No. CF644-01

Dual Band Diplexer

Part Number : LFD182G45PACF644

1. Maximum Ratings

	Ratings	Conditions
Operating Temperature	-40 ~ +85 °C	
Power Capacity	0.5W	50Ω Load

2. Electrical Characteristics (at -40 ~ +85 °C)

■ Low Band

Item		Frequency (MHz)	SPEC			Unit
			Min.	Typ.(+25℃)	Max.	
Insertion Loss	at +25°C	2400.00 ~ 2500.00	-	0.41	0.66	dB
	at -40 ~ +85°C	2400.00 ~ 2500.00	-	0.41	0.81	dB
Return Loss		2400.00 ~ 2500.00	10.0	17.8	-	dB
Attenuation (Absolute value)		4800.00 ~ 5000.00	29.4	35.3	-	dB
		5150.00 ~ 7125.00	30.0	38.0	-	dB
		7200.00 ~ 7500.00	30.8	38.8	-	dB
		10300.00 ~ 14250.00	31.9	40.1	-	dB
		15450.00 ~ 21375.00	6.0	12.0	-	dB

■ High Band

Item		Frequency (MHz)	SPEC			Unit
			Min.	Typ.(+25℃)	Max.	
Insertion Loss	at +25°C	5150.00 ~ 5875.00	-	0.54	0.79	dB
	at -40 ~ +85°C	5150.00 ~ 5875.00	-	0.54	0.99	dB
	at +25°C	5875.00 ~ 7125.00	-	0.95	1.20	dB
	at -40 ~ +85°C	5875.00 ~ 7125.00	-	0.95	1.40	dB
Return Loss		5150.00 ~ 7125.00	6.0	13.2	-	dB
Attenuation (Absolute value)		300.00 ~ 1000.00	44.1	50.0	-	dB
		1000.00 ~ 2300.00	25.5	31.4	-	dB
		2400.00 ~ 2500.00	22.0	27.9	-	dB
		2700.00 ~ 3500.00	4.5	10.5	-	dB
		10300.00 ~ 11900.00	26.0	38.1	-	dB
		11900.00 ~ 14250.00	31.4	40.5	-	dB
		15450.00 ~ 17850.00	22.0	38.6	-	dB
		17850.00 ~ 21375.00	12.0	23.3	-	dB

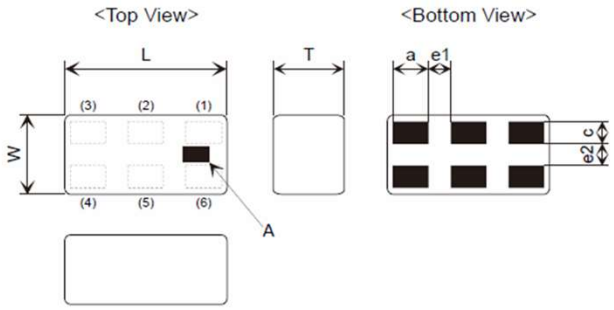
■ Common

Item	Frequency (MHz)	SPEC			Unit
		Min.	Typ.(+25℃)	Max.	
Return Loss	2400.00 ~ 2500.00	10.0	-	-	dB
	5150.00 ~ 7125.00	6.0	-	-	dB

■ Isolation

Item	Frequency (MHz)	SPEC			Unit
		Min.	Typ.(+25℃)	Max.	
Isolation LB-HB	4800.00 ~ 5000.00	31.4	39.4	-	dB
	5150.00 ~ 7125.00	30.9	38.9	-	dB
	7200.00 ~ 7500.00	31.3	39.3	-	dB
	10300.00 ~ 14250.00	35.0	52.3	-	dB
	15450.00 ~ 21375.00	12.0	24.0	-	dB

