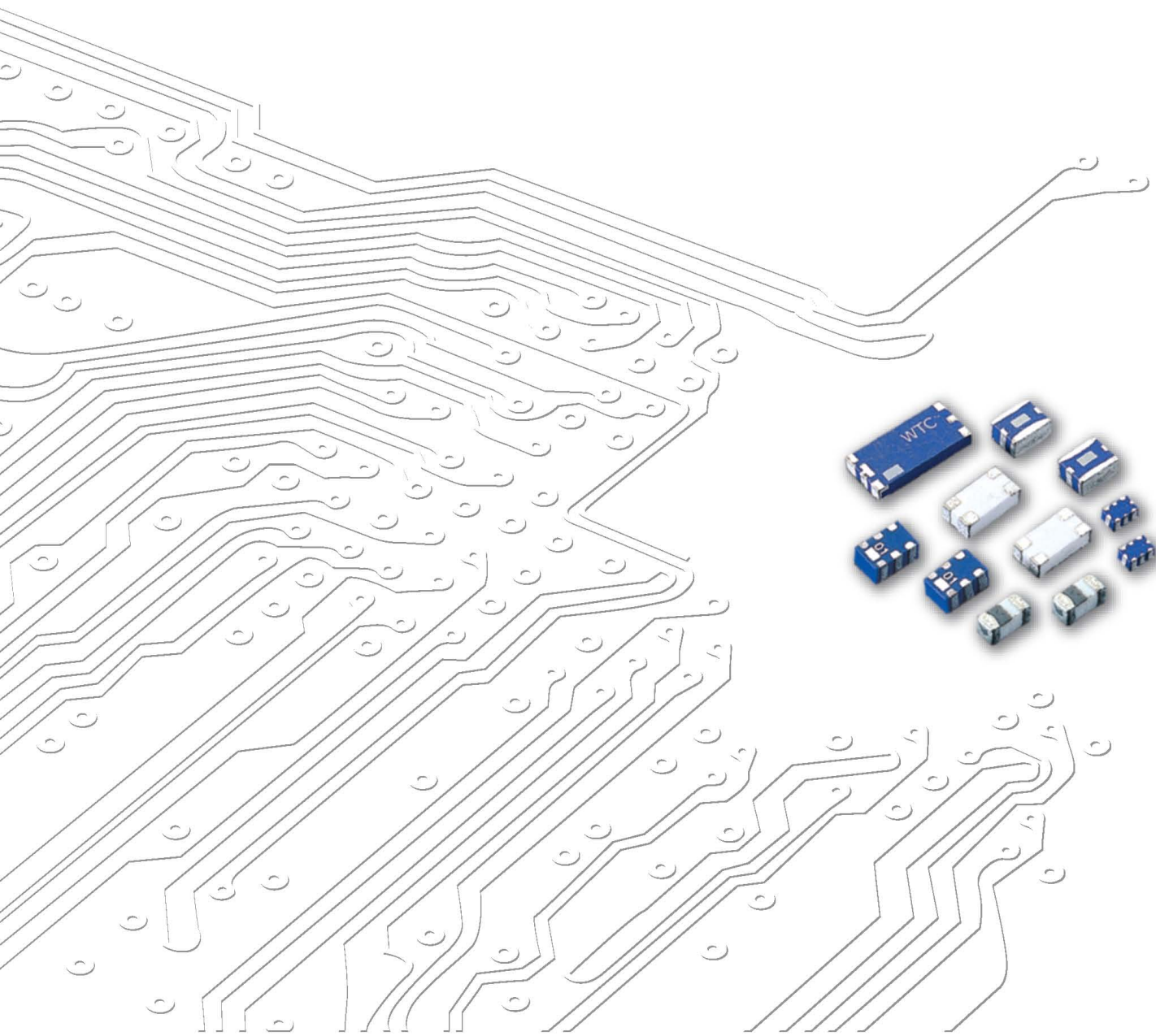


# 2013 RF Devices and High Frequency Inductors

## Product catalog



## Product Portfolio



**Multilayer Ceramic Capacitors (MLCC)**



**Chip-Resistor**



**Disc Capacitors**



**RF Device and High Frequency Inductors**



**Varistors and SMD-Varistors**

## IEC-63 Nominal Resistance / Capacitance

<b>E1</b>	100																							
<b>E3</b>	100			220						470														
<b>E6</b>	100	150	220	330	470	680																		
<b>E12</b>	100	120	150	180	220	270	330	390	470	560	680	820												
<b>E24</b>	100	110	120	130	150	160	180	200	220	240	270	300	330	360	390	430	470	510	560	620	680	750	820	910
<b>E96</b>	100	102	121	124	147	150	178	182	215	221	261	267	316	324	383	392	464	475	562	576	681	698	825	845
	105	107	127	130	154	158	187	191	226	232	274	280	332	340	402	412	487	499	590	604	715	732	866	887
	110	113	133	137	162	165	196	200	237	243	287	294	348	357	422	432	511	523	619	634	750	768	909	931
	115	118	140	143	169	174	205	210	249	255	301	309	365	374	442	453	536	549	649	665	787	806	953	976

E6:  $\sqrt[6]{10} \approx 1.46$  E12:  $\sqrt[12]{10} \approx 1.21$

E1 series resistance: 1Ω, 10Ω, 100Ω, 1000Ω, 10000Ω, 100000Ω

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\*The specifications are subject to change or our products in it may be discontinued without advance notice. Please check with our sales representatives or product engineers before ordering.

\*This catalog has only typical specifications because there is no space for detailed specifications. Therefore, please approve our product specifications or transact the approval sheet for product specification before ordering.

## ■ CHIP ANTENNA

RF	ANT	321612	0	A	5	T
<b>Type code</b>	<b>Product code</b>	<b>Dimension code</b>	<b>Unit of dimension</b>	<b>Application</b>	<b>Specification</b>	<b>Packing</b>
RF/RG: device	ANT : Antenna FRA : Free Antenna ECA : SMD Antenna	Per 2 digits of Length, Width, Thickness 321612 = Length =32 Width = 16 Thickness = 12	0 : 0.1 mm 1 : 1.0 mm	A : 2.4GHZ ISM Band E : GPS 1.5GHz L : 2.4/5.2/5.8GHz Tri Band W : WiMAX	Code from 0~9 dependent on different electrical specification	T : 7" Reeled G:13" Reeled

## ■ HIGH FREQUENCY MULTILAYER BAND PASS FILTER

RF	BPF	322515	0	A	4	T
<b>Type code</b>	<b>Product code</b>	<b>Dimension code</b>	<b>Unit of dimension</b>	<b>Application</b>	<b>Specification</b>	<b>Packing</b>
RF device	BPF : Band Pass Filter	Per 2 digits of Length, Width, Thickness 322515 = Length =32 Width = 25 Thickness = 15	0 : 0.1 mm 1 : 1.0 mm	A : 2.4GHZ ISM Band W : WiMAX K : ISM 5.2/5.8 Dual Band	Code from 0~9 dependent on different electrical specification	T : 7" Reeled G:13" Reeled

