

Datasheet of SAW Device

SAW Duplexer

for Band1 / Unbalanced / LR /1814

Murata PN: SAYEY1G95GA0F0A

Feature
Small Size
LTE-A



Note : Murata SAW Component is applicable for Cellular /Cordless phone (Terminal) relevant market only. Please also read caution at the end of this document.



Revision Number	Date	Description
SAYEY1G95GA0F0A_rev. A	Aug-23-2013	∎ Initial Release
SAYEY1G95GA0F0A_rev. B	Mar-28-2014	■ Updated for MP
SAYEY1G95GA0F0A_rev. C	Apr-01-2014	
SAYEY1G95GA0F0A_rev. D	Oct-06-2015	■ Updated Feature,Spec Line
SAYEY1G95GA0F0A_rev. E	Sep-15-2016	Updated General Information
SAYEY1G95GA0F0A_rev. F	Mar-09-2017	Updated General Information
SAYEY1G95GA0F0A_rev. G	Aug-28-2017	Updated General Information

Operating temperature Storage temperature

: -20 to +85 deg.C

: -40 to +85 deg.C

: Yes

- Input Power

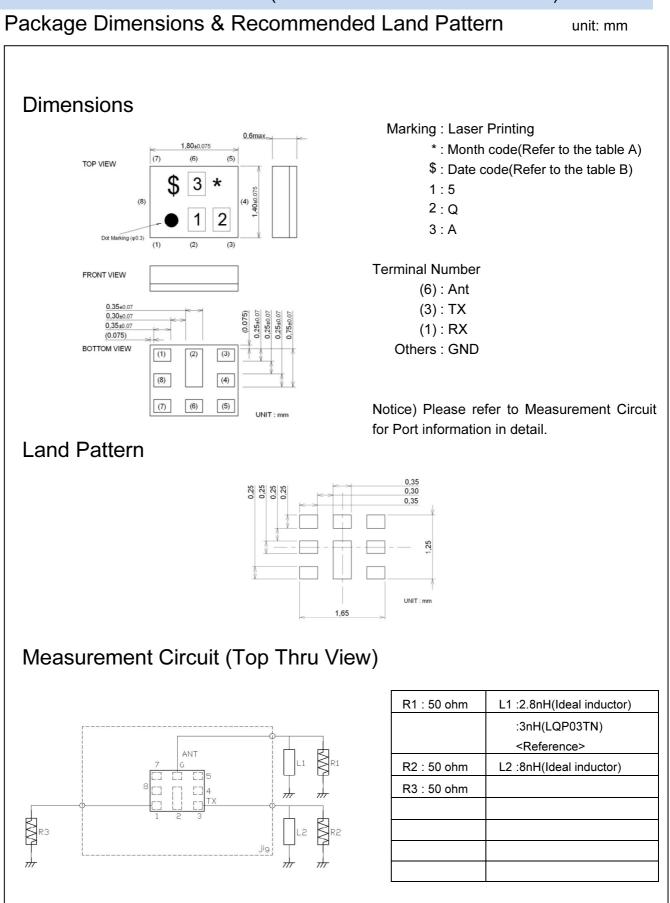
: +29 dBm 5000 h +55 deg.C : 3V (25+/-2 deg.C)

D.C. Volatage between the terminals : 3V (25+/-2
Minimum Resistance between the terminals : 10M ohm