3. Construction, Dimensions & Marking



Mark	Meaning
A	Directional Input Mark

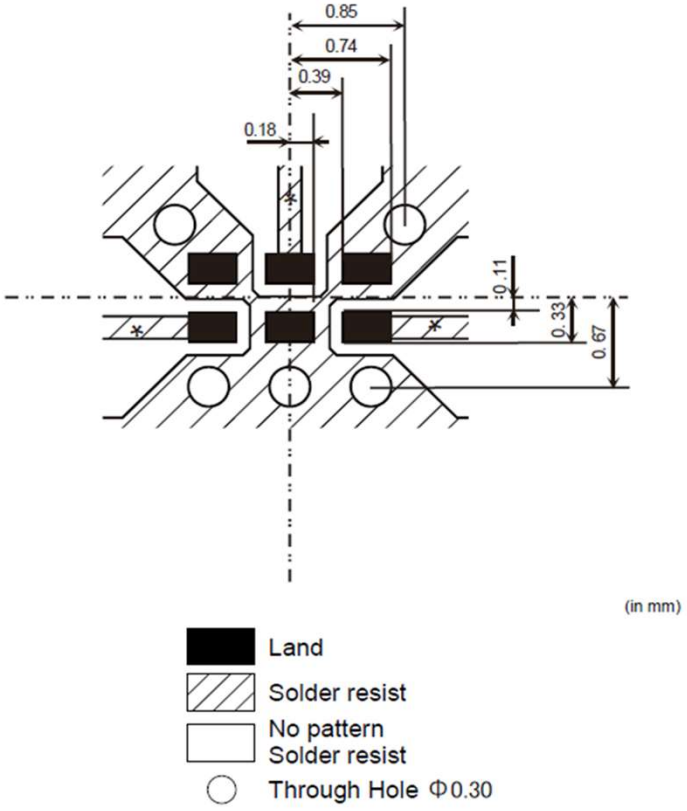
(in mm)

Mark	Dimension	Mark	Dimension	Mark	Dimension
L	1.6 +/-0.1	a	0.35+/-0.05	e1	0.22+/-0.05
W	0.8+/- 0.1	c	0.225+/-0.050	e2	0.22+/-0.05
T	0.65 max	-	-	-	-

TERMINAL CONFIGURATION

Terminal No.	Terminal Name	Terminal No.	Terminal Name
(1)	High Band(P1)	(4)	GND
(2)	GND	(5)	Common (P3)
(3)	Low Band(P2)	(6)	GND

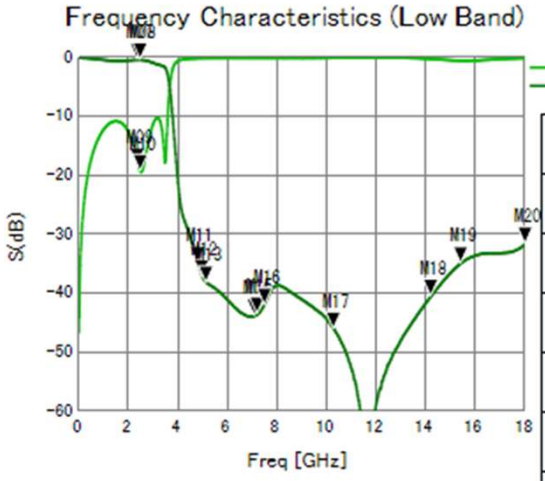
4. Land Pattern



(in mm)

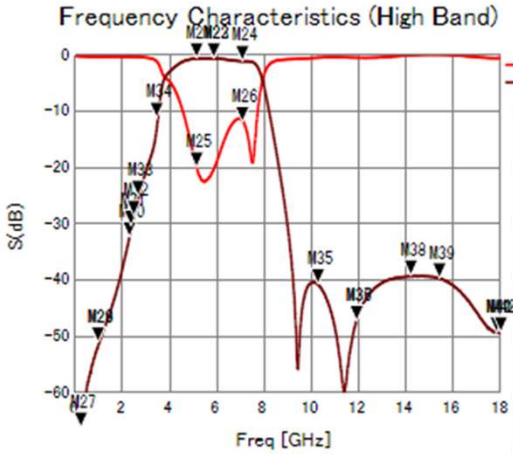
*Line width to be designed to match 50Ω characteristic impedance, depending on PCB material and thickness.

