Product Series :	GBDC	Brand :	GOTREND
File Version :	GBDC-SERIES-V1R2	Editor :	Qiuyi Wu
Established Date :	2011.08.24	Description :	Multilayer Ferrite Common Mode
Latest Edit Date :	2023.07.12	Product Type :	☑ Standard

Version Information :

SN	Date	Version Code	Modify Description	Editior	Check
01	2020.10.29	V1R1	New version update release	/	Teddy Sun
02	2023.07.12	V1R2	ADD GBDC0605 series & GBDC0806 series	, Qiuyi Wu	限之风
	2020.07.12			Qidyi tru	
		<u> </u>			
	<u> </u>				
	1			1	1



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- Product information in this catalog is subject to change without notice, and is for reference only. Therefore, please contact GOTREND Technology to check for the latest information before practical application or usage of the products.
- This catalog contains only typical specifications, please contact GOTREND Technology for further details if you can not find special components or information you need in this catalogue. Please also approve our product specifications or transact the approval sheet for product specifications before ordering.
- This catalogue only applies to products purchased through GOTREND Technology or its official agencies. This catalogue does not apply to products that are purchased through other third parties.
- Please read Attention and CAUTION note (for storage, operating, rating, soldering, mounting and handling) in this catalog to ensure
 product proper usage.
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- Information and data provided in the brochure can and do vary in different applications, and actual performance may vary over time.
- "Delivery Specification" illustrating precautions for the specifications and safety of each product listed in this catalog is available and we strongly recommend to provide these delivery specifications with customers that use these products.
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- Any reproduction or extraction of the contents in this catalog is prohibited without prior permission from GOTREND Technology.
- Products listed in this catalog are intended for general electronic device usage under normal operation and use condition including telecommunication equipment, home appliances, sports equipment AV equipment, industrial machine, office equipment etc. Please take note that our products are not designed, intended or authorized for use in below mentioned applications unless explicitly agreed in writing between the parties to avoid product failure that could result in situation where personal injury or death could occur.
 - (1) Aerospace/Aviation equipment
 - (2) Atomic energy-related equipment
 - (3) Disaster prevention/crime prevention equipment
 - (4) Electric heating apparatus, burning equipment
 - (5) Medical equipment
 - (6) Military equipment
 - (7) Power-generation control equipment
 - (8) Public information-processing equipment
 - (9) Safety equipment
 - (10) Seabed equipment
 - (11) Transportation control equipment
 - (12) Transportation equipment (cars, electric trains, ships, etc.)
 - (13) Other applications that are not considered general-purpose applications
- Our manufacturing sites fully compliance with requirement regarding the quality management system in the automotive industry under the IATF 16949 standard. GOTREND Technology respect individual agreements with reference to customer requirements and customer specific requirements (CSR). We will like to emphasize that only requirements mutually agreed upon will in implemented in our Quality Management System taking into consideration that IATF 16949 may appear to support the acceptance of unilateral requirements. We will only legally bind to this individually agreed upon agreement under the IATF 16949 standard.
- The product itself is a powder metallurgy product, so the structure is relatively fragile, and it should not be used for products that are easy to fall. In addition, when this product is assembled, it should avoid collision with the tool or mechanism shell.



It is not recommended to use hot air gun for disassembling of this product. When using of hot air gun to repair other parts, please also take note that long time or high temperature exposure of this product will also damage the inductance device. If you need to use the hot air gun to disassemble the product, it is recommended to adjust the hot air gun temperature to 380 deg.C±5 deg.C. The blower head of the hot air gun should be perpendicular and at least 1cm away from the product. After heating the product to the tin material melting point, use tweezers to remove the product from the PCB.





service@gotrend.com.tw

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Features & Application :

- * The GBDC series is effective for common mode noise suppression in digital equipment which causes radiation from cables.
- * Low leakage flux due to monolithic structure enables high-density mounting.
- * The nickel barrier structure of the external electrodes provides excellent solder heat resistance.
- * Prevention of common mode noise on signal line in personal computers, computer built in equipments , facsimiles , digital telephones , etc...