## ■ HIGH FREQUENCY MULTILAYER BALANCED FILTER

RF	BPB	252009	0	A	7	T
<b>Type code</b>	<b>Product code</b>	<b>Dimension code</b>	<b>Unit of dimension</b>	<b>Application</b>	<b>Specification</b>	<b>Packing</b>
RF/RG: device	BPB : Balanced Type Band Pass Filter	Per 2 digits of Length, Width, Thickness 252009 = Length =25 Width = 20 Thickness = 09	0 : 0.1 mm 1 : 1.0 mm	A : 2.4GHZ ISM Band W : WiMAX	Code from 0~9 dependent on different electrical specification	T : 7" Reeled G:13" Reeled

## ■ HIGH FREQUENCY MULTILAYER LOW PASS FILTER

RF	LPF	201211	0	A	0	T
<b>Type code</b>	<b>Product code</b>	<b>Dimension code</b>	<b>Unit of dimension</b>	<b>Application</b>	<b>Specification</b>	<b>Packing</b>
RF device	LPF : Low Pass Filter	Per 2 digits of Length, Width, Thickness 201210 = Length =20 Width = 12 Thickness = 11	0 : 0.1 mm 1 : 1.0 mm	A : 2.4GHZ ISM Band K : ISM 5.2/5.8 Dual Band	Code from 0~9 dependent on different electrical specification	T : 7" Reeled G:13" Reeled

## ■ BALUN TRANSFORMERS

RF	BLN	201208	0	A	4	T
<u>Type code</u> RF/RG: device	<u>Product code</u> BLN : BALUN	<u>Dimension code</u> Per 2 digits of Length, Width, Thickness  201208 = Length =20 Width = 12 Thickness = 08	<u>Unit of dimension</u> 0 : 0.1 mm 1 : 1.0 mm	<u>Application</u> A : 2.4GHZ ISM Band K : ISM 5.2/5.8 Dual Band	<u>Specification</u> Code from 0~9 dependent on different electrical specification	<u>Packing</u> T : 7" Reeled G:13" Reeled

## ■ DIPLEXER

RF	DIP	201210	0	L	0	T
<u>Type code</u> RF device	<u>Product code</u> DIP : Diplexer	<u>Dimension code</u> Per 2 digits of Length, Width, Thickness  201210 = Length =20 Width = 12 Thickness = 10	<u>Unit of dimension</u> 0 : 0.1 mm 1 : 1.0 mm	<u>Application</u> L : 2.4/4.9/5.2/5.8GHz Multiband Application	<u>Specification</u> Code from 0~9 dependent on different electrical specification	<u>Packing</u> T : 7" Reeled G:13" Reeled

## ■ COMMON MODE FILTER

RF	CMF	1210	350	H	0	T
<u>Type code</u> RF/RG: device	<u>Product code</u> CMF : Common Mode Filter	<u>Dimension code</u> Per 2 digits of Length, Width. 1210 = Length =12 Width = 10	<u>Impedance</u> 350:35±25% 650:65±20%	<u>Application</u> H : High Speed Transmission Lines HDMI/SATA(mini) LVDS PCI-E/DVI Display Port X : USD 2.0/IEEE 1394 (mini) LVDS	<u>Specification</u> Code from 0~9 dependent on different electrical specification	<u>Packing</u> T : 7" Reeled

## ■ COUPLER

RF	CPL	18	10	B	2450	T
<u>Type code</u> RF device	<u>Product code</u> Coupler	<u>Dimension code</u> e.g. : 18 = Length 16, Width 08, 15= Length 10, Width 05,	<u>Coupling Factor</u> 10 dB	<u>Unit</u> dB	<u>Application</u> 2.4 GHZ ISM Band	<u>Packing</u> T : 7" Reeled

## ■ EMI FILTER ARRAY

RF	EMA	201209	0	R	1	T
<b>Type code</b>	<b>Product code</b>	<b>Dimension code</b>	<b>Unit of dimension</b>	<b>Application</b>	<b>Specification</b>	<b>Packing</b>
RF/RG: device	EMA : EMI Filter Array	Per 2 digits of Length, Width, Thickness  201209 = Length =20 Width = 12 Thickness = 09	0 : 0.1 mm 1 : 1.0 mm	R : 27MHz band	Code from 0~9 dependent on different electrical specification	T : 7" Reeled G:13" Reeled