Frequency Characteristics (Low Band)



M07 : S(2,3) Freq 2.400G Hz S(dB) −0.414	M08 : S(2,3) Freq 2.500G Hz S(dB) −0.425
M09 : S(2,2) Freq 2.400G Hz S(dB) −18.237	M10 : S(2,2) Freq 2.500G Hz S(dB) −19.383
M11 : S(2,3) Freq 4.800G Hz S(dB) −34.961	M12 : S(2,3) Freq 5.000G Hz S(dB) −37.251
M13 : S(2,3) Freq 5.150G Hz S(dB) −38.137	M14 : S(2,3) Freq 7.125G Hz S(dB) −43.768
M15 : S(2,3) Freq 7.200G Hz S(dB) −43.612	M16 : S(2,3) Freq 7.500G Hz S(dB) −41.873
M17 : S(2,3) Freq 10.300G Hz S(dB) −46.027	M18 : S(2,3) Freq 14.250G Hz S(dB) −40.342
M19 : S(2,3) Freq 15.450G Hz S(dB) −34.829	M20 : S(2,3) Freq 18.000G Hz S(dB) −31.703

Frequency Characteristics (High Band)



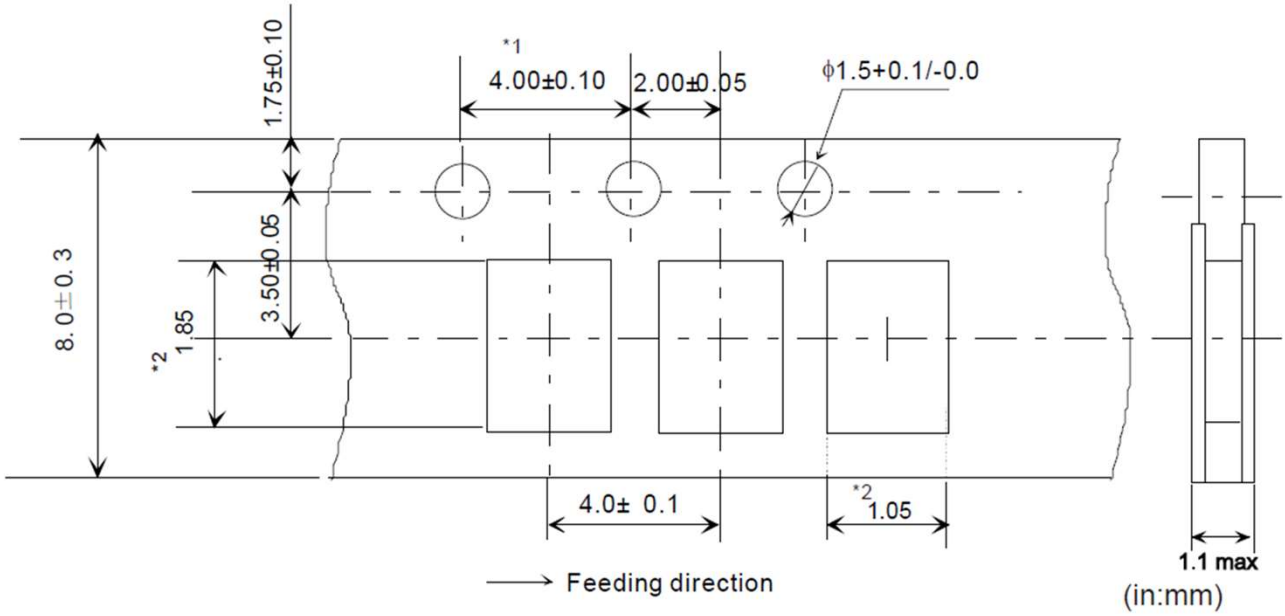
M21 : S(1,3) Freq 5.150G Hz S(dB) −0.592	M22 : S(1,3) Freq 5.875G Hz S(dB) −0.575
M23 : S(1,3) Freq 5.875G Hz S(dB) −0.575	M24 : S(1,3) Freq 7.125G Hz S(dB) −1.077
M25 : S(1,1) Freq 5.150G Hz S(dB) −20.044	M26 : S(1,1) Freq 7.125G Hz S(dB) −11.937
M27 : S(1,3) Freq 300.000M Hz S(dB) −66.275	M28 : S(1,3) Freq 1.000G Hz S(dB) −51.168
M29 : S(1,3) Freq 1.000G Hz S(dB) −51.168	M30 : S(1,3) Freq 2.300G Hz S(dB) −32.307
M31 : S(1,3) Freq 2.400G Hz S(dB) −30.438	M32 : S(1,3) Freq 2.500G Hz S(dB) −28.589
M33 : S(1,3) Freq 2.700G Hz S(dB) −25.048	M34 : S(1,3) Freq 3.500G Hz S(dB) −11.249
M35 : S(1,3) Freq 10.300G Hz S(dB) −40.839	M36 : S(1,3) Freq 11.900G Hz S(dB) −47.181
M37 : S(1,3) Freq 11.900G Hz S(dB) −47.181	M38 : S(1,3) Freq 14.250G Hz S(dB) −39.310
M39 : S(1,3) Freq 15.450G Hz S(dB) −39.687	M40 : S(1,3) Freq 17.850G Hz S(dB) −49.171
M41 : S(1,3) Freq 17.850G Hz S(dB) −49.171	M42 : S(1,3) Freq 18.000G Hz S(dB) −49.234