Part No. Example :

PN	:	GBDC	2012	Р	-	900	Ν
ID	:	1	2	3		4	5
			070 EN	·			

1	:	GBD : GOTREND Series
2	:	2012 : Length 2.0 mm x Width 1.25 mm x Height 0.9 mm
3	:	P : Pb < 1000ppm
4	:	900 : Impedance (Ohm) = 90 Ohm
5	:	N : Tolerance = Typ. or +/-25%

Operating & Storage Condition :



(Picture for reference only)

Basic Information :

Made in	China
Pin Foot	SMD
Shielding	Yes
J-STD-020	MSL Level 1
RoHS	Compliant
REACH	Compliant
Halogen	Free

* Operating Temp	-25 ~ +85 deg.C (Size : 0605 / 0806) / -40 ~ +125 deg.C (Size : 2012) (Including self - temperature rise)
* Storage Temp	110 ~ +45 deg.C , 50 ~ 60% RH (Product with taping)
	225 ~ +85 deg.C(Size:0605 / 0806)/-40 ~ +125 deg.C(Size:2012)(On board)
* Storage Life Time	6 Month (Less than 40 deg.C and 60% RH)

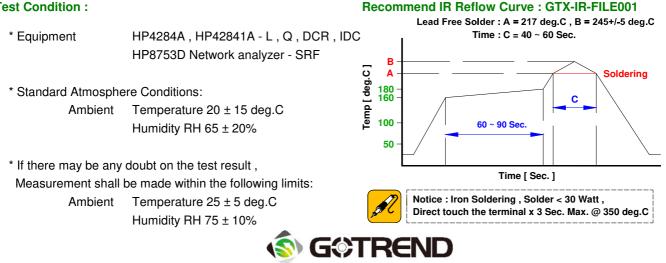
Attention & Caution :

* Keep out of	Splashing water or salt water
* Avoid	Toxic Gas (Hydrogen sulfide, Sulfurous acid, Chlorine, Ammonia)
	Vibrations or shocks which exceed the specified condition
	Dew condense
	Layout near the edge of PCB

Over flexure after SMT mounting & PCBA

- * Pin foot or SMD pad solderablility: Pb free type is best within 6 months after delivery
- * Humidity sensitive, IPC/JEDEC J-STD-020 MSL if over Level 1, recommend bake 30mins@150 degree before PCBA
- * Caution for human life relative applications : PLS contact & consult with GOTREND team in design stage.

Test Condition :



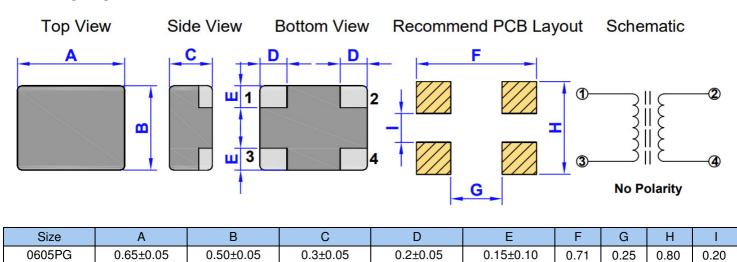
Product Series :	GBDC	Brand :	GOTREND
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Multila	iyer Ferrite Comr	mon Mod	le - GBD	C Series	з Туре						
Image	Part Name	L (mm) +/-0.05	W (mm) +/-0.05	H (mm) +/-0.05		mpedanc (Ω) p. or +/-2		DCR (Ohm) Typ.	Rated Voltage Vdc (V) Max.	Rated Current Idc (mA) Max.	Page
••	GBDC0605PG	0.65	0.50	0.30	35		90	1.5 ~ 5.2	5	100	5
••	GBDC0605PS	0.65	0.50	0.30	12			1.3 ~ 2.5	5	100	6
••	GBDC0605PT	0.65	0.50	0.30	12			1.6 ~ 2.8	5	100	7
••	GBDC0806PG	0.85	0.65	0.40	35		90	1.4 ~ 4.0	5	100	8
••	GBDC0806PS	0.85	0.65	0.40	12		47	0.9 ~ 3.8	5	100	9~10
••	GBDC0806PT	0.85	0.65	0.40	12			1.4~2.8	5	100	11
••	GBDC2012P	2.00 +/-0.2	1.25 +/-0.2	0.90 +/-0.2	90		120	0.7 Max.	10	400	12