## ■ HIGH FREQUENCY INDUCTORS

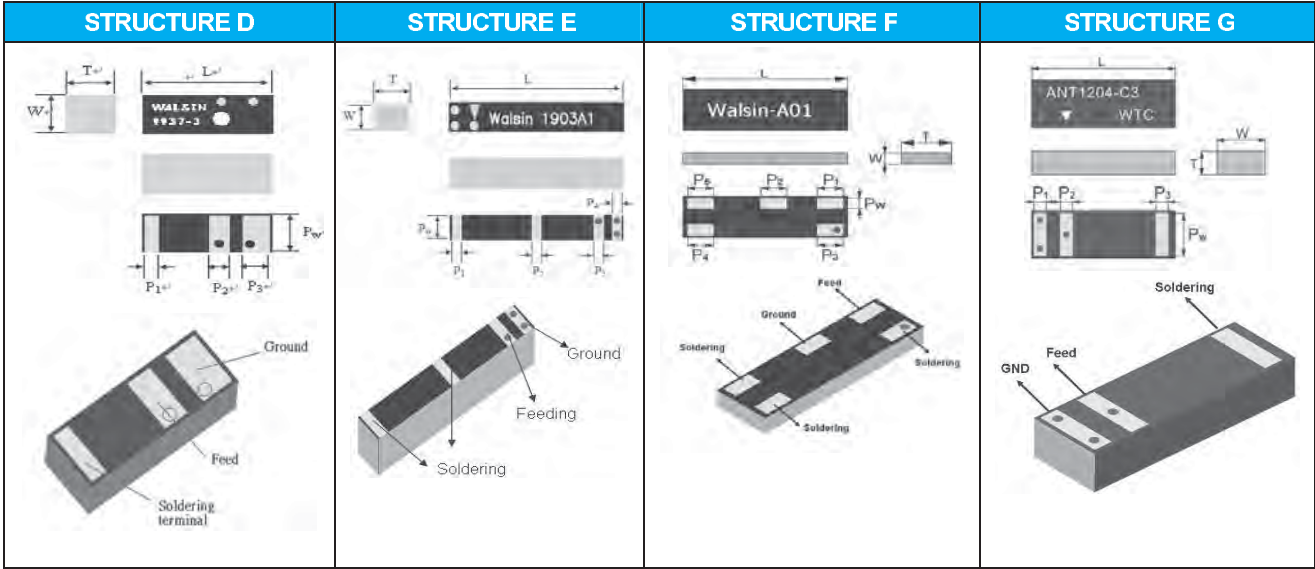
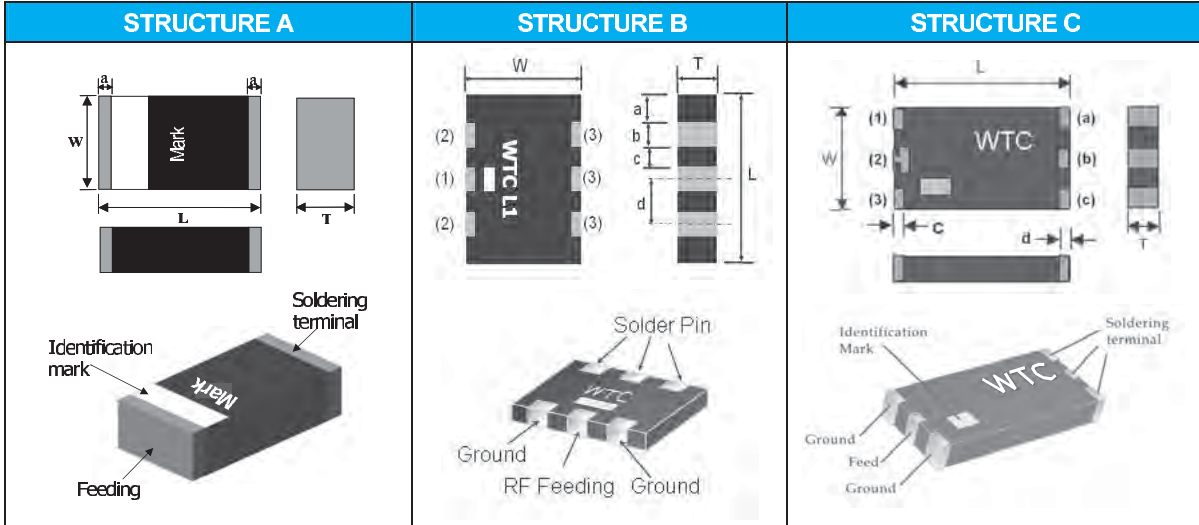
WL	160808	G	4N7	S	G	T	03
<b>Product Code</b>	<b>Dimension code</b>	<b>Material</b>	<b>Inductance</b>	<b>Tolerance</b>	<b>Specification</b>	<b>Packing Code</b>	<b>Rated Current</b>
WL:HF Inductor	160808= L :1.6mm W :0.8mm T :0.8mm 100505= L :1.0mm W :0.5mm T :0.5mm	A B C D E F G	For Ls < 10nH, 1N0=1.0nH 4N7 = 4.7nH 10N-10nH	S : ±0.3nH J : ±5% K : ±10% C :Customized	N :Normal A : ±0.2nH G :Green	T: Reeled B: Bulk	03=250mA or 300mA 02=150mA or 200mA

## ■ MULTILAYER CHIP VARISTOR (MLV)

VH	0402	M	050	C	G	T	330	-
<b>Type code</b>	<b>Chip Size</b>	<b>Style</b>	<b>Rated Voltage</b>	<b>Capacitance Tolerance</b>	<b>Termination</b>	<b>Packing</b>	<b>Cap. Code (pf)</b>	<b>Special Request</b>
V : Walsin ZnO Varistor H : High Speed and RF, and Special Capacitance Concern Z : General Purpose	0402,0603 0805,1206 Code is L X W (in inches) 0402 =0.4×.0.2 0603 =0.6×.0.3 0805 =0.8×.0.5 1206 =1.2×.0.6	M:Multilayer A: Array*	050: 5.5Vdc 090: 9.0Vdc 120: 12.0Vdc 140: 14.0Vdc 180: 18.0Vdc 300: 30.0Vdc	C: Capacitance control code for ESD protection varistor	G: Green Material	T: Reeled B: Bulk	This item is only for H Series. Two significant digits followed by number of Zeros 3R0=3pF when C < 10pF 330=33x10 <sup>0</sup> =33pF 101=10x10 <sup>1</sup> =100pF 102=10x10 <sup>2</sup> =1000pF	

\*Array: Please contact sales for availability

■ STRUCTURE AND PIN ASSOCIATED



## ■ STRUCTURE AND DIMENSION

Unit:mm

Structure\ Dimension	L	W	T	a	b	c	d	1	2	3
A	10 ± 0.20	3.2 ± 0.20	0.8 ± 0.10	0.8 ± 0.10						
	3.20 ± 0.20	1.60 ± 0.20	0.60 ± 0.10	0.25 ± 0.20	-	-	-	-	-	-
			1.20 ± 0.10	0.25 ± 0.15	-	-	-	-	-	-
			1.30 ± 0.20	0.40 ± 0.20	-	-	-	-	-	-
	5.20 ± 0.20	2.00 ± 0.20	1.15 ± 0.10	0.40 ± 0.25	-	-	-	-	-	-
			1.15 ± 0.15	0.40 ± 0.25	-	-	-	-	-	-
	5.8 + 0.1 -0.3	3.0+0.1 -0.3	1.1+0.2 -0.1	0.4±0.25	-	-	-	-	-	-
	8.00 ± 0.20	1.05 ± 0.20	0.80 ± 0.10	0.30 ± 0.20	-	-	-	-	-	-
9.50± 0.20	2.10 ± 0.20	1.15 ± 0.10	0.50 ± 0.30	-	-	-	-	-	-	
B	5.9±0.3	5.1±0.3	1.1±0.1	0.45±0.2	1.0±0.2	1.0±0.2	2.0±0.2	1.0±0.2	1.0±0.2	1.0±0.2
C	7.6±0.3	3.5±0.2	1.1±0.1	0.8±0.2	0.8±0.2	0.8±0.2	0.5±0.2	0.5±0.2	0.8±0.2	0.50±0.2

Structure\ Dimension	L	W	T	P <sub>w</sub>	P <sub>1</sub>	P <sub>2</sub>	P <sub>3</sub>	P <sub>4</sub>	P <sub>5</sub>
D	9.90±0.15	3.70±0.15	3.80±0.20	3.48±0.10	1.4±0.10	1.9±0.10	2.4±0.15	-	-
E	19.0±0.15	3.00±0.15	3.80±0.20	3.00±0.10	1.0±0.10	1.0±0.10	1.0±0.10	1.0±0.10	-
F	12.8±0.15	3.90±0.15	1.10±0.10	1.00±0.10	2.0±0.10	2.0±0.10	2.0±0.10	2.0±0.10	2.0±0.10
G	12.0±0.15	4.00±0.15	2.00±0.10	3.60±0.10	1.0±0.10	1.0±0.10	1.0±0.10	-	-



## ELECTRICAL SPECIFICATION

### 1.575GHz BAND WORKING FREQUENCY

Part Number	Frequency Range (GHz)	Azimuth Bandwidth ( MHz )	Gain (dBi)	VSWR (max.)	Impedance (Ω)	Polarization	Size (mm)	Structure
RFANT5830110E0T	1.575	Omni-directional	0 ~ 2	2.0	50	Linear	5.80x3.00x1.10	A
RFECA1003011E0T	1.575	Omni-directional	2 ~ 3	2.0	50	Linear	10.0x3.20x0.80	A
RFECA3216060E0T	1.575	Omni-directional	3	2.0	50	Linear	3.20x1.60x0.60	A

