Cut off 50-480MHz
		BNX022/023 p221 10-15A		**NFA21SL** p148 0805(2012)/Cut off 50-330MHz
Noise Frequency: GHz Band (800MHz to 2.5GHz)	Inductor Type (Suppression Effect: Normal)		**BLM03HG** p85 0201(0603)/Imp.600-1200Ω	**BLM03HD** p85 0201(0603)/Imp.330-1000Ω
			BLM15HG p88 0402(1005)/Imp.600-1000Ω	**BLM03HB** p85 0201(0603)/Imp.190Ω
			BLM18HG p92 0603(1608)/Imp.470-1000Ω	**BLM15HD** p88 0402(1005)/Imp.600-1800Ω
			BLM18HK p92 0603(1608)/Imp.330-1000Ω	**BLM15HB** p88 0402(1005)/Imp.120-220Ω
		BLM18HE p92 0603(1608)/0.5-0.8A/Imp.600-1500Ω		**BLM18HD** p92 0603(1608)/Imp.470-1000Ω
		BLM03E p87 0201(0603)/0.4-0.6A/Imp.25-50Ω		**BLM18HE** p92 0603(1608)/Imp.600-1500Ω
		BLM15E p90 0402(1005)/0.7-1.5A/Imp.120-220Ω		**BLM18HB** p92 0603(1608)/Imp.120-330Ω
		BLM18E p96 0603(1608)/0.5-2A/Imp.100-600Ω		
	Capacitor Type (Suppression Effect: High)	**NFM18PS** p125 0603(1608)/2A/Cap.0.47-1.0μF		LC Combined
		NFM21PS p128 0805(2012)/4A/Cap.10μF		**NFL18ST** p141 0603(1608)/Cut off 50-500MHz
				Array Type (LC Combined)
				NFA18SL/NFA18SD p145 p147 0603(1608)/Cut off 50-480MHz
				NFA21SL p148 0805(2012)/Cut off 50-330MHz
Noise Frequency: High-GHz Band (1GHz to 10GHz)	Inductor Type		**BLM15GG** p91 0402(1005)/Imp.220-470Ω	**BLM15GA** p91 0402(1005)/Imp.75Ω
			BLM18G p98 0603(1608)/Imp.470Ω	

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●Chip Common Mode Choke Coil

Circuit Type?

DC Power Line


DLW5AH p177
2014(5036)/0.2A/Imp.4000Ω


DLW5AT p179
2014(5036)/1-6A/Imp.50-2700Ω


DLW5BS p177
2020(5050)/0.5-5A/Imp.190-3000Ω


DLW5BT p179
2020(5050)/1.5-6A/Imp.100-1400Ω

High Current Type Automotive Available


PLT10HH p202
12.9mmx6.6mm
/6-18A/Imp.45-1000Ω

High Speed Differential Signal Line

High Speed Signal Line
(USB/LVDS/IEEE1394/mipi etc.)

DLM11S p185
0504(1210)/Imp.45-90Ω

DLP0QSN p186
025020(0605)/Imp.60Ω

DLP0NSC/SN p187
03025(0806)/Imp.28-120Ω


DLP11SN p189
0504(1210)/Imp.67-330Ω


DLP11RN p189
0504(1210)/Imp.45Ω


DLW21H p199
0805(2012)/Imp.67-180Ω


DLW21S_S/X p197
0805(2012)/Imp.67-500Ω


DLP31S p192
1206(3216)/Imp.120-550Ω


DLW31S p200
1206(3216)/Imp.90-2200Ω

Automotive Available


DLW43S p201
1812(4532)

Array Type

DLP1ND p193
05025(1506)/Imp.35-90Ω


DLP2ADN p194
0804(2010)/Imp.67-280Ω


DLP31D p196
1206(3216)/Imp.90-440Ω

Ultra High Speed Signal Line
(HDMI/DVI/Display Port etc.)

DLP0QSA p186
025020(0605)/Imp.7-35Ω

DLP0NSA p187
03025(0806)/Imp.7-15Ω

DLP11SA p189
0504(1210)/Imp.35-90Ω


DLP11RB p189
0504(1210)/Imp.15-40Ω


DLP11TB p189
0504(1210)/Imp.80Ω


DLW21S_HQ p197
0805(2012)/Imp.67-120Ω

Array Type


DLP2ADA p194
0804(2010)/Imp.35-90Ω

Audio Line

DLM11G p184
0504(1210)/Imp.600Ω


DLW5AT p179
2014(5036)/1-6A/Imp.50-2700Ω


DLW5BT p179
2020(5050)/1.5-6A/Imp.100-1400Ω

Guide of Digits in this Chart:

●for **BLM03P**

0201(0603)/0.75-0.9A/Imp.22-33Ω
- 0201: Size (inch)
- 0603: Size (mm)
- 0.75-0.9A: Rated Current
- Imp.22-33Ω: Impedance

●for **BNX022/023**

10-15A/Range1MHz-2GHz
- 10-15A: Rated Current
- Range1MHz-2GHz: Effective Frequency Range

●for **NFR21GD**

0805(2012)/22-100Ω/Cap.10-100pF
- 0805: Size (inch)
- 2012: Size (mm)
- 22-100Ω: Resistance
- Cap.10-100pF: Capacitance

●for **NFA18S**

0603(1608)/Cut off 50-480MHz
- 0603: Size (inch)
- 1608: Size (mm)
- Cut off 50-480MHz: Cut-off Frequency

●for **DLW5BS**

2020(5050)/0.5-5A/Imp.190-3000Ω
- 2020: Size (inch)
- 5050: Size (mm)
- 0.5-5A: Rated Current
- Imp.190-3000Ω: Impedance