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GBDC0605PG-SERIES

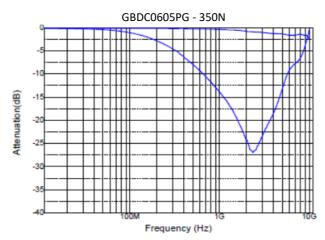


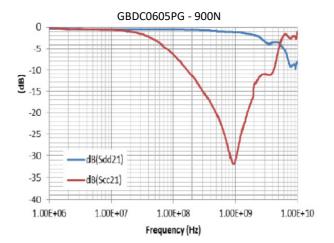
Electrical Characteristics :

Part No.	Common - Mode Impedance (Ω) at 100MHz (Under Standard Testing Condition)	DC Resistance (Ω)	Rated Voltage (V) Max.	Rated Current (mA) Max.	Insulation Resistance (MΩ) Min.	Differential Signal Cutoff Frequency @ - 3dB (GHz)
GBDC0605PG-350N	19 ~ 35	1.5 ~ 2.5	5	100	10	8
GBDC0605PG-900N	90 ± 25%	2.8 ~ 5.2	5	100	10	2.7

* Operating Temperature : - 25° C \sim 85° C

Insertion Loss (Ref.):



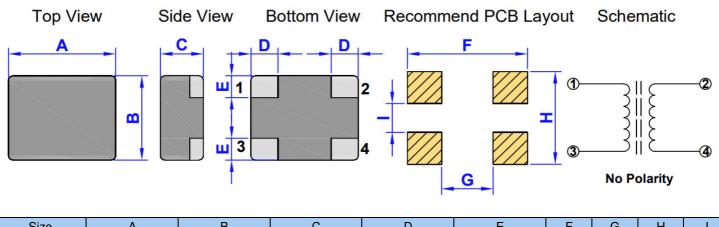




Dimension [mm] :

Product Series :	GBDC	Brand :	GOTREND
File Version :	GBDC-SERIES-V1R2	Editor :	Qiuyi Wu
Established Date :	2011.08.24	Description :	Multilayer Ferrite Common Mode
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GBDC0605PS-SERIES



Size	А	В	С	D	E	F	G	Н	I
0605PS	0.65±0.05	0.50±0.05	0.3±0.05	0.2±0.05	0.15±0.10	0.71	0.25	0.80	0.20

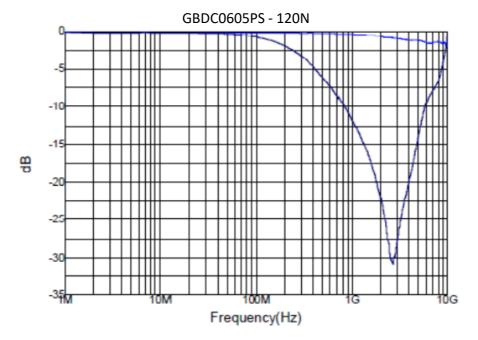
Electrical Characteristics :

Dimension [mm] :

Part No.	Common - Mode Impedance (Ω) at 100MHz (Under Standard Testing Condition)	DC Resistance (Ω)	Rated Voltage (V) Max.	Rated Current (mA) Max.	Insulation Resistance (MΩ) Min.	Differential Signal Cutoff Frequency @ - 3dB (GHz)
GBDC0605PS-120N	Max. 20	1.3 ~ 2.5	5	100	10	>10

* Operating Temperature : - 25 $^\circ\!\mathrm{C}\!\sim\!85\,^\circ\!\mathrm{C}$