5.Tape and Reel Packing

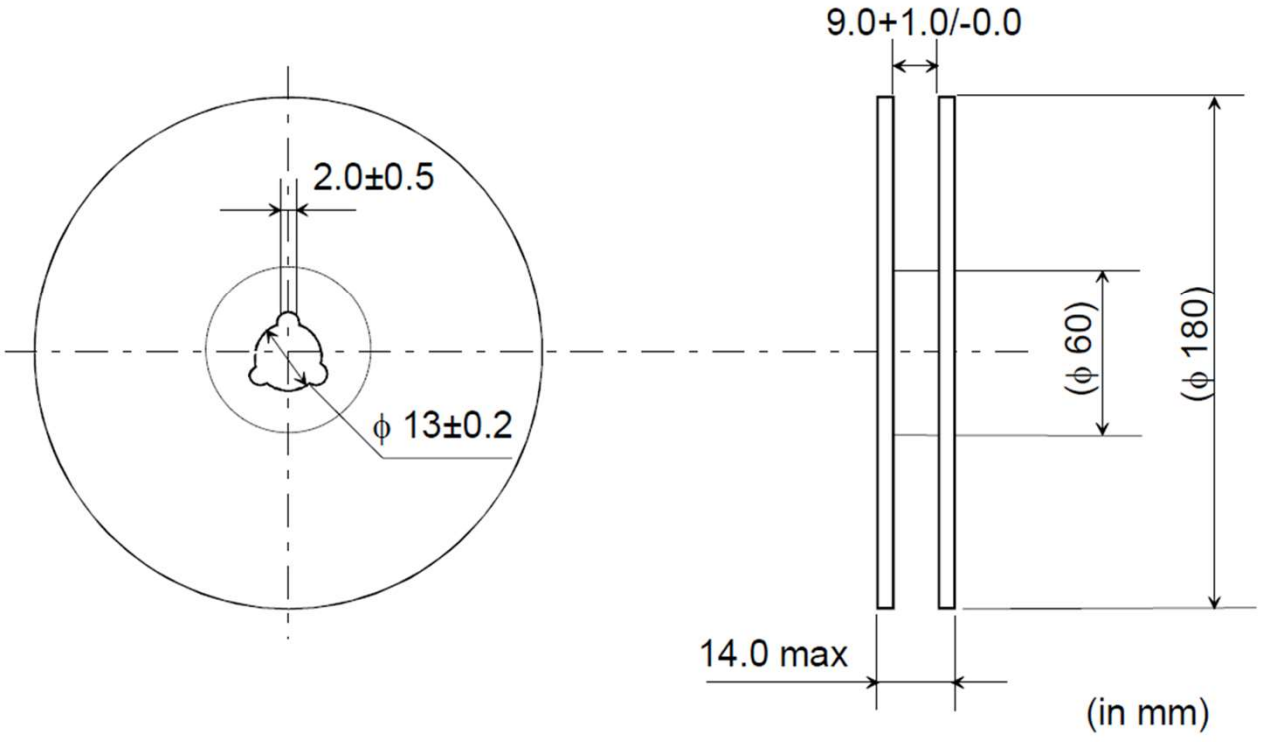
(1) Dimensions of Tape (Paper tape)