- RoHS compliance

- ESD (ElectroStatic Discharge) sensitive device







Electrical Characteristic < TX→ANT. >

т	$X \rightarrow ANT.$					to +85 d		Unit	Note	
					min.	typ.*	max.			
Center Frequency						1950		MHz		
nsertion Loss	1920.48	to	1979.52	MHz		1.5	1.8	dB	S21	
	1920.48	to	1979.52	MHz		1.5	1.8	dB	+23 to +27deg.C	
		to	1980.	MHz		1.5	1.8	dB	S21	
		to	1980.	MHz		1.5	1.8	dB	+23 to +27deg.C	
		to	1977.6	MHz		1.3	1.8	dB _{INT}	Any 3.84MHz	
Ripple Deviation		to	1980.	MHz		0.2	0.5	dB	Over any 5MHz in-band	
/SWR		to	1980.	MHz		1.3	2.0		TX	
		to	1980.	MHz		1.4	2.0		ANT.	
Absolute Attenuation	10.	to	1574.	MHz	29	32		dB		
		to	494.	MHz	41	46		dB	450MHz RX Att.	
		to	830.	MHz	29	32		dB	B18 TX CA	
		to	849.	MHz	29	32		dB	B5 TX CA	
			845.	MHz	29	32		dB	B19 TX CA	
		to	894.	MHz	29	32		dB	JCDMA/CELL RX Att.	
		to				32				
		to	915.	MHz	29			dB	B8 TX CA	
	925.	<u>to</u>	960.	MHz	29	32		dB	WLAN and DL CA	
		to	1250.	MHz	30	34		dB	GPS L2	
		to	1462.9	MHz	30	38		dB	B21 TX CA	
		to	1496.	MHz	36	39		dB	B11 RX band	
		to	1511.	MHz	36	40		dB	B21 RX band	
	1559.	to	1563.	MHz	38	43		dB	Compass	
	1565.42	to	1573.37	MHz	38	43		dB	Wideband GPS lower side	
	1573.37	to	1577.47	MHz	38	43		dB	Regular GPS main lobe	
	1577.47	to	1585.42	MHz	38	43		dB	Wideband GPS upper side	
	1597.55	to	1605.89	MHz	40	45		dB	GLONASS	
		to	1805.	MHz	25	36		dB		
		to	1865.	MHz	21	26		dB	Protected DCS band	
		to	1880.	MHz	10	25		dB	Protected DCS band	
		to	1895.	MHz	5.0	20.0		dB		
		to	2025.	MHz	20	22		dB	+15 to +85deg.C	
			2023.	MHz	42	46		dB	IMT Att.	
	-	to	2500.	MHz	40	45		dB	ISM2.4	
		to						-		
		to	2690.	MHz	33	38		dB	Protected 2.6GHz band	
	-	to	3960.	MHz	23	28		dB	2f	
		to	5950.	MHz	16	21		dB	3f	