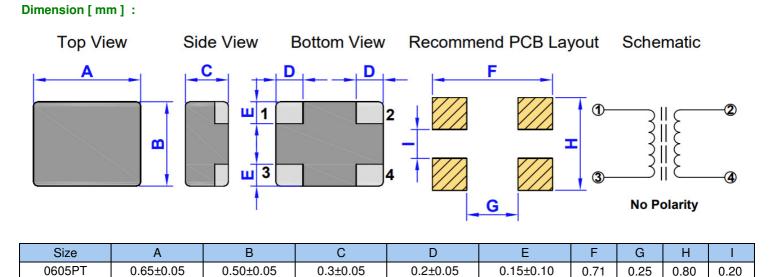
Insertion Loss (Ref.):





Product Series :	GBDC	Brand :	GOTREND
File Version :	GBDC-SERIES-V1R2	Editor :	Qiuyi Wu
Established Date :	2011.08.24	Description :	Multilayer Ferrite Common Mode
Latest Edit Date :	2023.07.12	Product Type :	☑ Standard

GBDC0605PT-SERIES



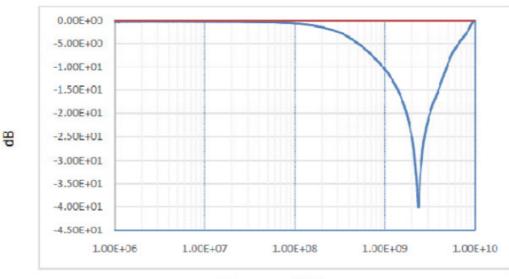
Electrical Characteristics :

Part No.	Common - Mode Impedance (Ω) at 100MHz (Under Standard Testing Condition)	DC Resistance (Ω)	Rated Voltage (V) Max.	Rated Current (mA) Max.	Insulation Resistance (MΩ) Min.	Differential Signal Cutoff Frequency @ - 3dB (GHz)
GBDC0605PT-120N	9 ~ 15	1.6 ~ 2.8	5	100	10	10

GBDC0605PT - 120N

* Operating Temperature : - 25° C \sim 85° C

Insertion Loss (Ref.):

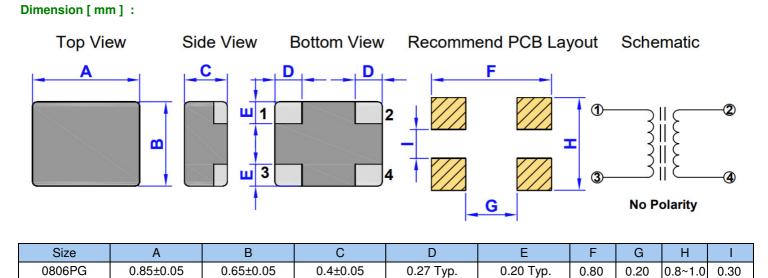


Frequency(Hz)



Product Series :	GBDC	Brand :	GOTREND
File Version :	GBDC-SERIES-V1R2	Editor :	Qiuyi Wu
Established Date :	2011.08.24	Description :	Multilayer Ferrite Common Mode
Latest Edit Date :	2023.07.12	Product Type :	☑ Standard

GBDC0806PG-SERIES

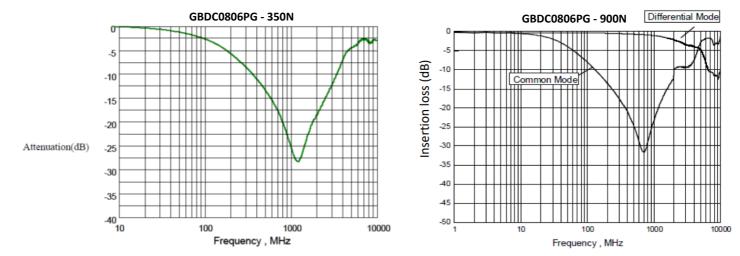


Electrical Characteristics :