∗1 Cumulative tolerance of max. ± 0.3 every 10 pitches

∗2 Reference value



(2) Dimensions of Reel



(3) Taping Diagrams

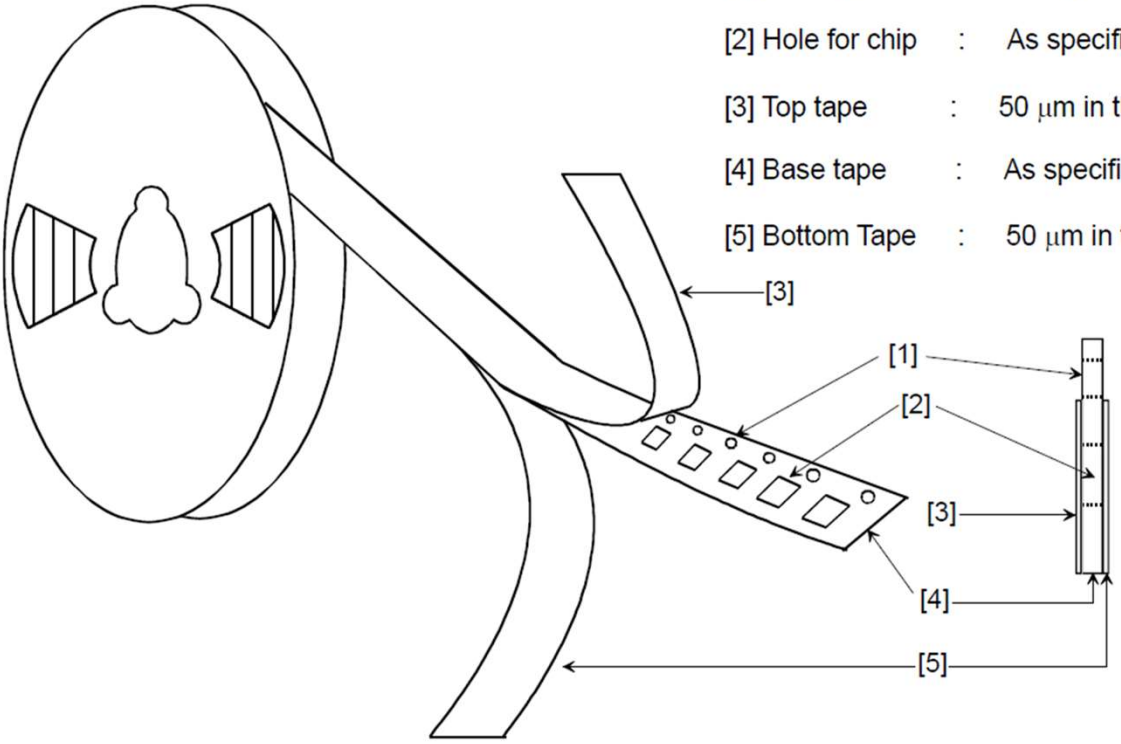
[1] Feeding Hole : As specified in (1)