BL□

Inductor Type

			Series	Size Code in inch (in mm)	Impedance (Ω) at 100MHz	Effective Frequency Range (Applicable Frequency Ranges are only for reference.)
For General Band Noise	Signal Lines Type	Universal Type [Power Lines / Signal Lines]	BLM02AX p24	01005 (0402)	10 70 120	
			BLM03AX p30	0201 (0603)	10 80 120 240 600 1000	
			BLM15AX p40	0402 (1005)	10 30 70 120 220 600 1000	
		For General Signal Lines	BLM03AG p32	0201 (0603)	10 80 70 120 240 600 1000	
			BLM15AG p42	0402 (1005)	10 70 120 220 600 1000	
			BLM18A p56	0603 (1608)	120 150 220 330 470 600 1000	
			BLM21A p68	0805 (2012)	120 150 220 330 470 600 1000	
			BLM18T p62	0603 (1608)	120 220 600 1000	
			BLA2AA p80 (4 circuits array)	0804 (2010)	120 220 600 1000	
			BLA31A p83 (4 circuits array)	1206 (3216)	30 60 120 220 600 1000	
		For High Speed Signal Lines	BLM02BX p26	01005 (0402)	150	
			BLM03B p34	0201 (0603)	10 22 33 47 56 75 80 120 240 470 600	
			BLM15B p44	0402 (1005)	5 10 22 33 47 75 120 220 240 470 600 1000 1800	
			BLM18B p58	0603 (1608)	5 10 22 47 60 75 120 140 150 220 330 420 470 600 1000 1500 1800 2200 2500	
			BLM21B p70	0805 (2012)	5 60 75 120 150 200 220 330 420 470 600 750 1000 1500 1800 2200 2250 2700	
			BLA2AB p80 (4 circuits array)	0804 (2010)	10 22 47 75 120 220 600 470 1000	
			BLA31B p83 (4 circuits array)	1206 (3216)	120 220 600 470 1000	
		For Digital Interface Lines	BLM18R p63	0603 (1608)	120 220 600 470 1000	
			BLM21R p73	0805 (2012)	120 220 600 470 1000	
	Power Lines Type		BLM03PX* p28	0201 (0603)	22 (1.8A) 33 (1.5A) 80 (1A)	
			BLM03PG p27	0201 (0603)	22 (0.9A) 33 (0.75A)	
			BLM15P* p36	0402 (1005)	10 (1A) 30 (2.2A) 33 (3A) 60 (1.7A/2.5A) 80 (1.5A/2.3A) 120 (1.3A/2A) 180 (1.5A) 330 (1.2A) 220 (1.4A) 600 (0.9A) 470 (1A)	
			BLM18P* p50	0603 (1608)	30 (1A) 33 (3A) 60 (0.5A) 120 (2A) 180 (1.5A) 220 (1.4A) 330 (1.2A) 470 (1A)	
			BLM21P* p66	0805 (2012)	22 (6A) 30 (4A) 60 (3.5A) 120 (3A) 220 (2A) 330 (1.5A)	
			BLM31P* p75	1206 (3216)	33 (6A) 50 (3.5A) 120 (3.5A) 390 (2A) 600 (1.5A)	
			BLM41P* p77	1806 (4516)	60 (6A) 75 (3.5A) 180 (3.5A) 470 (2A) 1000 (1.5A)	
			BLM18K* p52 (Low DC Resistance Type)	0603 (1608)	26 (6A) 30 (5A) 70 (3.5A) 100 (3A) 120 (3A) 220 (2.2A) 330 (1.7A) 470 (1.5A) 600 (1.3A)	
			BLM18S* p54 (Low DC Resistance Type)	0603 (1608)	26 (6A) 70 (4A) 120 (3A) 220 (2.5A) 330 (1.5A)	
			BLE32P p79	1210 (3225)	30	
For GHz Band Noise	Signal Lines Type	Universal Type [Power Lines / Signal Lines]	BLM03E* p87	0201 (0603)	25 (0.6A) 50 (0.4A)	
			BLM15E* p90	0402 (1005)	120 (1.5A) 220 (0.7A)	
			BLM18EG* p96	0603 (1608)	100 (2A) 120 (2A) 220 (2A/1A) 330 (0.5A) 390 (0.5A) 470 (0.5A) 600 (0.5A)	
			BLM18HE* p92	0603 (1608)	600 (0.8A) 1000 (0.6A) 1500 (0.5A)	
			BLM03HG p85	0201 (0603)	600 1000 1200	
			BLM03HD p85	0201 (0603)	330 470 600 1000	
			BLM03HB p85	0201 (0603)	190	
			BLM15HG p88	0402 (1005)	600 1000	
			BLM15HD p88	0402 (1005)	600 1000 1800	
			BLM15HB p88	0402 (1005)	120 220	
			BLM18HG p92	0603 (1608)	470 600 1000	
			BLM18HD p92	0603 (1608)	470 600 1000	
			BLM18HB p92	0603 (1608)	120 220 330	
			BLM18HK p92	0603 (1608)	330 470 600 1000	
For High-GHz Band Noise	Signal Lines Type		BLM15GG p91	0402 (1005)	220 470	
			BLM15GA p91	0402 (1005)	75	
			BLM18G p98	0603 (1608)	470	

Effective Frequency Range: 10kHz 100kHz 1MHz 10MHz 100MHz 1GHz 10GHz

* The derating of rated current is required for some items according to the operating temperature on each product page.

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NF□

Capacitor Type

	Series	Size Code in inch (in mm)	Capacitance (F)	Effective Frequency Range (Applicable Frequency Ranges are only for reference.)
			10p 100p 1000p 10000p 0.1μ 1μ 10μ	10kHz 100kHz 1MHz 10MHz 100MHz 1GHz 10GHz
Signal Lines Type	NFM15CC p134	0402 (1005)	2200 22000	
	NFM18CC p135	0603 (1608)	470 2200 22 47 100 220 1000 22000	
	NFM21CC p136	0805 (2012)	470 2200 22 47 100 220 1000 22000	
	NFM3DCC p137	1205 (3212)	470 2200 22 47 100 220 1000 22000	
	NFM41CC p138	1806 (4516)	470 2200 22 47 100 220 1000 22000	
	NFA31CC p139 (4 circuits array)	1206 (3216)	470 2200 22 47 100 220 1000 22000	
Power Lines Type	NFM15PC p123	0402 (1005)	47000 0.22 1.0 0.1 0.47 4.3	
	NFM18PS p125	0603 (1608)	1.0 0.47	
	NFM18PC p126	0603 (1608)	0.22 1.0 0.1 0.47 2.2	
	NFM21PS p128	0805 (2012)	10	
	NFM21PC p129	0805 (2012)	0.22 1.0 4.7 0.1 0.47 2.2	
	NFM3DPC* p130	1205 (3212)	22000	
	NFM31PC p131	1206 (3216)	27	
	NFM31KC* p132	1206 (3216)	10000 22000 15000 0.1	
	NFM41PC p133	1806 (4516)	0.2 1.5	
Universal Type [Power Lines / Signal Lines]	NFE31PT p121	1206 (3216)	470 2200 22 47 100 220 1500	
	NFE61PT p122	2706 (6816)	100 360 1000 33 68 180 680 4700	

NF□

LC(RC) Combined Type

	Series	Size Code in inch (in mm)	Cut-off Frequency (MHz)	Effective Frequency Range (Applicable Frequency Ranges are only for reference.)
			10 100 500	10kHz 100kHz 1MHz 10MHz 100MHz 1GHz 10GHz
Signal Lines Type	NFL15ST p140	0402 (1005)	150 200 300 500	
	NFL18ST p141	0603 (1608)	50 70 100 200 300 500	
	NFL18SP p143	0603 (1608)	150 200 300 500	
	NFL21SP p144	0805 (2012)	500 10 20 50 70 100 150 200 300 400	
	NFA18SL p145 (4 circuits array)	0603 (1608)	200 400 50 130 180 220 300 350480	
	NFA18SD p147 (4 circuits array)	0603 (1608)	200 180	
	NFA21SL p148 (4 circuits array)	0805 (2012)	280 310 50 80 200 300 330	
	NFW31SP p150	1206 (3216)	400 10 20 50 100 150 200 300 500	
	NFR21GD p152	0805 (2012)		
	NFA31GD p153 (4 circuits array)	1206 (3216)		

* The derating of rated current is required for some items according to the operating temperature on each product page.

DL□

Common Mode Choke Coils

		Series	Size Code in inch (in mm)	Common Mode Impedance (Ω) at 100MHz (100 / 500 / 1000)	Effective Frequency Range (100kHz 1MHz 10MHz 100MHz 1GHz 10GHz)
Signal Lines Type	For Audio Lines	DLM11G p184	0504 (1210)	600	
	For Ultra High Speed Signal Lines	DLM11S p185	0504 (1210)	45 90	
		DLP0QSN p186	025020 (0605)	60	
		DLP0QSA p186	025020 (0605)	15 7 35	
		DLP0NSC p187	03025 (0806)	28	
		DLP0NSN p187	03025 (0806)	35 90 67 120	
		DLP0NSA p187	03025 (0806)	15 7	
		DLP11SN p189	0504 (1210)	67 240 90 120 160 200 280 330	
		DLP11SA p189	0504 (1210)	35 90 67	
		DLP11RN p190	0504 (1210)	45	
		DLP11RB p190	0504 (1210)	15 40	
		DLP11TB p191	0504 (1210)	80	
		DLP31S p192	1206 (3216)	120 220 550	
		DLP1NDN p193 (2 circuits array)	05025 (1506)	35 90 67	
		DLP2ADA p194 (2 circuits array)	0804 (2010)	35 90 67	
		DLP2ADN p194 (2 circuits array)	0804 (2010)	90 240 67 120 160 200 280	
		DLP31DN p196 (2 circuits array)	1206 (3216)	90 130 200 320 440	
		DLW21S p197	0805 (2012)	90 490 67 120 180 260 370 500	
		DLW21H p199	0805 (2012)	90 67 120 180	
		DLW31SN p200	1206 (3216)	90 160 260 600 1000 2200	
		DLW43SH p201	1812 (4532)		
Universal Type [Power Lines / Signal Lines]		DLW5AH/DLW5BS* p177	2014 (5036) / 2020 (5050)	500 800 1500 4000 190 350 600 1000 3000	
		DLW5AT*/DLW5BT* p179	2014 (5036) / 2020 (5050)	50 110 230 330 500 1000 1400 100 150 250 400 850 1100 2700	