Part No.	Common - Mode Impedance (Ω) at 100MHz (Under Standard Testing Condition)	DC Resistance (Ω)	Rated Voltage (V) Max.	Rated Current (mA) Max.	Insulation Resistance (MΩ) Min.
GBDC0806PG-350N	35 ± 25%	1.4 ~ 2.5	5	100	10
GBDC0806PG-900N	90 ± 25%	1.9 ~ 4.0	5	100	10

* Operating Temperature : - 25° C \sim 85° C

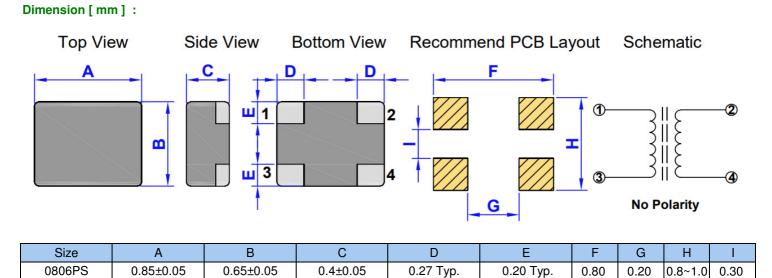
Insertion Loss (Ref.):





Product Series :	GBDC	Brand :	GOTREND
File Version :	GBDC-SERIES-V1R2	Editor :	Qiuyi Wu
Established Date :	2011.08.24	Description :	Multilayer Ferrite Common Mode
Latest Edit Date :	2023.07.12	Product Type :	☑ Standard

GBDC0806PS-SERIES



Electrical Characteristics :

Part No.	Common - Mode Impedance (Ω) at 100MHz (Under Standard Testing Condition)	DC Resistance (Ω)	Rated Voltage (V) Max.	Rated Current (mA) Max.	Insulation Resistance (MΩ) Min.
GBDC0806PS-120N	12 ± 25%	0.9 ~ 1.7	5	100	10
GBDC0806PS-250N	25 ± 25%	1.4 ~ 2.5	5	100	10
GBDC0806PS-470N	47 ± 25%	2.4 ~ 3.8	5	100	10

* Operating Temperature : - 25° C \sim 85 $^{\circ}$ C

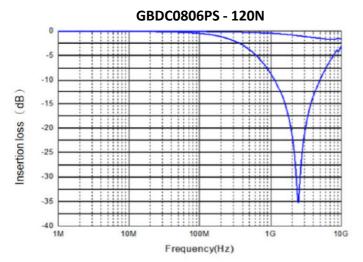


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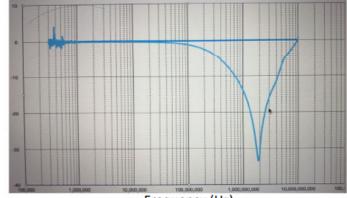
GBDC0806PS-SERIES

Insertion loss (dB)

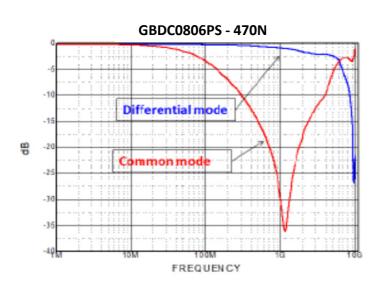
Insertion Loss (Ref.) :



GBDC0806PS - 250N



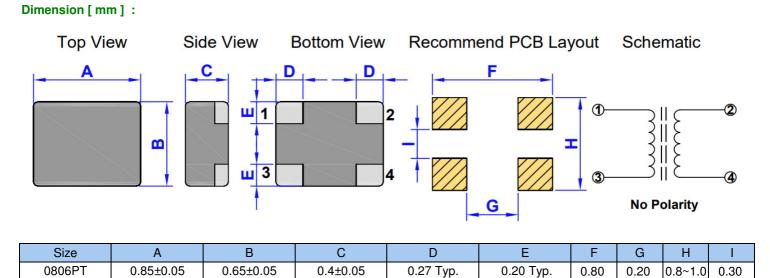
Frequency (Hz)