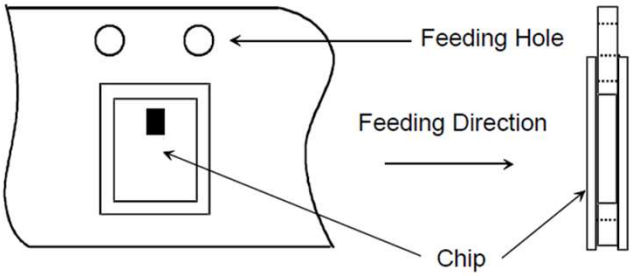
[2] Hole for chip : As specified in (1)

[3] Top tape : 50 μm in thickness

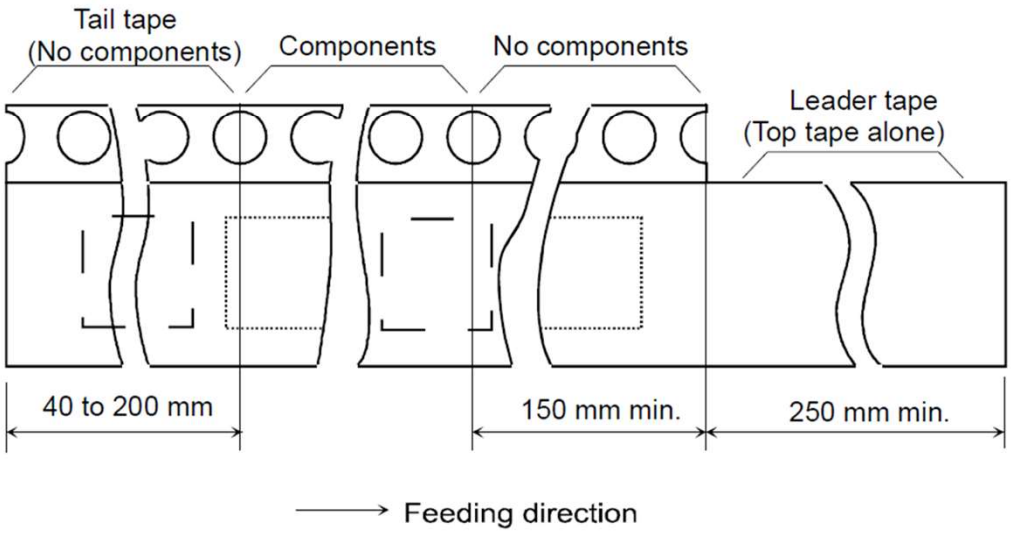
[4] Base tape : As specified in (1)

[5] Bottom Tape : 50 μm in thickness





(4) Leader and Tail tape



(5) The tape for chips are wound clockwise, the feeding holes to the right side as the tape is pulled toward the user.

(6) The top tape and bottom tape shall not protrude the edges of the tape, and shall not cover sprocket holes.

(7) The top tape and base tape are not adhered at no components area for 250 mm min.

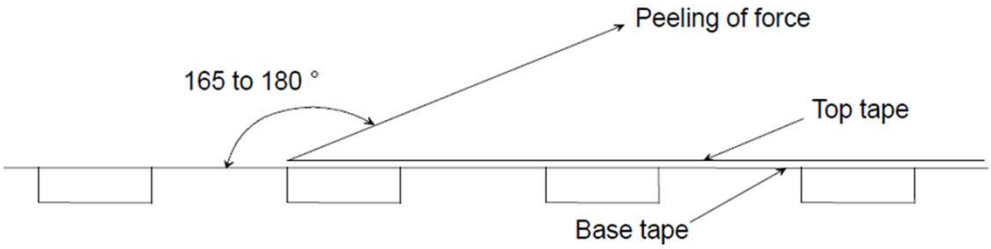
(8) Tear off strength against pulling of top tape and bottom tape : 5N min.