### Bluetooth/WiFi BAND WORKING FREQUENCY

Part Number	Frequency Range (GHz)	Azimuth Bandwidth ( MHz )	Gain (dBi)	VSWR (max.)	Impedance (Ω)	Polarization	Size (mm)	Structure
RFANT6050110L0T	2.4~2.5 4.9~5.9	Omni-directional	4	2.0	50	Linear	5.90x5.10x1.10	B
RFANT6050110L1T	2.4~2.5 4.9~5.9	Omni-directional	4	2.0	50	Linear	5.90x5.10x1.10	B
RFANT3216120A1T	2.4~2.5	Omni-directional	2	2.0	50	Linear	3.20x1.60x1.20	A
RFANT3216120A3T	2.4~2.5	Omni-directional	2	2.0	50	Linear	3.20x1.60x1.20	A
RFANT3216120A5T	2.4~2.5	Omni-directional	2	2.0	50	Linear	3.20x1.60x1.20	A
RFANT5220110A0T	2.4~2.5	Omni-directional	2	2.0	50	Linear	5.20x2.00x1.10	A
RFANT5220110A1T	2.4~2.5	Omni-directional	2	2.0	50	Linear	5.20x2.00x1.15	A
RFANT5220110A2T	2.4~2.5	Omni-directional	2	2.0	50	Linear	5.20x2.00x1.10	A
RFANT7635110A1T	2.4~2.5	Omni-directional	0 ~ 2	2.0	50	Linear	7.60x3.50x1.10	C
RFANT8010080A3T	2.4~2.5	Omni-directional	2	2.0	50	Linear	8.00x1.00x0.80	A
RFANT9520120A0T	2.4~2.5	Omni-directional	2	2.0	50	Linear	9.50x2.00x1.20	A
RFECA3216060A1T	2.4~2.5	Omni-directional	2	2.1	50	Linear	3.20x1.60x0.60	A
RFECA3216060K1T	4.9~5.85	Omni-directional	2.8	2.0	50	Linear	3.20x1.60x0.60	A
RGFRA1903041A1T	2.4~2.5	Omni-directional	2	2.0	50	Linear	19.0x3.00x3.80	E
RGFRA1903041A5T	2.4~2.5	Omni-directional	2	2.0	50	Linear	19.0x3.00x3.80	E
RGFRA9937380A3T	2.4~2.55	Omni-directional	2	2.0	50	Linear	9.90x3.70x3.80	D
RGFRA1304011A1T	2.4~2.5	Omni-directional	2	2.1	50	Linear	12.8x3.90x1.10	F
RGFRA1204021A1T	2.4~2.5	Omni-directional	2	2.0	50	Linear	12.0x4.00x2.00	G

### WiMAX BAND WORKING FREQUENCY

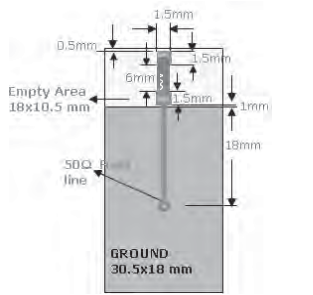
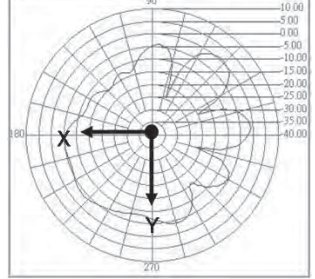
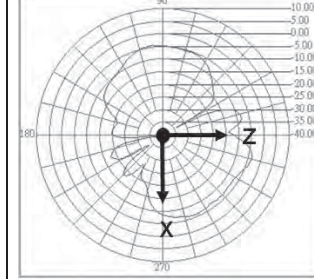
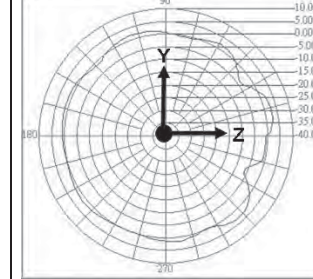
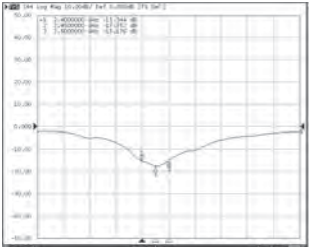
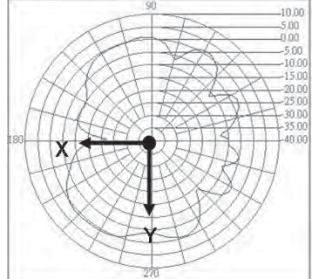
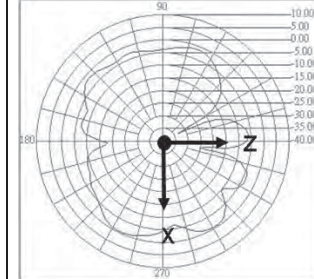
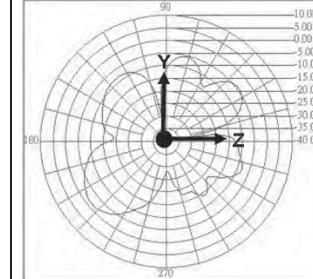
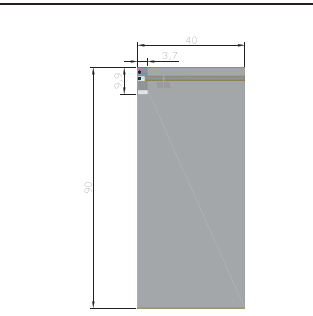
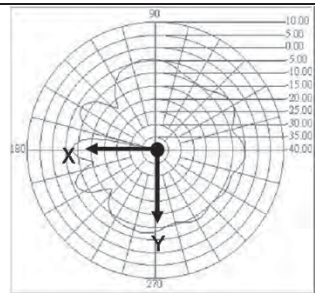
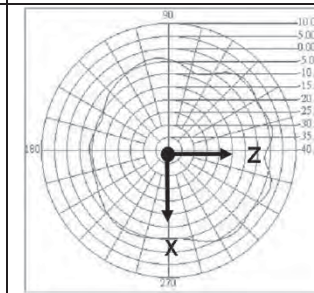
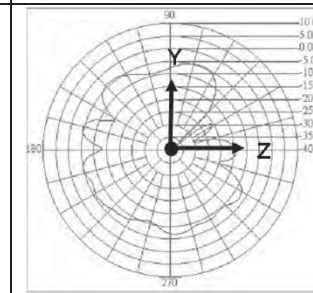
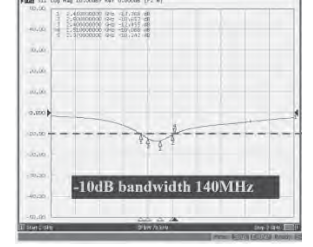
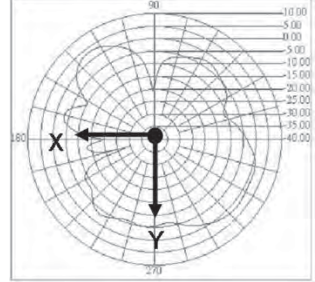
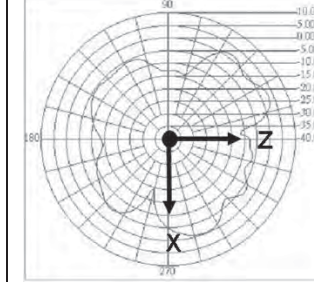
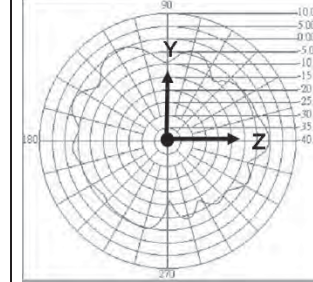
Part Number	Frequency Range (GHz)	Azimuth Bandwidth ( MHz )	Gain (dBi)	VSWR (max.)	Impedance (Ω)	Polarization	Size (mm)	Structure
RFANT32162G6W0T	2.5~2.69	Omni-directional	1	3.0	50	Linear	3.20x1.60x1.20	A
RFANT32163G5W0T	3.3~3.8	Omni-directional	2~3	2.0	50	Linear	3.20x1.60x1.20	A