Product Series :	GBDC	Brand :	GOTREND
File Version :	GBDC-SERIES-V1R2	Editor :	Qiuyi Wu
Established Date :	2011.08.24	Description :	Multilayer Ferrite Common Mode
Latest Edit Date :	2023.07.12	Product Type :	☑ Standard

GBDC0806PT-SERIES

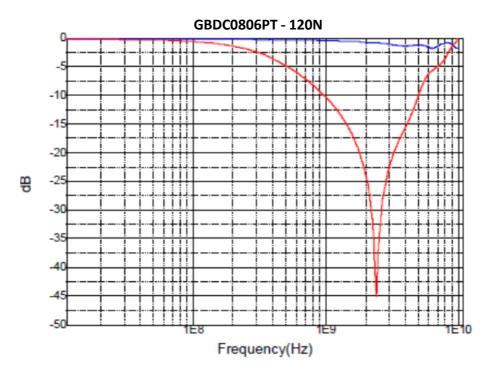


Electrical Characteristics :

Part No.	Common - Mode Impedance(Ω) at 100MHz	DC Resistance (Ω)	Rated Voltage (V) Max.	Rated Current (mA) Max.	Insulation Resistance (MΩ) Min.	Differential Signal Cutoff Frequency @ -3dB (GHz) Min.
GBDC0806PT-120N	12 ~ 18	1.4 ~ 2.8	5	100	10	10

* Operating Temperature : - 25° C \sim 85° C

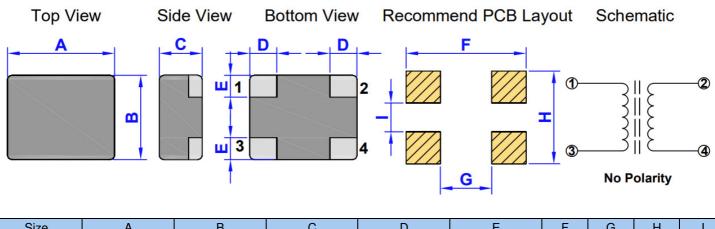
Insertion Loss (Ref.):





Product Series :	GBDC	Brand :	GOTREND
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GBDC2012P-SERIES



Size	А	В	С	D	E	F	G	Н	I
2012P	2.00±0.20	1.25±0.20	0.9±0.20	0.40 Typ.	0.30 Тур.	2.40	1.45	1.65	0.90

Electrical Characteristics :

Dimension [mm] :

Part No.	Common-Mode Impedance (Ω)	Test Freq. (MHz)	DC Resistance (Ω) Max.	Rated Current (mA) Max.	Line To Line Resistance (MΩ) Min.	Rated Voltage (V) Max.	Withstand Voltage (V) Max.
GBDC2012P- 900N	90.0 Тур.	100 / 50 mV	0.70	400	100	10.0	25.0
GBDC2012P- 101N	100.0 Тур.	100 / 50 mV	0.70	400	100	10.0	25.0
GBDC2012P- 121N	120.0 Тур.	100 / 50 mV	0.70	400	100	10.0	25.0

* Rated Current : For a 40 $^\circ\!\mathrm{C}$ temprature rise from 25 $^\circ\!\mathrm{C}$ ambient.

* Operating Temperature : $\,$ - 40 $^\circ\!\mathrm{C}\!\sim\!125 ^\circ\!\mathrm{C}$



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Care note :

Care note for Use :

(1) Storage Condition :

Temperature 25 to 35 °C , Humidity 45 to 60% RH

(2) Use Temperature :

- a. Minimum Temperature : -25 deg.C (Size : 0605 / 0806) / -40 deg.C (Size : 2012) Ambient temperature of this product.
- b. Maximum Temperature : +85 deg.C (Size : 0605 / 0806) / +125 deg.C (Size : 2012) The value of temperature including ambient and temperature rise of this product.
- c. Reliability test temperature range from -25 ~ +85 deg.C (Size : 0605 / 0806) \angle -40 ~ +125 deg.C (Size : 2012)
- d. However, this is not meant as temperature grade guarantee for UL.
- (3) Model :

When this product was used in a similar or as new product to the original one, sometimes it might be unable to satisfy the specifications due to difference in condition of usage.