PL□

Large Current Common Mode Choke Coil for Automotive Available

	Series	Size Code in inch (in mm)	Common Mode Impedance (Ω) at 10MHz (100 / 500 / 1000)	Effective Frequency Range (100kHz 1MHz 10MHz 100MHz 1GHz 10GHz)
Large Current Type for Automotive Available	PLT10HH* p202	–	45 400 900 100 500 1000	

BNX

Block EMIFIL®

		Series	Height (mm)	Rated Voltage (Vdc)	Rated Current (A)	Effective Frequency Range (10kHz 100kHz 1MHz 10MHz 100MHz 1GHz 10GHz)
Power Lines Type	SMD Type	BNX022* p221	3.1	50	10	
		BNX023* p221	3.1	100	15	
		BNX024* p221	3.5	50	15	
		BNX025* p221	3.5	25	15	
	Lead Type	BNX002 p223	13 max.	50	10	
		BNX003 p223	13 max.	150	10	
		BNX005 p223	13.5 max.	50	15	
		BNX012* p224	8.5 max.	50	15	
		BNX016* p224	8.5 max.	25	15	

* The derating of rated current is required for some items according to the operating temperature on each product page.

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BL□

Chip Ferrite Bead

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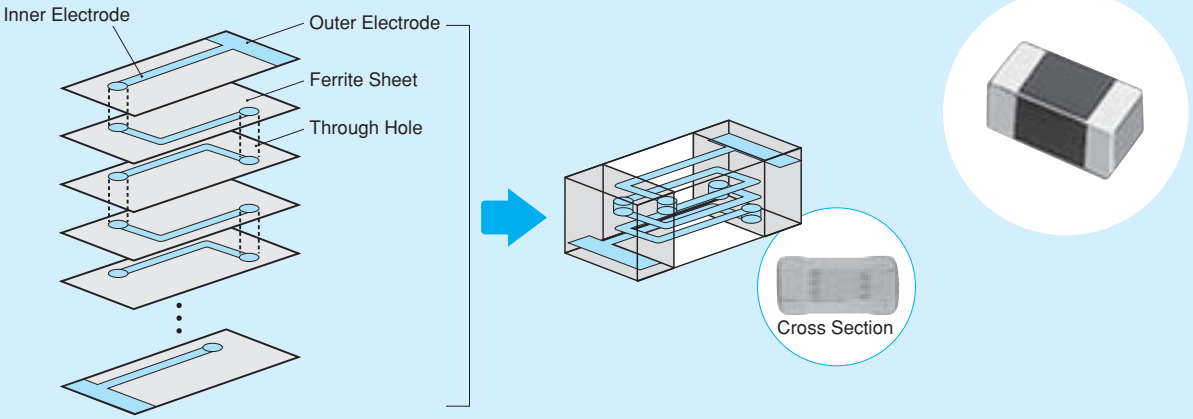
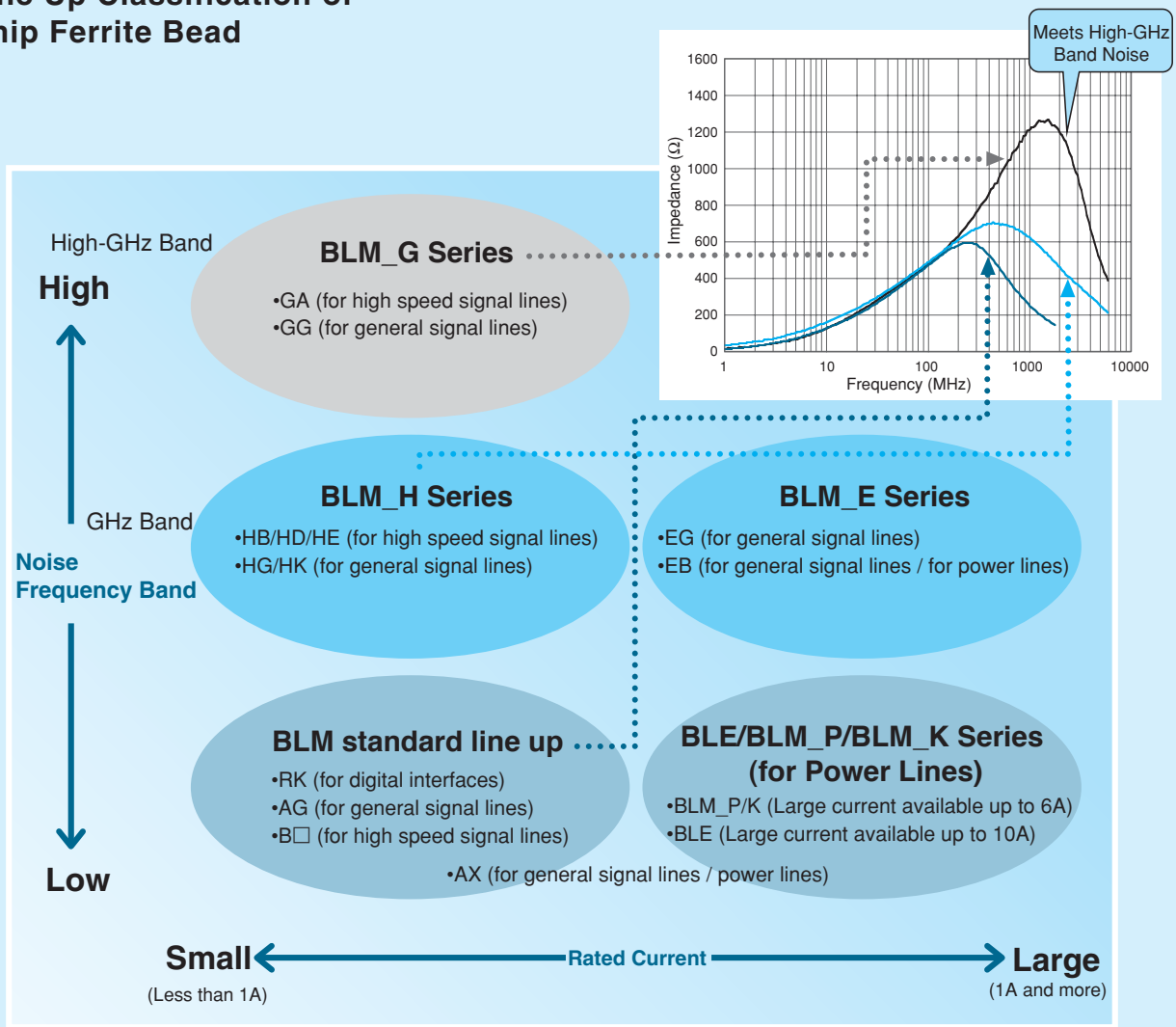
●Example of Chip Ferrite Bead BLM Series Structure



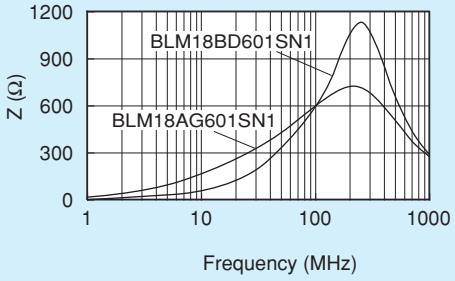
●Line Up Classification of Chip Ferrite Bead



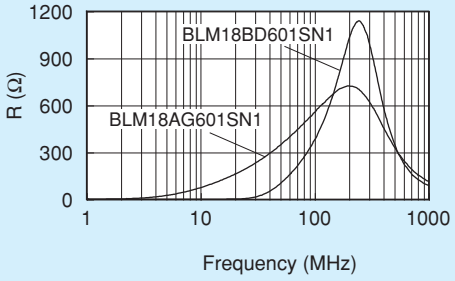
●Difference between BLM A type and B type (HG type vs HD/HB/HE type)

A type: Impedance curve rises from low frequency range. Suppresses noise in a wide frequency range.
B type: Impedance curve rises sharply. Less damage to signal waveforms.