(9) Packaging unit : 4000 pcs. / reel

(10) Material : Base tape .....Paper
Reel .....Plastic

(11) Peeling of force : in the direction of peeling as shown below.
Peeling speed : 300mm/min ± 10mm/min

Tape width	Peeling of force (max)
8mm	1.0N
12-56mm	1.3N
72-200mm	1.5N



CAUTION

PLEASE READ THIS NOTICE BEFORE USING OUR PRODUCTS.

Please make sure that your product has been evaluated and confirmed from the aspect of the fitness for the specifications of our product when our product is mounted to your product.
All the items and parameters in this product specification/datasheet/catalog have been prescribed on the premise that our product is used for the purpose, under the condition and in the environment specified in this specification. You are requested not to use our product deviating from the condition and the environment specified in this specification.
Please note that the only warranty that we provide regarding the products is its conformance to the specifications provided herein. Accordingly, we shall not be responsible for any defects in products or equipment incorporating such products, which are caused under the conditions other than those specified in this specification.

WE HEREBY DISCLAIMS ALL OTHER WARRANTIES REGARDING THE PRODUCTS, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, THAT THEY ARE DEFECT-FREE, OR AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS.

The product shall not be used in any application listed below which requires especially high reliability for the prevention of such defect as may directly cause damage to the third party's life, body or property. You acknowledge and agree that, if you use our products in such applications, we will not be responsible for any failure to meet such requirements.
Furthermore, YOU AGREE TO INDEMNIFY AND DEFEND US AND OUR AFFILIATES AGAINST ALL CLAIMS, DAMAGES, COSTS, AND EXPENSES THAT MAY BE INCURRED, INCLUDING WITHOUT LIMITATION, ATTORNEY FEES AND COSTS, DUE TO THE USE OF OUR PRODUCTS IN SUCH APPLICATIONS.
- Aircraft equipment.
- Aerospace equipment
- Undersea equipment.
- Power plant control equipment
- Medical equipment.
- Transportation equipment (vehicles, trains, ships, elevator, etc.).
- Traffic signal equipment.
- Disaster prevention / crime prevention equipment.
- Burning / explosion control equipment
- Application of similar complexity and/ or reliability requirements to the applications listed in the above.

We expressly prohibit you from analyzing, breaking, Reverse-Engineering, remodeling altering, and reproducing our product. Our product cannot be used for the product which is prohibited from being manufactured, used, and sold by the regulations and laws in the world.

We do not warrant or represent that any license, either express or implied, is granted under any our patent right, copyright, mask work right, or our other intellectual property right relating to any combination, machine, or process in which our products or services are used. Information provided by us regarding third-party products or services does not constitute a license from us to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from us under our patents or other intellectual property.

Please do not use our products, our technical information and other data provided by us for the purpose of developing of mass-destruction weapons and the purpose of military use.
Moreover, you must comply with "foreign exchange and foreign trade law", the "U.S. export administration regulations", etc.

Please note that we may discontinue the manufacture of our products, due to reasons such as end of supply of materials and/or components from our suppliers.

Customer acknowledges that Murata will, if requested by you, conduct a failure analysis for defect or alleged defect of Products only at the level required for consumer grade Products, and thus such analysis may not always be available or be in accordance with your request (for example, in cases where the defect was caused by components in Products supplied to Murata from a third party).

By signing on specification sheet or approval sheet, you acknowledge that you are the legal representative for your company and that you understand and accept the validity of the contents herein.
When you are not able to return the signed version of specification sheet or approval sheet within 90 days from receiving date of specification sheet or approval sheet, it shall be deemed to be your consent on the content of specification sheet or approval sheet.

Customer acknowledges that engineering samples may deviate from specifications and may contain defects due to their development status.
We reject any liability or product warranty for engineering samples.
In particular we disclaim liability for damages caused by
・the use of the engineering sample other than for evaluation purposes, particularly the installation or integration in the product to be sold by you,
・deviation or lapse in function of engineering sample,
・improper use of engineering samples.
We disclaims any liability for consequential and incidental damages.

If you can't agree the above contents, you should inquire our sales.