(4) Drop :

If this product suffered mechanical stress such as drop, characteristics may become poor (due to damage on coil / bobbin / ferrite ... etc.)

Never use such stressed product.

Care note for Safety :

(1) Provision to Abnormal Condition :

This product itself does not have any protective function in abnormal condition such as overload, short-circuit and open-circuit conditions, etc.

Therefore, it shall be confirmed from the end product that there is no risk of smoking, fire, dielectric withstand voltage insulation resistance, etc. in abnormal conditions to provide protective devices and /or protection circuit in the end product.

(2) Temperature Rise :

Temperature rise on this product depends on the installation condition on end products. It shall be confirmed on the actual end product that temperature rise of this product is within the specified temperature class limit.

(3) Dielectric Strength :

Dielectric withstanding test with higher voltage than specific value will damage insulating material and shorten its life.

(4) Water :

This product must not be used in wet condition resulted from water, coffee or any liquid contact because insulation strength becomes very low under such condition.

(5) Potting :

If this product is potted in some compound, coating material of magnet wire might be occasionally damaged. Please ask us if you intend to pot this product.

(6) Detergent :

Please consult our company immediately once under such circumstances because product reliability confirmation etc. is needed when this product come in contact with these chemicals.



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Reliability :

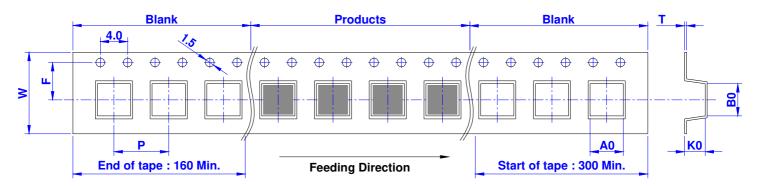
SN	Test Item	Test Condition	Specification
1	Dimension	Actual Size	Meet Spec
2	Thermal Shock (Temperature Cycle)	Temperature : -25 ~ +85 deg.C (Size : 0605 / 0806) / deg.C (Size : 2012) kept stabilized for 30 min. each Cycle : 100 Cycles (power off)	-40 ~ +125 Elec. no variation Appearance no deformation
3	Humidity Resistance	Humidity : 90% ~ 95% RH Temperature : 60 ± 2 deg.C,Test Time : 96 ± 2 Hours	Elec. no variation Appearance no deformation
4	HighTemperature	Temperature : 85 ± 2 deg.C (Size : 0605 / 0806) / 125 (Size : 2012) ; Testing Time : 96 ± 2 Hours	5 ± 2 deg.C Elec. no variation Appearance no deformation
5	Low Temperature	Temperature : -25 ± 2 deg.C (Size : 0605 / 0806) / -40 (Size : 2012) ; Testing Time : 96 ± 2 Hours	D ± 2 deg.C Elec. no variation Appearance no deformation
6	Temperature and Humidity Cycle	25 deg.C 90% ~ 95% RH 3.0 55 deg.C 95% ~ 96% RH 5.0	ne Hr Hr Hr Hr Appearance no deformation
7	Vibration	Frequency : 10Hz ~ 55Hz · Amplitude : 1.5 mm Direction : X · Y · Z · Time : 2 Hours each	Elec. no variation Appearance no deformation
8	Solderability	Go through real SMT IR-Reflow The profile like our suggest profile. Preheat : 160 ± 10 deg.C (90 sec) Peak : 245 ± 5 deg.C Peak Time : 50 Sec. / up 217 deg.C	Elec. no variation Appearance no deformation
9	Soldering Heat Resistance	Preheat : 160 ± 10 deg.C (90 sec) Solder : Sn / Ag / Cu (Pb Free) Solder Temp. : 260 ± 5 deg.C [,] Time : 3 ± 1 seconds	Elec. no variation Appearance no deformation
10	Iron Solder Heat Resistance	Solder Temp. : 350 ± 5 deg.C Flux : Rosin [,] Time : 3 ± 1 seconds	Elec. no variation Appearance no deformation
11	Bending Strength	Unit : mm 10 x 10 R : 0.5 Force : 1Kg / min.	Elec. no variation Appearance no deformation
12	Flexure Strength	Unit : mm 10 x 20 1.6 4.5 4.5 Solder cream 0.15 mm	Elec. no variation Appearance no deformation
13	Terminal Strength	X	Elec. no variation Appearance no deformation
14	High-Voltage	100 V DC between core & winding	Elec. no variation Appearance no deformation
15	Load life	Temperature : 25 \pm 3 deg.C Load : Allowed DC Current , Test Time : 96 \pm 2 Hours	Elec. no variation Appearance no deformation