■Comparison of Impedance Curve

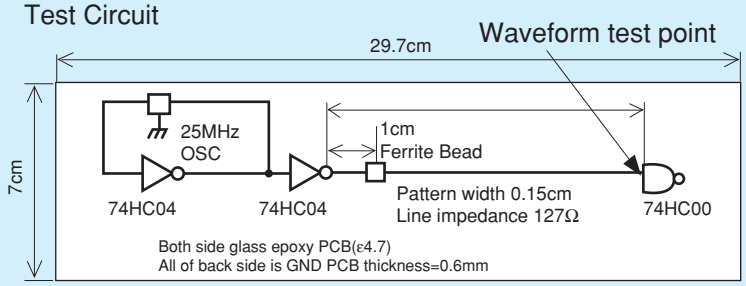


■Comparison of Resistance Element

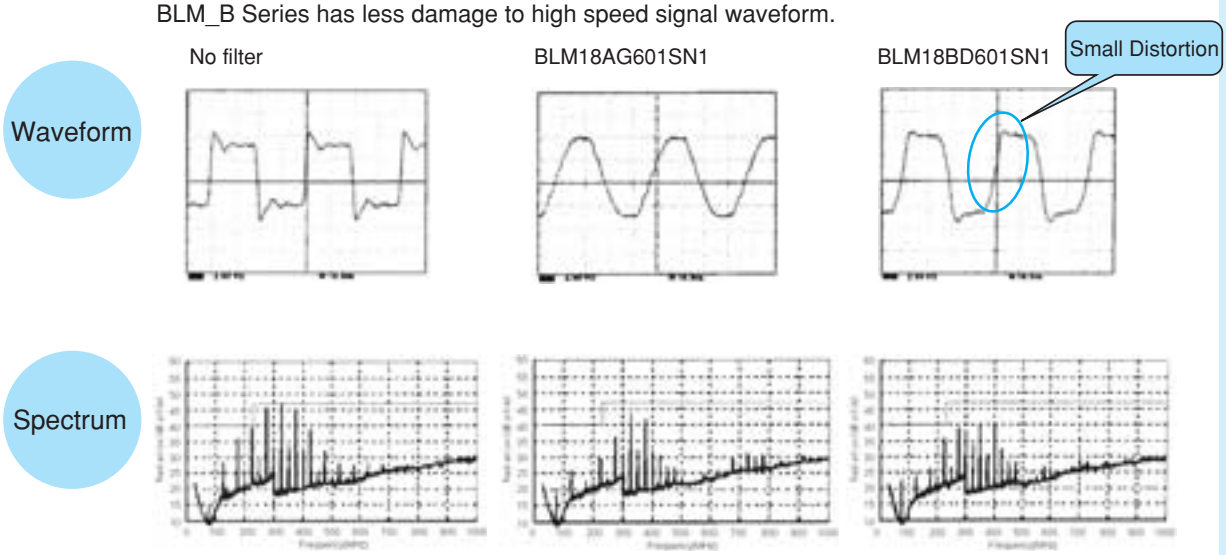


■Comparison of Test Effect (25MHz)

Test Circuit



BLM_B Series has less damage to high speed signal waveform.



(Part Number) BL M 18 AG 102 S N 1 D
❶ ❷ ❸ ❹ ❺ ❻ ❼ ❽ ❾

❶Product ID

Product ID	
BL	Chip Ferrite Beads

❷Type

Code	Type
A	Array Type
E	DC Bias Characteristics Improved Type
M	Ferrite Bead Single Type

❸Dimensions (L×W)

Code	Dimensions (L×W)	EIA
02	0.4×0.2mm	01005
03	0.6×0.3mm	0201
15	1.0×0.5mm	0402
18	1.6×0.8mm	0603
2A	2.0×1.0mm	0804
21	2.0×1.25mm	0805
31	3.2×1.6mm	1206
32	3.2×2.5mm	1210
41	4.5×1.6mm	1806

❹Characteristics/Applications

Code *1	Characteristics/Applications	Series
AG	For General Use	BLM03/15/18/21, BLA2A/31
AX		BLM02/03/15
TG		BLM18
BA	For High-speed Signal Lines	BLM15/18
BB		BLM03/15/18/21, BLA2A
BC		BLM03/15
BD		BLM03/15/18/21, BLA2A/31
BX		BLM02/15
PD	For Power Lines	BLM15
PG		BLM03/15/18/21/31/41
PN		BLE32
PX		BLM03/15
KG	For Power Lines (Low DC Resistance Type)	BLM18
SG		
RK	For Digital Interface	BLM18/21
HG	For GHz Band General Use	BLM03/15/18
EB	For GHz Band High-speed Signal Lines (Low Direct Current Type)	BLM03
EG	For GHz Band General Use (Low DC Resistance Type)	BLM15/18
HB	For GHz Band High-speed Signal Lines	BLM03/15/18
HD		BLM03/15/18
HE		BLM18
HK	For GHz Band Digital Interface	BLM18
GA	For High-GHz Band High-speed Signal Lines	BLM15
GG	For High-GHz Band General Use	BLM15/18

*1 Frequency characteristics vary with each code.

❺Impedance
Expressed by three figures. The unit is in ohm (Ω) at 100MHz. The first and second figures are significant digits, and the third figure expresses the number of zeros that follow the two figures.

❻Electrode
Expressed by a letter.

Ex.)

Code	Electrode
S/T	Sn Plating
A	Au Plating

❼Category

Code	Category
N	Standard Type

❽Number of Circuits

Code	Number of Circuits
1	1 Circuit
4	4 Circuits

Continued on the following page.

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❾Packaging

Code	Packaging	Series
K	Embossed Taping (ø330mm Reel)	**BLE, BLM21 *1/31/41**
L	Embossed Taping (ø180mm Reel)	
B	Bulk	All Series
J	Paper Taping (ø330mm Reel)	**BLM03/15/18 *3/21 *2, BLA2A/31**
D	Paper Taping (ø180mm Reel)	**BLM02/03/15/18/21 *2, BLA2A/31**

*1 BLM21BD222SN1/BLM21BD272SN1 only.
*2 Except for BLM21BD222SN1/BLM21BD272SN1
*3 Except for BLM18T