	-	to	5845.	MHz	16	21		dB	WLAN 801.11a	
		to	7920.	MHz	10	15		dB	4f	
		to	9900.	MHz	9.8	12.0		dB	5f	
	11520.	to	11880.	MHz	9.8	15.0		dB	6f	
									l	

* Typical value at 25±2deg.C



Electrical Characteristic $\langle ANT. \rightarrow RX \rangle$

AN	IT. $\rightarrow RX$				Characteristics (-20 to +85 deg.C)			Unit	Note	
					min.	typ.*	max.			
Center Frequency						2140		MHz		
Insertion Loss	2110.48	to	2169.52			1.8	2.3	dB		
	2110.48		2169.52			1.8	2.2	dB	+23 to +27deg.C	
	2110.	to	2170.	MHz		1.8	2.3	dB		
	2110.	to	2170.	MHz		1.8	2.2	dB	+23 to +27deg.C	
Ripple Deviation	2110.	to	2170.	MHz		0.3	1.0	dB	Over any 5MHz in-band	
VSWR	2110.	to	2170.	MHz		1.7	2.0		RX	
	2110.	to	2170.	MHz	22	1.7	2.0		ANT.	
Absolute Attenuation	1.	to	1920. 190.	MHz MHz	32 50	41 79		dB dB	RX-TX	
	718.	to	748.	MHz	40	56		dB	B28-B TX CA	
	814.	to to	849.	MHz	40	54		dB	B26 TX CA	
	880.	to	915.	MHz	40	53		dB	B8 TX CA	
·	1427.	to	1447.	MHz	40	46		dB	B11 TX CA	
	1447.	to	1463.	MHz	40	45		dB	B21 TX CA	
	1730.	to	1790.	MHz	39	44		dB	2TX-RX	
	1710.	to	1785.	MHz	37	42		dB	B3 TX CA	
	1920.	to	1980.	MHz	45	51		dB	TX	
	1980.	to	2015.	MHz	15	46		dB		
	2015.	to	2075.	MHz	7.0	10.0		dB	(RX+TX)/2	
	2255.	to	6130.	MHz	27	32		dB		
	2400.	to	2500.	MHz	30	35		dB	ISM2.4	
	2500.	to	2570.	MHz	38	43		dB	B7 TX CA	
	4030.	to	4150.	MHz	38	43		dB	RX+TX	
	4220.	to	4340.	MHz	37	42		dB	2f	
	4340.	to	13025.	MHz	15	19		dB		
	4900.	to	5950.	MHz	33	38		dB	ISM 5G	
	5950.	to	6130.	MHz	32	37		dB	RX+2TX	
	6130.	to	6330.	MHz	32	37		dB	24	
	6330.	to	6510. 8680	MHz	32	37		dB	3f	
	8440. 10550.	to	8680. 10850.	MHz MHz	20 20	27 27		dB dB	4f 5f	
	12660.		13020.	MHz	15	19		dB	6f	
	12000.	to	13020.		15	19		uВ		
[
[
k										