For more information, please contact with local sales representative


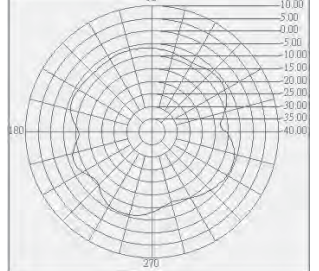
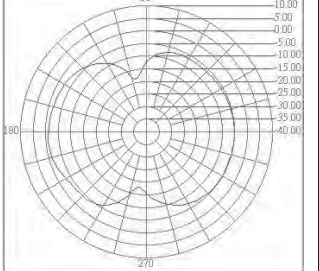
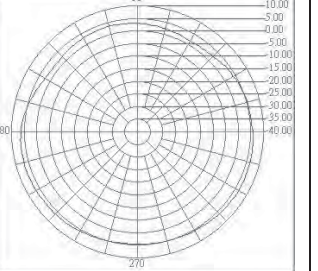
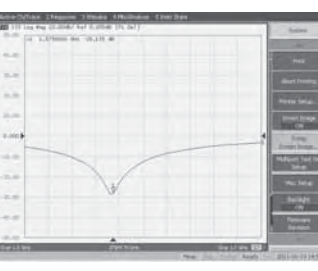
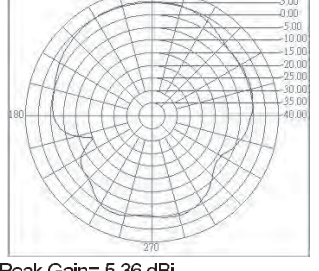
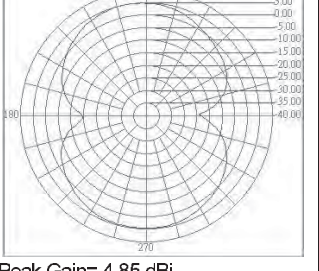
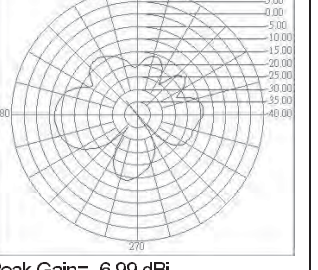
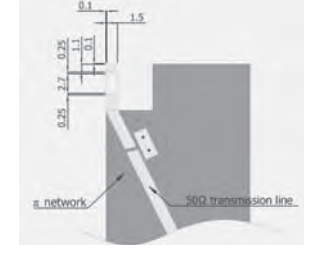
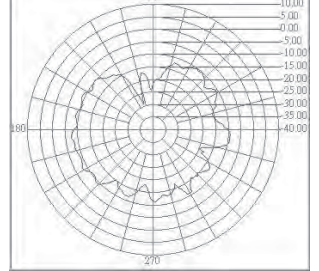
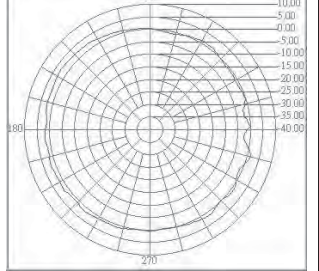
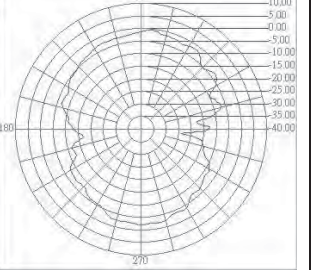
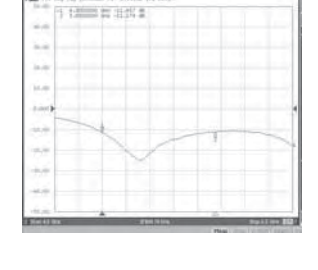
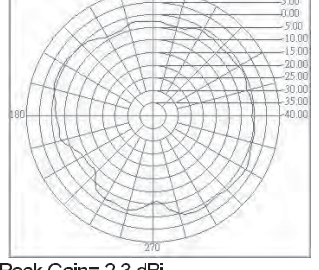
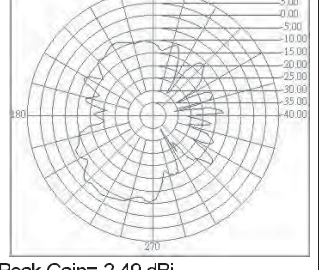
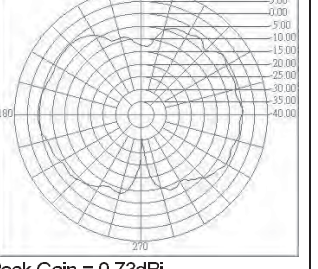
All specifications are subject to change without notice