Size Code in inch (in mm)	Thickness (mm)	Type		Part Number	Impedance at 100MHz/20°C	Impedance at 1GHz/20°C	Rated Current	New / Kit / ≥1A / ≥3A / ≥10A / GHz / Hi-GHz / Flow / ReFlow
01005 (0402)	0.2	Universal Type [Power lines/Signal lines] p24		BLM02AX100SN1	10ohm±5ohm	-	750mA	Kit ReFlow
	0.2			BLM02AX700SN1	70ohm±25%	-	300mA	Kit ReFlow
	0.2			BLM02AX121SN1	120ohm±25%	-	250mA	Kit ReFlow
	0.2	For High Speed Signal Lines p26		BLM02BX151SN1	150ohm±25%	-	200mA	New ReFlow
0201 (0603)	0.3	For General Signal Lines p32		BLM03AG100SN1	10ohm(Typ.)	-	500mA	Kit ReFlow
	0.3			BLM03AG700SN1	70ohm(Typ.)	-	200mA	Kit ReFlow
	0.3			BLM03AG800SN1	80ohm±25%	-	200mA	Kit ReFlow
	0.3			BLM03AG121SN1	120ohm±25%	-	200mA	Kit ReFlow
	0.3			BLM03AG241SN1	240ohm±25%	-	200mA	Kit ReFlow
	0.3			BLM03AG601SN1	600ohm±25%	-	100mA	Kit ReFlow
	0.3			BLM03AG102SN1	1000ohm±25%	-	100mA	Kit ReFlow
	0.3	Universal Type [Power lines/Signal lines] p30		BLM03AX100SN1	10ohm(Typ.)	-	1000mA	Kit ≥1A ReFlow
	0.3			BLM03AX800SN1	80ohm±25%	-	500mA	Kit ReFlow
	0.3			BLM03AX121SN1	120ohm±25%	-	450mA	Kit ReFlow
	0.3			BLM03AX241SN1	240ohm±25%	-	350mA	Kit ReFlow
	0.3			BLM03AX601SN1	600ohm±25%	-	250mA	Kit ReFlow
	0.3			BLM03AX102SN1	1000ohm±25%	-	200mA	Kit ReFlow
	0.3	For High Speed Signal Lines (Sharp Impedance Curve) p34		BLM03BD750SN1	75ohm±25%	-	300mA	Kit ReFlow
	0.3			BLM03BD121SN1	120ohm±25%	-	250mA	Kit ReFlow
	0.3			BLM03BD241SN1	240ohm±25%	-	200mA	Kit ReFlow
	0.3			BLM03BD471SN1	470ohm±25%	-	215mA	Kit ReFlow
	0.3			BLM03BD601SN1	600ohm±25%	-	200mA	Kit ReFlow
	0.3			BLM03BB100SN1	10ohm±25%	-	300mA	Kit ReFlow
	0.3			BLM03BB220SN1	22ohm±25%	-	200mA	Kit ReFlow
	0.3			BLM03BB470SN1	47ohm±25%	-	200mA	Kit ReFlow
	0.3			BLM03BB750SN1	75ohm±25%	-	200mA	Kit ReFlow
	0.3			BLM03BB121SN1	120ohm±25%	-	100mA	Kit ReFlow
	0.3			BLM03BC330SN1	33ohm±25%	-	150mA	Kit ReFlow
	0.3			BLM03BC560SN1	56ohm±25%	-	100mA	Kit ReFlow
	0.3			BLM03BC800SN1	80ohm±25%	-	100mA	Kit ReFlow
	0.3	For Power Lines p27 p28		BLM03PG220SN1	22ohm±25%	-	900mA	Kit ReFlow
	0.3			BLM03PG330SN1	33ohm±25%	-	750mA	Kit ReFlow
	0.3			BLM03PX220SN1	22ohm±25%	-	1800mA	Kit ≥1A ReFlow
	0.3			BLM03PX330SN1	33ohm±25%	-	1500mA	Kit ≥1A ReFlow
	0.3			BLM03PX800SN1	80ohm±25%	-	1000mA	Kit ≥1A ReFlow
	0.3	For GHz Band Noise	For General Signal Lines p85	BLM03HG601SN1	600ohm±25%	1000ohm±40%	150mA	Kit GHz ReFlow
	0.3			BLM03HG102SN1	1000ohm±25%	1800ohm±40%	125mA	Kit GHz ReFlow
	0.3			BLM03HG122SN1	1200ohm±25%	2000ohm±40%	100mA	New GHz ReFlow
	0.3		Universal Type [Power lines/Signal lines] p87	BLM03EB250SN1	25ohm±25%	105ohm±40%	600mA	Kit GHz ReFlow
	0.3			BLM03EB500SN1	50ohm±25%	255ohm±40%	400mA	Kit GHz ReFlow
	0.3		For High Speed Signal Lines p85	BLM03HD331SN1	330ohm±25%	750ohm±40%	200mA	Kit GHz ReFlow
	0.3			BLM03HD471SN1	470ohm±25%	1000ohm±40%	175mA	Kit GHz ReFlow
	0.3			BLM03HD601SN1	600ohm±25%	1500ohm±40%	150mA	Kit GHz ReFlow
	0.3			BLM03HD102SN1	1000ohm±25%	2300ohm±40%	120mA	Kit GHz ReFlow
	0.3			BLM03HB191SN1	190ohm±25%	1150ohm±40%	150mA	Kit GHz ReFlow
0402 (1005)	0.5	For General Signal Lines p42		BLM15AG100SN1	10ohm(Typ.)	-	1000mA	Kit ≥1A ReFlow
	0.5			BLM15AG700SN1	70ohm(Typ.)	-	600mA	Kit ReFlow
	0.5			BLM15AG121SN1	120ohm±25%	-	550mA	Kit ReFlow
	0.5			BLM15AG221SN1	220ohm±25%	-	450mA	Kit ReFlow
	0.5			BLM15AG601SN1	600ohm±25%	-	300mA	Kit ReFlow
	0.5			BLM15AG102SN1	1000ohm±25%	-	300mA	Kit ReFlow
	0.5	Universal Type [Power lines/Signal lines] p40		BLM15AX100SN1	10ohm±5ohm	-	1740mA	Kit ≥1A ReFlow
	0.5			BLM15AX300SN1	30ohm±25%	-	1100mA	Kit ≥1A ReFlow
	0.5			BLM15AX700SN1	70ohm±25%	-	780mA	Kit ReFlow
	0.5			BLM15AX121SN1	120ohm±25%	-	700mA	Kit ReFlow
	0.5			BLM15AX221SN1	220ohm±25%	-	600mA	Kit ReFlow
	0.5			BLM15AX601SN1	600ohm±25%	-	500mA	Kit ReFlow
	0.5			BLM15AX102SN1	1000ohm±25%	-	350mA	Kit ReFlow