* Typical value at 25±2deg.C



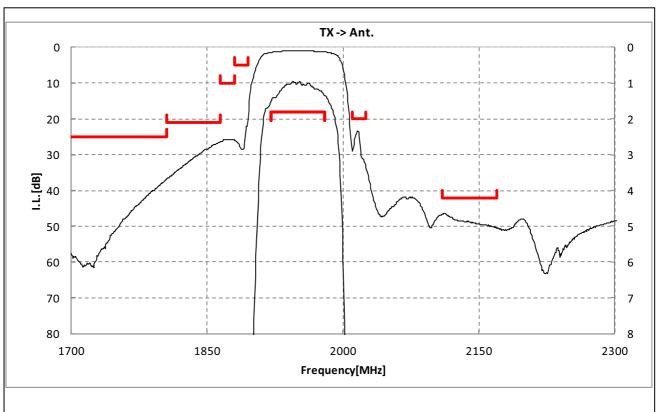
Electrical Characteristic < TX→RX. >

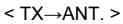
Imax Imax Imax Isolation 1574 to 1577 MHz 40 77 Imax		X → RX				Cha	racteri to +85 d	eg.C)	Unit	Note		
1574. to 1577. MHz 40 77 dB 1920. to 1980. MHz 55 58 dB TX 1920.48 to 1979.52 MHz 55 58 dB TX 1922.4 to 1977.6 MHz 55 58 dB _{INT} WCDMA TX Att./Any3.84M 2110. to 2170. MHz 51 54 dB RX 2110.48 to 2169.52 MHz 51 54 dB RX 2112.4 to 2167.6 MHz 51 54 dB RX 2112.4 to 2167.6 MHz 51 54 dB _{INT} WCDMA RX Att./Any3.84M 3830. to 3970. MHz 30 52 dB TX 2nd harmonic Att.						min.	typ.*	max.				
1920. to 1980. MHz 55 58 dB TX 1920.48 to 1979.52 MHz 55 58 dB TX 1922.4 to 1977.6 MHz 55 58 dB _{INT} WCDMA TX Att./Any3.84M 2110. to 2170. MHz 51 54 dB RX 2110.48 to 2169.52 MHz 51 54 dB RX 2112.4 to 2167.6 MHz 51 54 dB _{INT} WCDMA RX Att./Any3.84M 3830. to 3970. MHz 30 52 dB TX 2nd harmonic Att.	Isolation											
1920.48 to 1979.52 MHz 55 58 dB TX 1922.4 to 1977.6 MHz 55 58 dB _{INT} WCDMA TX Att./Any3.84M 2110. to 2170. MHz 51 54 dB RX 2110.48 to 2169.52 MHz 51 54 dB RX 2112.4 to 2167.6 MHz 51 54 dB _{INT} WCDMA RX Att./Any3.84M 3830. to 3970. MHz 30 52 dB TX 2nd harmonic Att.												
1922.4 to 1977.6 MHz 55 58 dB _{INT} WCDMA TX Att./Any3.84M 2110. to 2170. MHz 51 54 dB RX 2110.48 to 2169.52 MHz 51 54 dB RX 2112.4 to 2167.6 MHz 51 54 dB RX 3830. to 3970. MHz 30 52 dB TX 2nd harmonic Att.		1920.	to	1980.	MHz							
2110. to 2170. MHz 51 54 dB RX 2110.48 to 2169.52 MHz 51 54 dB RX 2112.4 to 2167.6 MHz 51 54 dB RX 3830. to 3970. MHz 30 52 dB TX 2nd harmonic Att.		1920.48										
2110.48 to 2169.52 MHz 51 54 dB RX 2112.4 to 2167.6 MHz 51 54 dB _{INT} WCDMA RX Att./Any3.84M 3830. to 3970. MHz 30 52 dB TX 2nd harmonic Att.				1977.6	MHz		58			WCDMA_IXAtt./Any3.84MHz		
2112.4 to 2167.6 MHz 51 54 dB _{INT} WCDMA RX Att./Any3.84M 3830. to 3970. MHz 30 52 dB TX 2nd harmonic Att.		2110.	to	21/0.	MHz		54			RX		
3830. to 3970. MHz 30 52 dB TX 2nd harmonic Att.		2110.48	to	2169.52	MHz					RX		
				2167.6	MHz				aB _{INT}	WCDMA RX Att./Any3.84MHz		
5/50. to 51 db 1X 3rd harmonic Att. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <td></td> <td>3830.</td> <td></td> <td>3970.</td> <td>MHz</td> <td></td> <td></td> <td></td> <td></td> <td>TX 2nd harmonic Att.</td>		3830.		3970.	MHz					TX 2nd harmonic Att.		
		5750.	to	5950.	MHZ	30	61		aв	TX 3rd harmonic Att.		
										l		
Image: state of the state of												
Image: state of the state of												
Image: state of the state of												
Image: state of the state of												
Image: state of the state of												
Image: set of the												
Image: state of the state of												
Image: state of the state of												
Image: sector of the sector												
Image: state of the state of		-										
Image: state of the state of		-										
							l					
		-										
Image: state of the state of												
										1		
		<u> </u>										
										<u> </u>		
										<u> </u>		
										<u> </u>		