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Packaging Information :

Tape Dimension (mm)



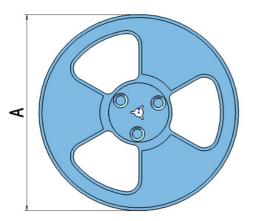
SIZE/mm	A0	B0	W	Р	F	K0	Т
0605	0.63+/-0.03	0.77 +/-0.03	8.00 +/-0.1	2.00 +/-0.05	3.50 +/-0.05	0.42+/-0.03	0.42 +/-0.03
0806	0.78+/-0.03	1.04+/-0.03	8.00 +/-0.1	2.00 +/-0.05	3.50 +/-0.05	0.60+/-0.03	0.60+/-0.03
2012	1.42 +/-0.1	2.25 +/-0.1	8.00 +/-0.1	4.00 +/-0.1	3.50 +/-0.05	1.22 +/-0.1	0.22 +/-0.05

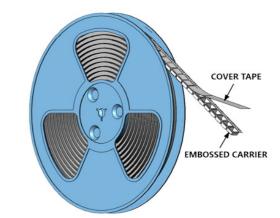
D

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В

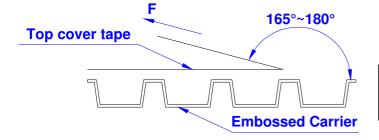
Reel Dimension (mm)





SIZE/mm	Reel Size	А	В	С	D	QTY / Reel
0605	7" x 8 mm	178	60	13	9.0	10000 PCS
0806	7" x 8 mm	178	50	13	10.0	10000 PCS
2012	7" x 8 mm	178	60	13	8.5	4000 PCS

Tearing Off Force



The force for tearing off cover tape is 10 to 130 grams in the arrow direction under the following conditions (referenced ANSI / EIA - 481 - D - 2008 of 4.11stadnard).

Room Temp.	Room Humidity	Room Atm.	Tearing Speed
(°C)	(%)	(hPa)	(mm / min)
5 ~ 35	45 ~ 85	860 ~ 1060	300

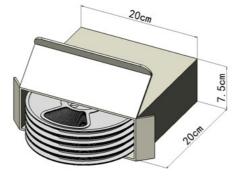


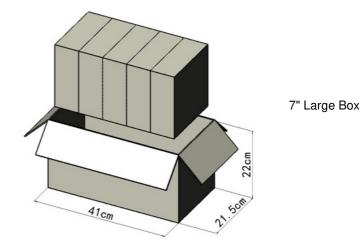
Product Series :	GBDC	Brand :	GOTREND
File Version :	GBDC-SERIES-V1R2	Editor :	Qiuyi Wu
Established Date :	2011.08.24	Description :	Multilayer Ferrite Common Mode
Latest Edit Date :	2023.07.12	Product Type :	☑ Standard

Packaging Information :



7" Small Box





SIZE/mm	Reels in Small Box	Small Box in Large Box
0605	5	5
0806	5	5
2012	5	5