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Size Code in inch (in mm)	Thickness (mm)	Type		Part Number	Impedance at 100MHz/20°C	Impedance at 1GHz/20°C	Rated Current	New / Kit / ≥1A / ≥3A / ≥10A / GHz / Hi-GHz / Flow / ReFlow
0402 (1005)	0.5	For High Speed Signal Lines (Sharp Impedance Curve)	p44	BLM15BX750SN1	75ohm±25%	-	600mA	Kit ReFlow
	0.5			BLM15BX121SN1	120ohm±25%	-	600mA	Kit ReFlow
	0.5			BLM15BX221SN1	220ohm±25%	-	450mA	Kit ReFlow
	0.5			BLM15BX471SN1	470ohm±25%	-	350mA	Kit ReFlow
	0.5			BLM15BX601SN1	600ohm±25%	-	350mA	Kit ReFlow
	0.5			BLM15BX102SN1	1000ohm±25%	-	300mA	Kit ReFlow
	0.5			BLM15BX182SN1	1800ohm±25%	-	250mA	Kit ReFlow
	0.5		p46	BLM15BD750SN1	75ohm±25%	-	300mA	Kit ReFlow
	0.5			BLM15BD121SN1	120ohm±25%	-	300mA	Kit ReFlow
	0.5			BLM15BD221SN1	220ohm±25%	-	300mA	Kit ReFlow
	0.5			BLM15BD471SN1	470ohm±25%	-	200mA	Kit ReFlow
	0.5			BLM15BD601SN1	600ohm±25%	-	200mA	Kit ReFlow
	0.5			BLM15BD102SN1	1000ohm±25%	-	200mA	Kit ReFlow
	0.5			BLM15BD182SN1	1800ohm±25%	-	100mA	Kit ReFlow
	0.5			BLM15BB050SN1	5ohm±25%	-	500mA	Kit ReFlow
	0.5			BLM15BB100SN1	10ohm±25%	-	300mA	Kit ReFlow
	0.5			BLM15BB220SN1	22ohm±25%	-	300mA	Kit ReFlow
	0.5			BLM15BB470SN1	47ohm±25%	-	300mA	Kit ReFlow
	0.5			BLM15BB750SN1	75ohm±25%	-	300mA	Kit ReFlow
	0.5			BLM15BB121SN1	120ohm±25%	-	300mA	Kit ReFlow
	0.5			BLM15BB221SN1	220ohm±25%	-	200mA	Kit ReFlow
	0.5			BLM15BC121SN1	120ohm±25%	-	350mA	Kit ReFlow
	0.5			BLM15BC241SN1	240ohm±25%	-	250mA	Kit ReFlow
	0.5			BLM15BA050SN1	5ohm±25%	-	300mA	Kit ReFlow
	0.5			BLM15BA100SN1	10ohm±25%	-	300mA	Kit ReFlow
	0.5			BLM15BA220SN1	22ohm±25%	-	300mA	Kit ReFlow
	0.5			BLM15BA330SN1	33ohm±25%	-	300mA	Kit ReFlow
	0.5			BLM15BA470SN1	47ohm±25%	-	200mA	Kit ReFlow
	0.5			BLM15BA750SN1	75ohm±25%	-	200mA	Kit ReFlow
	0.5	For Power Lines	p36	BLM15PX330SN1	33ohm±25%	-	3000mA	Kit ≥3A ReFlow
	0.5			BLM15PX600SN1	60ohm±25%	-	2500mA	Kit ≥1A ReFlow
	0.5			BLM15PX800SN1	80ohm±25%	-	2300mA	Kit ≥1A ReFlow
	0.5			BLM15PX121SN1	120ohm±25%	-	2000mA	Kit ≥1A ReFlow
	0.5			BLM15PX181SN1	180ohm±25%	-	1500mA	Kit ≥1A ReFlow
	0.5			BLM15PX221SN1	220ohm±25%	-	1400mA	Kit ≥1A ReFlow
	0.5			BLM15PX331SN1	330ohm±25%	-	1200mA	Kit ≥1A ReFlow
	0.5			BLM15PX471SN1	470ohm±25%	-	1000mA	Kit ≥1A ReFlow
	0.5			BLM15PX601SN1	600ohm±25%	-	900mA	Kit ReFlow
	0.5		p38	BLM15PG100SN1	10ohm(Typ.)	-	1000mA	Kit ≥1A ReFlow
	0.5			BLM15PD300SN1	30ohm±25%	-	2200mA	Kit ≥1A ReFlow
	0.5			BLM15PD600SN1	60ohm±25%	-	1700mA	Kit ≥1A ReFlow
	0.5			BLM15PD800SN1	80ohm±25%	-	1500mA	Kit ≥1A ReFlow
	0.5			BLM15PD121SN1	120ohm±25%	-	1300mA	Kit ≥1A ReFlow
	0.5	For GHz Band Noise	p88 For General Signal Lines	BLM15HG601SN1	600ohm±25%	1000ohm±40%	300mA	Kit GHz ReFlow
	0.5			BLM15HG102SN1	1000ohm±25%	1400ohm±40%	250mA	Kit GHz ReFlow
	0.5		p88 For High Speed Signal Lines (Sharp Impedance Curve)	BLM15HD601SN1	600ohm±25%	1400ohm±40%	300mA	Kit GHz ReFlow
	0.5			BLM15HD102SN1	1000ohm±25%	2000ohm±40%	250mA	Kit GHz ReFlow
	0.5			BLM15HD182SN1	1800ohm±25%	2700ohm±40%	200mA	Kit GHz ReFlow
	0.5			BLM15HB121SN1	120ohm±25%	500ohm±40%	300mA	Kit GHz ReFlow
	0.5			BLM15HB221SN1	220ohm±25%	900ohm±40%	250mA	Kit GHz ReFlow
	0.5		Universal Type [Power Lines/Signal Lines] p90	BLM15EG121SN1	120ohm±25%	145ohm(Typ.)	1500mA	Kit ≥1A GHz ReFlow
	0.5			BLM15EG221SN1	220ohm±25%	270ohm(Typ.)	700mA	Kit GHz ReFlow
	0.5	For High-GHz Band Noise	p91 For General Signal Lines	BLM15GG221SN1	220ohm±25%	600ohm±40%	300mA	Kit Hi-GHz ReFlow
	0.5			BLM15GG471SN1	470ohm±25%	1200ohm±40%	200mA	Kit Hi-GHz ReFlow
	0.5		For High Speed Signal Lines p91	BLM15GA750SN1	75ohm±25%	1000ohm±40%	200mA	Kit Hi-GHz ReFlow

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Size Code in inch (in mm)	Thickness (mm)	Type	Part Number	Impedance at 100MHz/20°C	Impedance at 1GHz/20°C	Rated Current	New / Kit / ≥1A ≥3A ≥10A / GHz Hi-GHz	Flow / ReFlow
0603 (1608)	0.8	For General Signal Lines p56	BLM18AG121SN1	120ohm±25%	-	500mA	Kit	Flow ReFlow
	0.8		BLM18AG151SN1	150ohm±25%	-	500mA	Kit	Flow ReFlow
	0.8		BLM18AG221SN1	220ohm±25%	-	500mA	Kit	Flow ReFlow
	0.8		BLM18AG331SN1	330ohm±25%	-	500mA	Kit	Flow ReFlow
	0.8		BLM18AG471SN1	470ohm±25%	-	500mA	Kit	Flow ReFlow
	0.8		BLM18AG601SN1	600ohm±25%	-	500mA	Kit	Flow ReFlow
	0.8		BLM18AG102SN1	1000ohm±25%	-	400mA	Kit	Flow ReFlow
	0.6	p62	BLM18TG121TN1	120ohm±25%	-	200mA		Flow ReFlow
	0.6		BLM18TG221TN1	220ohm±25%	-	200mA		Flow ReFlow
	0.6		BLM18TG601TN1	600ohm±25%	-	200mA		Flow ReFlow
	0.6		BLM18TG102TN1	1000ohm±25%	-	100mA		Flow ReFlow
	0.8	For High Speed Signal Lines (Sharp Impedance Curve) p58	BLM18BD470SN1	47ohm±25%	-	500mA	Kit	Flow ReFlow
	0.8		BLM18BD121SN1	120ohm±25%	-	200mA	Kit	Flow ReFlow
	0.8		BLM18BD151SN1	150ohm±25%	-	200mA	Kit	Flow ReFlow
	0.8		BLM18BD221SN1	220ohm±25%	-	200mA	Kit	Flow ReFlow
	0.8		BLM18BD331SN1	330ohm±25%	-	200mA	Kit	Flow ReFlow
	0.8		BLM18BD421SN1	420ohm±25%	-	200mA	Kit	Flow ReFlow
	0.8		BLM18BD471SN1	470ohm±25%	-	200mA	Kit	Flow ReFlow
	0.8		BLM18BD601SN1	600ohm±25%	-	200mA	Kit	Flow ReFlow
	0.8		BLM18BD102SN1	1000ohm±25%	-	100mA	Kit	Flow ReFlow
	0.8		BLM18BD152SN1	1500ohm±25%	-	50mA	Kit	Flow ReFlow
	0.8		BLM18BD182SN1	1800ohm±25%	-	50mA	Kit	Flow ReFlow
	0.8		BLM18BD222SN1	2200ohm±25%	-	50mA	Kit	Flow ReFlow
	0.8		BLM18BD252SN1	2500ohm±25%	-	50mA	Kit	Flow ReFlow
	0.8		BLM18BB050SN1	5ohm±25%	-	700mA	Kit	Flow ReFlow
	0.8		BLM18BB100SN1	10ohm±25%	-	700mA	Kit	Flow ReFlow
	0.8		BLM18BB220SN1	22ohm±25%	-	600mA	Kit	Flow ReFlow
	0.8		BLM18BB470SN1	47ohm±25%	-	550mA	Kit	Flow ReFlow
	0.8		BLM18BB600SN1	60ohm±25%	-	550mA	Kit	Flow ReFlow
	0.8		BLM18BB750SN1	75ohm±25%	-	500mA	Kit	Flow ReFlow
	0.8		BLM18BB121SN1	120ohm±25%	-	500mA	Kit	Flow ReFlow
	0.8		BLM18BB141SN1	140ohm±25%	-	450mA		Flow ReFlow
	0.8		BLM18BB151SN1	150ohm±25%	-	450mA	Kit	Flow ReFlow
	0.8		BLM18BB221SN1	220ohm±25%	-	450mA	Kit	Flow ReFlow
	0.8		BLM18BB331SN1	330ohm±25%	-	400mA	Kit	Flow ReFlow
	0.8		BLM18BB471SN1	470ohm±25%	-	300mA	Kit	Flow ReFlow
	0.8		BLM18BA050SN1	5ohm±25%	-	500mA	Kit	Flow ReFlow
	0.8		BLM18BA100SN1	10ohm±25%	-	500mA	Kit	Flow ReFlow
	0.8		BLM18BA220SN1	22ohm±25%	-	500mA		Flow ReFlow
	0.8		BLM18BA470SN1	47ohm±25%	-	300mA	Kit	Flow ReFlow
	0.8		BLM18BA750SN1	75ohm±25%	-	300mA	Kit	Flow ReFlow
	0.8		BLM18BA121SN1	120ohm±25%	-	200mA	Kit	Flow ReFlow
	0.8	For Digital Interface Lines p63	BLM18RK121SN1	120ohm±25%	-	200mA		Flow ReFlow
	0.8		BLM18RK221SN1	220ohm±25%	-	200mA		Flow ReFlow
	0.8		BLM18RK471SN1	470ohm±25%	-	200mA		Flow ReFlow
	0.8		BLM18RK601SN1	600ohm±25%	-	200mA		Flow ReFlow
	0.8		BLM18RK102SN1	1000ohm±25%	-	200mA		Flow ReFlow