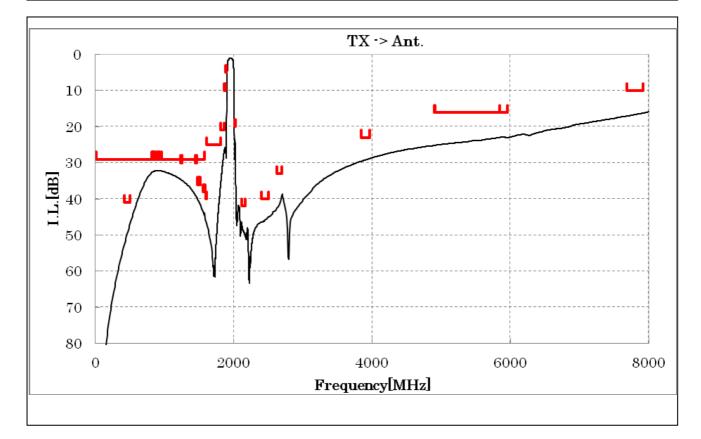
* Typical value at 25±2deg.C



Electrical Characteristic

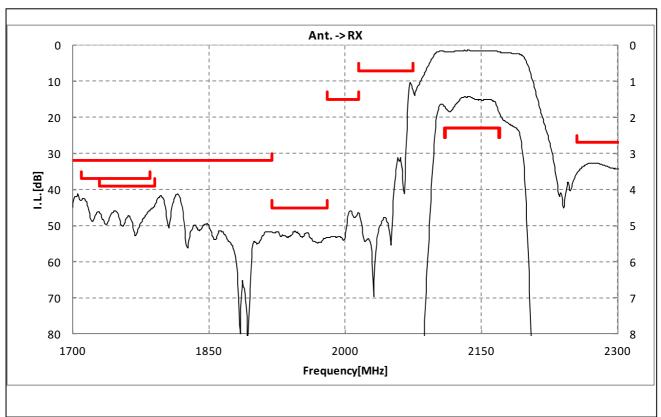




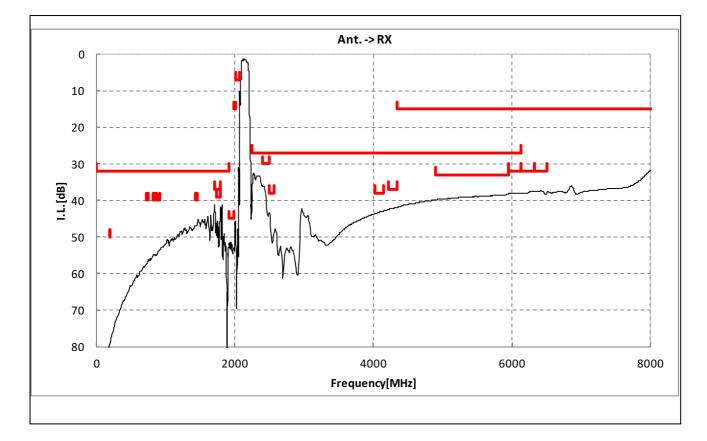




Electrical Characteristic

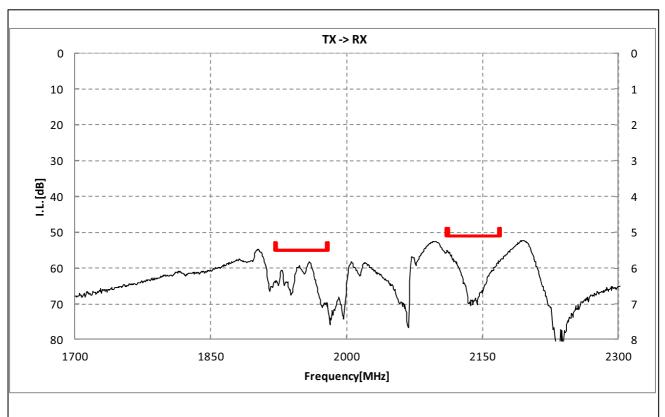


< ANT.→RX >

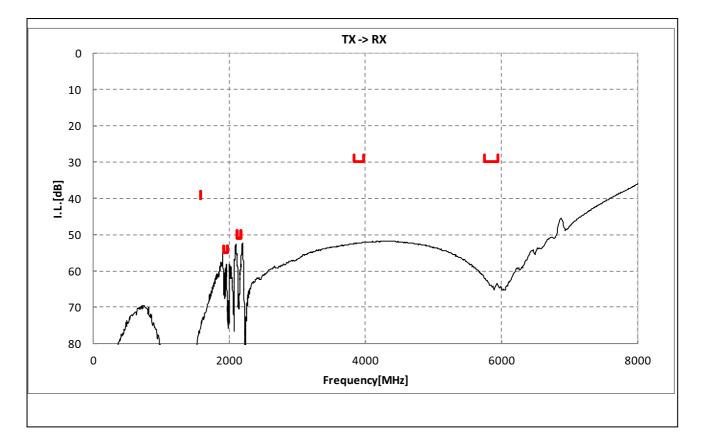




Electrical Characteristic



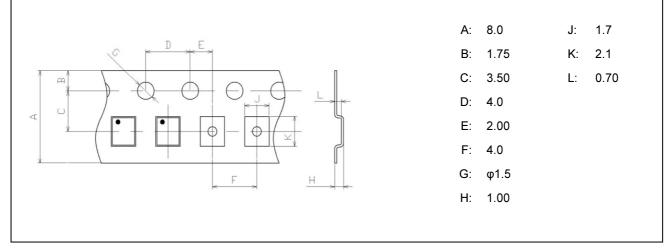
< TX→RX. >



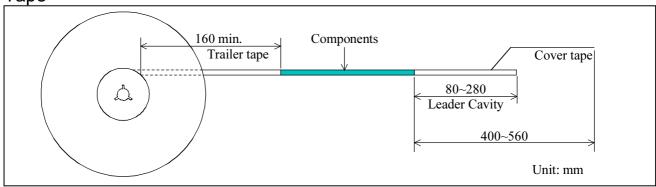


Dimensions of Tape & Reel unit: mm

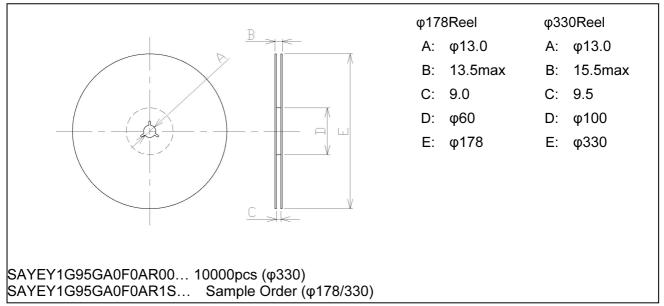
Carrier Tape



Tape



Reel





Marking Code

Table A: Month Code

<u> </u>	01071												
ſ	2013	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	2017 2021	Α	В	C	D	Е	F	G	Н	J	ĸ	L	м
ſ	2014	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	2018 2022	Ν	Ρ	Q	R	S	Т	U	V	W	х	Y	Z
ſ	2015	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	2019 2023	а	р	ю	d	e	f	g	h	j	k	l	m
ſ	2016	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
	2020 2024	n	p	Ŷ	r	ł	t	a	U	ω	ĸ	y	8

Table B: Date Code

date	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
code	А	В	С	D	E	F	G	Η	J	К	
date	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	
code	L	М	Ν	Р	Q	R	S	Т	U	V	
date	21st	22nd	23rd	24th	25th	26th	27th	28th	29th	30th	31st
code	W	Х	Y	Z	а	b	ō	d	е	f	g

Important Notice (1/2)

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.



Important Notice (2/2)

- 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.