## ■ TYPICAL ELECTRICAL CHARACTERISTICS

RFANT5220110A0T			
<b>Test Board</b> 	<b>X-Y Plane Vertical</b> <p>Peak Gain= -5.97dBi Average Gain=-3.12 dBi</p>	<b>X-Z Plane Vertical</b> <p>Peak Gain= -5.97dBi Average Gain=-3.24 dBi</p>	<b>Y-Z Plane Vertical</b> <p>Peak Gain= 1.69dBi Average Gain=-3.22 dBi</p>
<b>Return Loss (S11)</b> 	<b>X-Y Plane Horizontal</b> <p>Peak Gain= 2.59dBi Average Gain=-9.24 dBi</p>	<b>X-Z Plane Horizontal</b> <p>Peak Gain= 2.66dBi Average Gain=-8.61 dBi</p>	<b>Y-Z Plane Horizontal</b> <p>Peak Gain= -5.42dBi Average Gain=-8.98 dBi</p>
RGFAR1903041A1T			
<b>Test Board</b> 	<b>X-Y Plane Vertical</b> <p>Peak Gain= -7.42 dBi Average Gain= -10.48 dBi</p>	<b>X-Z Plane Vertical</b> <p>Peak Gain= 1.95 dBi Average Gain= -0.81 dBi</p>	<b>Y-Z Plane Vertical</b> <p>Peak Gain= -0.26dBi Average Gain=-5 dBi</p>
<b>Return Loss (S11)</b> 	<b>X-Y Plane Horizontal</b> <p>Peak Gain= 2.0 dBi Average Gain= -2.31 dBi</p>	<b>X-Z Plane Horizontal</b> <p>Peak Gain= -2.65 dBi Average Gain= -8.4dBi</p>	<b>Y-Z Plane Horizontal</b> <p>Peak Gain= 1.11dBi Average Gain = -4.37 dBi</p>

RFANT8010080A3T			
Test Board	X-Y Plane Vertical	X-Z Plane Vertical	Y-Z Plane Vertical
 <p>0.5mm 1.5mm 6mm 1.5mm 1mm 18mm Empty Area 18x10.5 mm 50Ω line GROUND 30.5x18 mm</p>	 <p>Peak Gain= 0.76 dBi Average Gain= -5.81dBi</p>	 <p>Peak Gain= -3.76 dBi Average Gain= -8.72dBi</p>	 <p>Peak Gain = 3.03 dBi Average Gain = 0.71 dBi</p>
Return Loss (S11)	X-Y Plane Horizontal	X-Z Plane Horizontal	Y-Z Plane Horizontal
	 <p>Peak Gain= 1.37 dBi Average Gain= -2.67 dBi</p>	 <p>Peak Gain= -0.25 dBi Average Gain= -4.24 dBi</p>	 <p>Peak Gain= -1.37 dBi Average Gain= -8.6 dBi</p>
RGFAR9937380A3T			
Test Board	X-Y Plane Vertical	X-Z Plane Vertical	Y-Z Plane Vertical
	 <p>Peak Gain= -4.48 dBi Average Gain= -8.02 dBi</p>	 <p>Peak Gain= 2.49 dBi Average Gain= -2.47 dBi</p>	 <p>Peak Gain= -4.05dBi Average Gain=-8.03 dBi</p>
Return Loss (S11)	X-Y Plane Horizontal	X-Z Plane Horizontal	Y-Z Plane Horizontal
 <p>-10dB bandwidth 140MHz</p>	 <p>Peak Gain= 3.19 dBi Average Gain= -2.65 dBi</p>	 <p>Peak Gain= 3.05 dBi Average Gain= -4.10dBi</p>	 <p>Peak Gain = 0.95dBi Average Gain = -4.26 dBi</p>

RFECA3216060A1T			
<b>Test Board</b> <p>unit:mm</p>	<b>X-Y Plane Vertical</b> <p>Peak Gain = 3.37 dBi Average Gain = -0.65 dBi</p>	<b>X-Z Plane Vertical</b> <p>Peak Gain= 0.83 dBi Average Gain= -1.35 dBi</p>	<b>Y-Z Plane Vertical</b> <p>Peak Gain= -9.59 dBi Average Gain= -15.40 dBi</p>
<b>Return Loss (S11)</b> 	<b>X-Y Plane Horizontal</b> <p>Peak Gain= -4.62 dBi Average Gain= -10.42 dBi</p>	<b>X-Z Plane Horizontal</b> <p>Peak Gain= 0.51 dBi Average Gain= -4.07 dBi</p>	<b>Y-Z Plane Horizontal</b> <p>Peak Gain= 1.39 dBi Average Gain= -2.07 dBi</p>
RFECA1003011E0T			
<b>Return Loss (S11)X-Y Plane</b> 	<b>X-Y Plane</b> <p>Peak Gain = 3.12dBi Average Gain = -3.99 dBi</p>	<b>X-Z Plane</b> <p>Peak Gain= 1.97dBi Average Gain= -1.44 dBi</p>	<b>Y-Z Plane</b> <p>Peak Gain = 3.32dBi Average Gain = 1.02 dBi</p>
RFANT6050110L0T			
<b>2.4GHz E-Plane (dBi)</b> <p>Peak Gain = +4.74dBi Average Gain = -1.46dBi</p>	<b>2.4GHz H-Plane (dBi)</b> <p>Peak Gain = +0.48dBi Average Gain = -4.59dBi</p>	<b>5.8GHz E-Plane (dBi)</b> <p>Peak Gain = +4.99dBi Average Gain = -1.31dBi</p>	<b>5.8GHz H-Plane (dBi)</b> <p>Peak Gain = +3.02dBi Average Gain = -0.85dBi</p>