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	0.8	For Power Lines	Standard Type p50	BLM18PG300SN1	30ohm(Typ.)	-	1000mA	Kit ≥1A Flow ReFlow
	0.8			BLM18PG330SN1	33ohm±25%	-	3000mA	Kit ≥3A Flow ReFlow
	0.8			BLM18PG600SN1	60ohm(Typ.)	-	500mA	Kit Flow ReFlow
	0.8			BLM18PG121SN1	120ohm±25%	-	2000mA	Kit ≥1A Flow ReFlow
	0.8			BLM18PG181SN1	180ohm±25%	-	1500mA	Kit ≥1A Flow ReFlow
	0.8			BLM18PG221SN1	220ohm±25%	-	1400mA	Kit ≥1A Flow ReFlow
	0.8			BLM18PG331SN1	330ohm±25%	-	1200mA	Kit ≥1A Flow ReFlow
	0.8			BLM18PG471SN1	470ohm±25%	-	1000mA	Kit ≥1A Flow ReFlow
	0.6		Low DC Resistance Type p52	BLM18KG260TN1	26ohm±25%	-	6000mA	Kit ≥3A Flow ReFlow
	0.6			BLM18KG300TN1	30ohm±25%	-	5000mA	Kit ≥3A Flow ReFlow
	0.6			BLM18KG700TN1	70ohm±25%	-	3500mA	Kit ≥3A Flow ReFlow
	0.6			BLM18KG101TN1	100ohm±25%	-	3000mA	Kit ≥3A Flow ReFlow
	0.6			BLM18KG121TN1	120ohm±25%	-	3000mA	Kit ≥3A Flow ReFlow
	0.8			BLM18KG221SN1	220ohm±25%	-	2200mA	Kit ≥1A Flow ReFlow
	0.8			BLM18KG331SN1	330ohm±25%	-	1700mA	Kit ≥1A Flow ReFlow
	0.8			BLM18KG471SN1	470ohm±25%	-	1500mA	Kit ≥1A Flow ReFlow
	0.8			BLM18KG601SN1	600ohm±25%	-	1300mA	Kit ≥1A Flow ReFlow
	0.5		p54	BLM18SG260TN1	26ohm±25%	-	6000mA	Kit ≥3A Flow ReFlow
	0.5			BLM18SG700TN1	70ohm±25%	-	4000mA	Kit ≥3A Flow ReFlow
	0.5			BLM18SG121TN1	120ohm±25%	-	3000mA	Kit ≥3A Flow ReFlow
	0.5			BLM18SG221TN1	220ohm±25%	-	2500mA	Kit ≥1A Flow ReFlow
	0.5			BLM18SG331TN1	330ohm±25%	-	1500mA	Kit ≥1A Flow ReFlow
0603 (1608)	0.8	For GHz Band Noise	For General Signal Lines p92	BLM18HG471SN1	470ohm±25%	600ohm(Typ.)	200mA	Kit GHz Flow ReFlow
	0.8			BLM18HG601SN1	600ohm±25%	700ohm(Typ.)	200mA	Kit GHz Flow ReFlow
	0.8			BLM18HG102SN1	1000ohm±25%	1000ohm(Typ.)	100mA	Kit GHz Flow ReFlow
	0.8		For High Speed Signal Lines (Sharp Impedance Curve) p92	BLM18HE601SN1	600ohm±25%	600ohm(Typ.)	800mA	Kit GHz Flow ReFlow
	0.8			BLM18HE102SN1	1000ohm±25%	1000ohm(Typ.)	600mA	Kit GHz Flow ReFlow
	0.8			BLM18HE152SN1	1500ohm±25%	1500ohm(Typ.)	500mA	Kit GHz Flow ReFlow
	0.8			BLM18HD471SN1	470ohm±25%	1000ohm(Typ.)	100mA	Kit GHz Flow ReFlow
	0.8			BLM18HD601SN1	600ohm±25%	1200ohm(Typ.)	100mA	Kit GHz Flow ReFlow
	0.8			BLM18HD102SN1	1000ohm±25%	1700ohm(Typ.)	50mA	Kit GHz Flow ReFlow
	0.8			BLM18HB121SN1	120ohm±25%	500ohm±40%	200mA	Kit GHz Flow ReFlow
	0.8			BLM18HB221SN1	220ohm±25%	1100ohm±40%	100mA	Kit GHz Flow ReFlow
	0.8			BLM18HB331SN1	330ohm±25%	1600ohm±40%	50mA	Kit GHz Flow ReFlow
	0.8		For Digital Interface Lines p92	BLM18HK331SN1	330ohm±25%	400ohm±40%	200mA	Kit GHz Flow ReFlow
	0.8			BLM18HK471SN1	470ohm±25%	600ohm±40%	200mA	Kit GHz Flow ReFlow
	0.8			BLM18HK601SN1	600ohm±25%	700ohm±40%	100mA	Kit GHz Flow ReFlow
	0.8			BLM18HK102SN1	1000ohm±25%	1200ohm±40%	50mA	Kit GHz Flow ReFlow
	0.5		Universal Type [Power lines/ Signal lines] p96	BLM18EG101TN1	100ohm±25%	140ohm(Typ.)	2000mA	Kit ≥1A GHz Flow ReFlow
	0.8			BLM18EG121SN1	120ohm±25%	145ohm(Typ.)	2000mA	Kit ≥1A GHz Flow ReFlow
	0.8			BLM18EG221SN1	220ohm±25%	260ohm(Typ.)	2000mA	Kit ≥1A GHz Flow ReFlow
	0.5			BLM18EG221TN1	220ohm±25%	300ohm(Typ.)	1000mA	Kit ≥1A GHz Flow ReFlow
	0.5			BLM18EG331TN1	330ohm±25%	450ohm(Typ.)	500mA	Kit GHz Flow ReFlow
	0.5			BLM18EG391TN1	390ohm±25%	520ohm(Typ.)	500mA	Kit GHz Flow ReFlow
	0.8			BLM18EG471SN1	470ohm±25%	550ohm(Typ.)	500mA	Kit GHz Flow ReFlow
	0.8			BLM18EG601SN1	600ohm±25%	700ohm(Typ.)	500mA	Kit GHz Flow ReFlow
	0.8	For High-GHz Band Noise p98		BLM18GG471SN1	470ohm±25%	1800ohm±30%	200mA	Kit Hi-GHz ReFlow
0805 (2012)	0.85	For General Signal Lines p68		BLM21AG121SN1	120ohm±25%	-	800mA	Kit Flow ReFlow
	0.85			BLM21AG151SN1	150ohm±25%	-	800mA	Kit Flow ReFlow
	0.85			BLM21AG221SN1	220ohm±25%	-	800mA	Kit Flow ReFlow
	0.85			BLM21AG331SN1	330ohm±25%	-	700mA	Kit Flow ReFlow
	0.85			BLM21AG471SN1	470ohm±25%	-	700mA	Kit Flow ReFlow
	0.85			BLM21AG601SN1	600ohm±25%	-	600mA	Kit Flow ReFlow
	0.85			BLM21AG102SN1	1000ohm±25%	-	500mA	Kit Flow ReFlow