Please do not use the product in molding condition.

This product is ESD (ElectroStatic Discharge) sensitive device. When you install or measure this, you should be careful not to add antistatic electricity or high voltage. Please be advised that you had better check anti serge voltage.

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).

The product shall not be used in any other application/model than that of claimed to Murata.

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 disclaim any liability for consequential and incidental damages.

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

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Signal Conditioning category:

Click to view products by Murata manufacturer:

Other Similar products are found below :

MAPDCC0004 PD0409J5050S2HF 880157 HHS-109-PIN DC1417J5005AHF DC4859J5005AHF AFS14A30-2185.00-T3 AFS14A35-1591.50-T3 DS-323-PIN DSS-313-PIN B39321R801H210 B39321R821H210 B39921B4317P810 1A0220-3 2089-6207-00 JP510S LFB212G45SG8C341 LFB322G45SN1A504 LFL182G45TC3B746 SF2159E 30057 1P510S CER0813B 3A325 40287 41180 ATB3225-75032NCT B69842N5807A150 BD0810N50100AHF BD2326L50200AHF BD2425J50200AHF HMC189AMS8TR C5060J5003AHF JHS-114-PIN JP503AS DC0710J5005AHF DC2327J5005AHF DC3338J5005AHF 43020 LFB2H2G60BB1C106 LFL15869MTC1B787 X3C19F1-20S XC3500P-20S 10013-20 SF2081E SF2194E SF2238E CDBLB455KCAX39-B0 RF1353C PD0922J5050D2HF