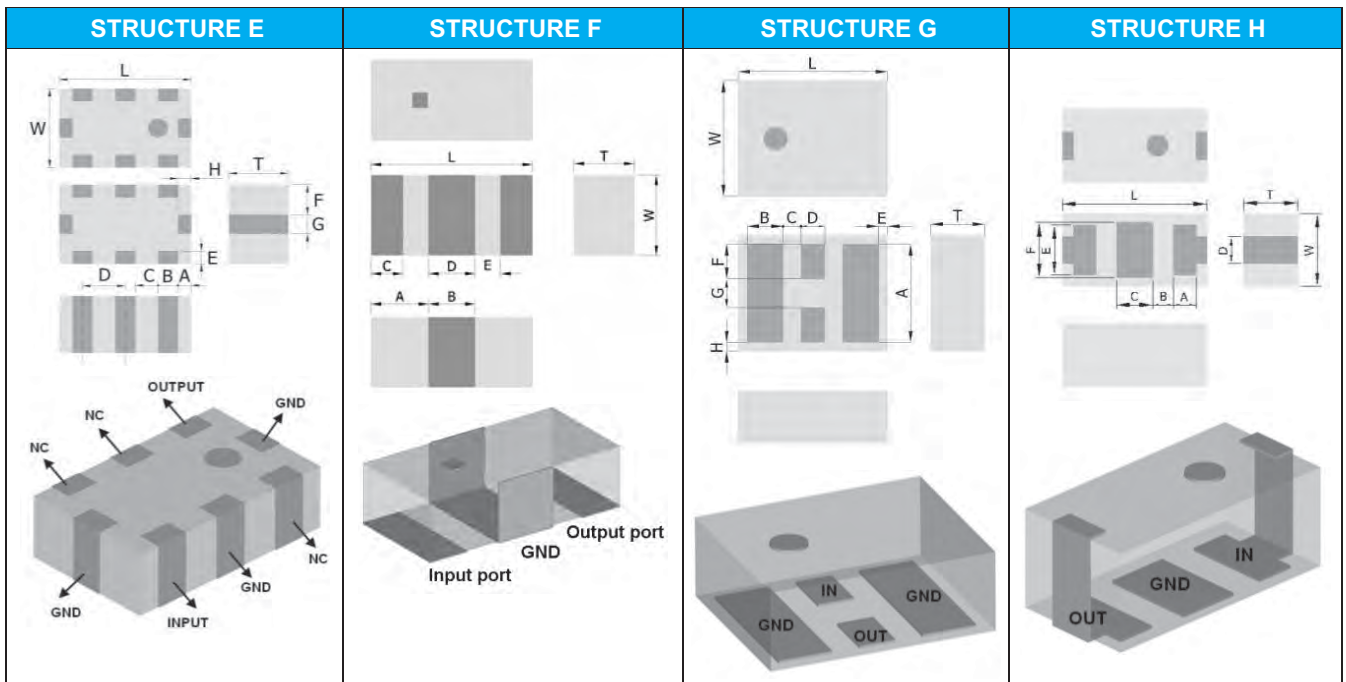
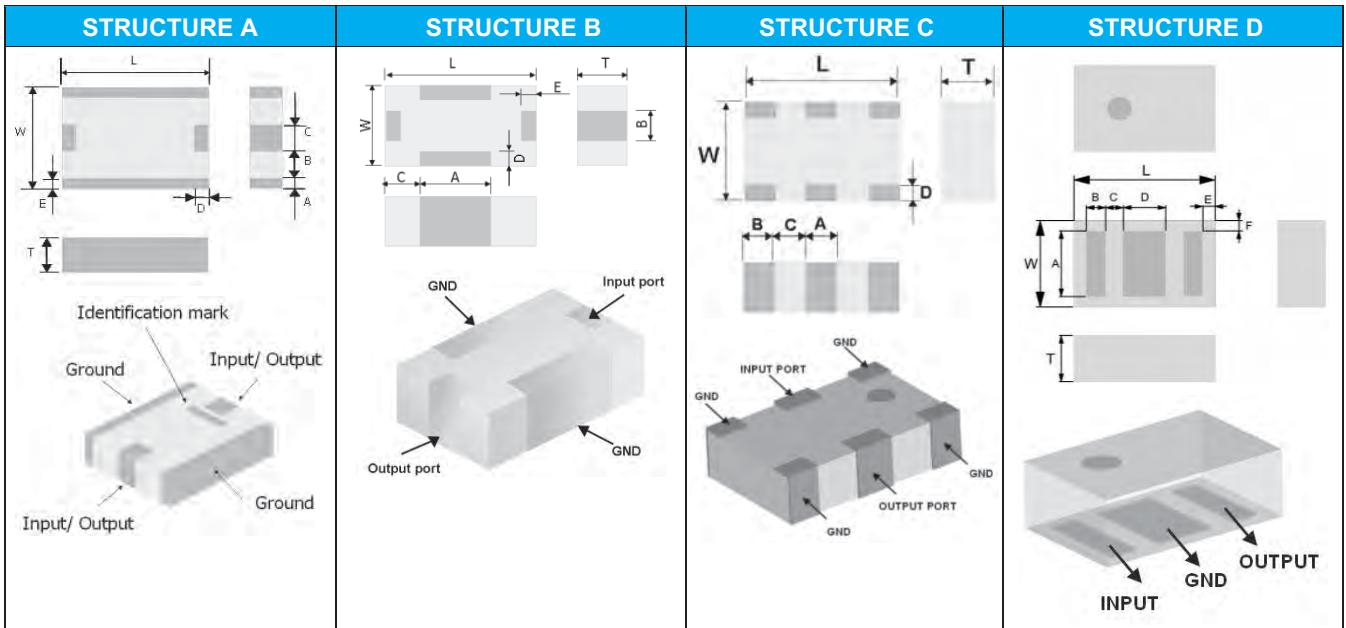
RFECA3216060E1T			
Land Pattern	X-Y Plane Vertical	X-Z Plane Vertical	Y-Z Plane Vertical
	 <p>Peak Gain= -5.51 dBi Average Gain= -7.48 dBi</p>	 <p>Peak Gain= -0.85 dBi Average Gain= -5.22 dBi</p>	 <p>Peak Gain = 6.74 dBi Average Gain = 4.81 dBi</p>
Return Loss (S11)	X-Y Plane Horizontal	X-Z Plane Horizontal	Y-Z Plane Horizontal
	 <p>Peak Gain= 5.36 dBi Average Gain= 1.25 dBi</p>	 <p>Peak Gain= 4.85 dBi Average Gain= 1.21 dBi</p>	 <p>Peak Gain= -6.99 dBi Average Gain= -14.30 dBi</p>
RFECA3216060K1T			
Land Pattern	X-Y Plane Vertical	X-Z Plane Vertical	Y-Z Plane Vertical
	 <p>Peak Gain= -7.42 dBi Average Gain= -11.78 dBi</p>	 <p>Peak Gain= 2.86 dBi Average Gain= 0.86 dBi</p>	 <p>Peak Gain= -0.55dBi Average Gain=-4.9 dBi</p>
Return Loss (S11)	X-Y Plane Horizontal	X-Z Plane Horizontal	Y-Z Plane Horizontal
	 <p>Peak Gain= 2.3 dBi Average Gain= -1.1 dBi</p>	 <p>Peak Gain=-2.49 dBi Average Gain= -9.61dBi</p>	 <p>Peak Gain = 0.73dBi Average Gain = -2.86 dBi</p>