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0805 (2012)	0.85	For High Speed Signal Lines (Sharp Impedance Curve) p70	BLM21BD121SN1	120ohm±25%	-	200mA	Kit	Flow ReFlow
	0.85		BLM21BD151SN1	150ohm±25%	-	200mA		Flow ReFlow
	0.85		BLM21BD221SN1	220ohm±25%	-	200mA	Kit	Flow ReFlow
	0.85		BLM21BD331SN1	330ohm±25%	-	200mA		Flow ReFlow
	0.85		BLM21BD421SN1	420ohm±25%	-	200mA	Kit	Flow ReFlow
	0.85		BLM21BD471SN1	470ohm±25%	-	200mA	Kit	Flow ReFlow
	0.85		BLM21BD601SN1	600ohm±25%	-	200mA	Kit	Flow ReFlow
	0.85		BLM21BD751SN1	750ohm±25%	-	200mA		Flow ReFlow
	0.85		BLM21BD102SN1	1000ohm±25%	-	200mA	Kit	Flow ReFlow
	0.85		BLM21BD152SN1	1500ohm±25%	-	200mA	Kit	Flow ReFlow
	0.85		BLM21BD182SN1	1800ohm±25%	-	200mA	Kit	Flow ReFlow
	0.85		BLM21BD222TN1	2200ohm±25%	-	200mA	Kit	Flow ReFlow
	1.25		BLM21BD222SN1	2250ohm(Typ.)	-	200mA	Kit	Flow ReFlow
	1.25		BLM21BD272SN1	2700ohm±25%	-	200mA	Kit	Flow ReFlow
	0.85		BLM21BB050SN1	5ohm±25%	-	1000mA	Kit	Flow ReFlow
	0.85		BLM21BB600SN1	60ohm±25%	-	800mA	Kit	Flow ReFlow
	0.85		BLM21BB750SN1	75ohm±25%	-	700mA	Kit	Flow ReFlow
	0.85		BLM21BB121SN1	120ohm±25%	-	600mA	Kit	Flow ReFlow
	0.85		BLM21BB151SN1	150ohm±25%	-	600mA		Flow ReFlow
	0.85		BLM21BB201SN1	200ohm±25%	-	500mA		Flow ReFlow
	0.85		BLM21BB221SN1	220ohm±25%	-	500mA	Kit	Flow ReFlow
	0.85		BLM21BB331SN1	330ohm±25%	-	400mA	Kit	Flow ReFlow
	0.85		BLM21BB471SN1	470ohm±25%	-	400mA	Kit	Flow ReFlow
	0.85	For Digital Interface Lines p73	BLM21RK121SN1	120ohm±25%	-	200mA		Flow ReFlow
	0.85		BLM21RK221SN1	220ohm±25%	-	200mA		Flow ReFlow
	0.85		BLM21RK471SN1	470ohm±25%	-	200mA		Flow ReFlow
	0.85		BLM21RK601SN1	600ohm±25%	-	200mA		Flow ReFlow
	0.85		BLM21RK102SN1	1000ohm±25%	-	200mA		Flow ReFlow
	0.85	For Power Lines p66	BLM21PG220SN1	22ohm±25%	-	6000mA	Kit ≥3A	Flow ReFlow
	0.85		BLM21PG300SN1	30ohm(Typ.)	-	4000mA	Kit ≥3A	Flow ReFlow
	0.85		BLM21PG600SN1	60ohm±25%	-	3500mA	Kit ≥3A	Flow ReFlow
	0.85		BLM21PG121SN1	120ohm±25%	-	3000mA	Kit ≥3A	Flow ReFlow
	0.85		BLM21PG221SN1	220ohm±25%	-	2000mA	Kit ≥1A	Flow ReFlow
	0.85		BLM21PG331SN1	330ohm±25%	-	1500mA	Kit ≥1A	Flow ReFlow
1206 (3216)	1.1	For Power Lines p75	BLM31PG330SN1	33ohm±25%	-	6000mA	Kit ≥3A	Flow ReFlow
	1.1		BLM31PG500SN1	50ohm(Typ.)	-	3500mA	Kit ≥3A	Flow ReFlow
	1.1		BLM31PG121SN1	120ohm±25%	-	3500mA	Kit ≥3A	Flow ReFlow
	1.1		BLM31PG391SN1	390ohm±25%	-	2000mA	Kit ≥1A	Flow ReFlow
	1.1		BLM31PG601SN1	600ohm±25%	-	1500mA	Kit ≥1A	Flow ReFlow
1806 (4516)	1.6	For Power Lines p77	BLM41PG600SN1	60ohm(Typ.)	-	6000mA	Kit ≥3A	Flow ReFlow
	1.6		BLM41PG750SN1	75ohm(Typ.)	-	3500mA	Kit ≥3A	Flow ReFlow
	1.6		BLM41PG181SN1	180ohm±25%	-	3500mA	Kit ≥3A	Flow ReFlow
	1.6		BLM41PG471SN1	470ohm±25%	-	2000mA	Kit ≥1A	Flow ReFlow
	1.6		BLM41PG102SN1	1000ohm±25%	-	1500mA	Kit ≥1A	Flow ReFlow
1210 (3225)	0.2	For Power Lines p79	BLE32PN300SN1	30ohm±10ohm	-	10000mA	New ≥10A	Flow ReFlow
0804 (2010)	0.5	For General Signal Lines p80	BLA2AAG121SN4	120ohm±25%	-	100mA		ReFlow
	0.5		BLA2AAG221SN4	220ohm±25%	-	50mA		ReFlow
	0.5		BLA2AAG601SN4	600ohm±25%	-	50mA		ReFlow
	0.5		BLA2AAG102SN4	1000ohm±25%	-	50mA		ReFlow
	0.5	For High Speed Signal Lines p80	BLA2ABD750SN4	75ohm±25%	-	200mA		ReFlow
	0.5		BLA2ABD121SN4	120ohm±25%	-	200mA		ReFlow
	0.5		BLA2ABD221SN4	220ohm±25%	-	100mA		ReFlow
	0.5		BLA2ABD471SN4	470ohm±25%	-	100mA		ReFlow
	0.5		BLA2ABD601SN4	600ohm±25%	-	100mA		ReFlow
	0.5		BLA2ABD102SN4	1000ohm±25%	-	50mA		ReFlow
	0.5		BLA2ABB100SN4	10ohm±25%	-	200mA		ReFlow
	0.5		BLA2ABB220SN4	22ohm±25%	-	200mA		ReFlow
	0.5		BLA2ABB470SN4	47ohm±25%	-	200mA		ReFlow
	0.5		BLA2ABB121SN4	120ohm±25%	-	50mA		ReFlow
	0.5		BLA2ABB221SN4	220ohm±25%	-	50mA		ReFlow

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1206 (3216)	0.8	For General Signal Lines p83	**BLA31AG300SN4**	30ohm±25%	-	200mA	Flow ReFlow
	0.8		**BLA31AG600SN4**	60ohm±25%	-	200mA	Flow ReFlow
	0.8		**BLA31AG121SN4**	120ohm±25%	-	150mA	Flow ReFlow
	0.8		**BLA31AG221SN4**	220ohm±25%	-	150mA	Flow ReFlow
	0.8		**BLA31AG601SN4**	600ohm±25%	-	100mA	Flow ReFlow
	0.8		**BLA31AG102SN4**	1000ohm±25%	-	50mA	Flow ReFlow
	0.8	For High Speed Signal Lines p83	**BLA31BD121SN4**	120ohm±25%	-	150mA	Flow ReFlow
	0.8		**BLA31BD221SN4**	220ohm±25%	-	150mA	Flow ReFlow
	0.8		**BLA31BD471SN4**	470ohm±25%	-	100mA	Flow ReFlow
	0.8		**BLA31BD601SN4**	600ohm±25%	-	100mA	Flow ReFlow
	0.8		**BLA31BD102SN4**	1000ohm±25%	-	50mA	Flow ReFlow

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