■ For more information, please contact with local sales representative

■ All specifications are subject to change without notice

# HIGH FREQUENCY MULTILAYER BAND PASS FILTER

## ■ STRUCTURE AND PIN ASSOCIATED



# HIGH FREQUENCY MULTILAYER BAND PASS FILTER

## ■ STRUCTURE AND DIMENSION

Unit:mm

Structure Dimension	L	W	T	A	B	C	D	E	F	G	H
A	2.50±0.20	2.00±0.20	0.70±0.10	0.20±0.20	0.55±0.20	0.50±0.20	0.25±0.20	0.20±0.20	-	-	-
			0.80±0.10	0.20±0.20	0.55±0.20	0.50±0.20	0.20±0.20	0.20±0.20	-	-	-
			1.00±0.10	0.20±0.20	0.50±0.20	0.50±0.20	0.25±0.20	0.20±0.20	-	-	-
			1.05±0.10	0.25±0.20	0.50±0.20	0.50±0.20	0.25±0.20	0.25±0.20	-	-	-
			1.20±0.10	0.25±0.20	0.50±0.20	0.50±0.20	0.25±0.20	0.25±0.20	-	-	-
	3.20±0.20	2.50±0.10	1.50±0.10	0.40±0.20	0.60±0.20	0.70±0.20	0.20±0.15	0.40±0.20	-	-	-
B	1.00±0.10	0.50±0.10	0.40±0.10	0.30±0.10	0.30±0.10	0.35±0.10	0.15±0.10	0.15±0.10	-	-	-
	1.60±0.15	0.80±0.15	0.50±0.10	0.45±0.15	0.30±0.15	0.45±0.15	0.20±0.15	0.20±0.15	-	-	-
			0.60±0.10	0.70±0.15	0.30±0.15	0.45±0.15	0.20±0.10	0.20±0.10	-	-	-
			0.70±0.10	0.70±0.15	0.30±0.15	0.45±0.15	0.15±0.10	0.15±0.10	-	-	-
	2.00±0.15	1.20±0.15	0.50±0.10	1.10±0.15	0.30±0.15	0.45±0.15	0.25±0.15	0.25±0.15	-	-	-
			0.90±0.10	1.10±0.15	0.30±0.15	0.45±0.15	0.25±0.15	0.25±0.15	-	-	-
		1.25±0.15	0.60±0.10	0.70±0.15	0.30±0.15	0.45±0.15	0.20±0.15	0.20±0.15	-	-	-
			0.80±0.10	1.00±0.15	0.30±0.15	0.50±0.15	0.25±0.15	0.25±0.15	-	-	-
	0.90±0.10		1.00±0.15	0.30±0.15	0.50±0.15	0.25±0.15	0.25±0.15	-	-	-	
	0.95±0.10	1.00±0.15	0.25±0.10	-	0.25±0.15	0.25±0.15	-	-	-		
C	2.00±0.15	1.20±0.20	0.55±0.10	0.40±0.20	0.40±0.20	0.40±0.20	0.40±0.20	0.20±0.10	-	-	-
			0.60±0.10	0.40±0.20	0.40±0.20	0.40±0.20	0.20±0.10	-	-	-	
			0.80±0.10	0.40±0.20	0.40±0.20	0.40±0.20	0.40±0.20	0.20±0.10	-	-	-
D	2.00±0.15	1.25±0.10	0.45±0.10	0.95±0.10	0.275±0.20	0.25±0.10	0.60±0.10	0.175±0.10	0.15±0.10	-	-
			0.70 max	0.95±0.10	0.275±0.10	0.25±0.10	0.60±0.10	0.175±0.10	0.15±0.10	-	-
			0.80±0.10	0.95±0.10	0.275±0.10	0.25±0.10	0.60±0.10	0.175±0.10	0.15±0.10	-	-
E	2.00±0.15	1.20±0.15	0.60±0.10	0.20±0.15	0.30±0.15	0.35±0.15	0.65±0.15	0.20±0.15	0.475±0.15	0.30±0.15	0.25±0.15
F	1.60±0.15	0.80±0.15	0.60±0.10	0.55±0.15	0.50±0.15	0.35±0.15	0.50±0.15	0.20±0.15	-	-	-
G	2.50±0.20	2.00±0.20	0.90±0.10	1.70±0.20	0.60±0.20	0.30±0.20	0.40±0.20	0.15±0.10	0.60±0.10	0.50±0.10	0.15±0.10
H	1.60±0.15	0.80±0.10	0.60 max	0.25±0.10	0.23±0.05	0.40±0.10	0.30±0.10	0.55±0.10	0.60±0.10	-	-

## ■ ELECTRICAL SPECIFICATION

### ■ DVB BAND WORKING FREQUENCY

Part Number	Frequency Range(GHz)	Insertion Loss (dB)	Attenuation ( dB min. )	VSWR (max.)	Impedance (Ω)	Size(mm)	STRUCTURE
RFBPF2520080Y0T	0.465~0.862	1.2	30@90 MHz 10@245 MHz 30@2170 MHz	2.0	50	2.50x2.00x0.80	A

### ■ 1.8GHz BAND WORKING FREQUENCY

Part Number	Frequency Range(GHz)	Insertion Loss (dB)	Attenuation ( dB min. )	VSWR (max.)	Impedance (Ω)	Size(mm)	STRUCTURE
RFBPF2520070S0T	1.8/ 1.9	2.1	40( 400~850 MHz) 35( 850~1190 MHz) 8(1190~1590 MHz) 25(2410~3400 MHz) 40(3400~6000 MHz)	2.0	50	2.50x2.00x0.70	A

# HIGH FREQUENCY MULTILAYER BAND PASS FILTER

## ■ 2.4GHz BAND WORKING FREQUENCY

Part Number	Frequency Range(GHz)	Insertion Loss (dB)	Attenuation (dB min. )	VSWR (max.)	Impedance (Ω)	Size(mm)	STRUCTURE
RBBPF1005040A1T	2.4~2.5	2.5	25(824~960 MHz) 20(1710~1910 MHz) 20(4800~5000 MHz) 15(7200~7500 MHz)	2.0	50	1.00x0.50x0.40	B
RFBPF1608060AM1T59	2.4~2.5	3.0	38(900~1800 MHz) 25(1910~2170 MHz) 35(4800~4900 MHz)	2.0	50	1.60x0.80x0.60	B
RFBPF1608060AA7M1U	2.4~2.5	0.95max.(25°C) 1.25max.(-40~+85°C)	20(500~960 MHz) 23(3200 MHz) 30(4800~5000 MHz) 32(7200~7500 MHz)	2.0	50	1.60x0.80x0.60	H
RFBPF1608060ABT	2.4~2.5	2.5max.(25°C) 2.8max.(-40~+85°C)	38(880~915 MHz) 40(1710~1850 MHz) 40(1850~1910 MHz) 35(1920~1990 MHz) 25(2170 MHz) 30(4800~5000 MHz) 20(7200~7500 MHz)	2.0	50	1.60x0.80x0.60	F
RFBPF1608060AET	2.4~2.5	1.7max.(25°C) 2.0max.(-40~+85°C)	25(880 MHz) 20(3200 MHz) 35(4800~5000 MHz) 25(7200~7500 MHz)	2.0	50	1.60x0.80x0.60	F
RFBPF1608060APT	2.4~2.5	2.2max.(25°C) 2.4max.(-40~+85°C)	25(880~960 MHz) 20(1710~1990 MHz) 30(4800~5000 MHz) 30(7200~7500 MHz)	2.0	50	1.60x0.80x0.60	B
RFBPF1608050A0T	2.4~2.5	2.0max.(25°C) 2.2max.(-40~+85°C)	20(960 MHz) 20(1910 MHz) 15(1990 MHz) 18(4800 MHz) 25(7200 MHz)	2.0	50	1.60x0.80x0.50	B
RFBPF1608060A1T	2.4~2.5	2.8	25(695~800MHz) 20(1910MHz) 35(3200MHz) 20(4800~5000MHz) 20(7200~7500MHz)	2.0	50	1.60x0.80x0.60	B
RFBPF1608060A7T	2.4~2.5	3.0	25(695~800MHz) 20(1910MHz) 35(3200MHz) 20(4800~5000MHz) 20(7200~7500MHz)	2.0	50	1.60x0.80x0.60	B
RFBPF1608060A8T	2.4~2.5	1.7	30(880~915MHz) 30(1710~1785MHz) 25(1850~1910MHz) 25(4800~5000MHz) 15(7200~7500MHz)	2.0	50	1.60x0.80x0.60	B
RFBPF1608070A0T	2.4~2.5	2.5	30(960 MHz) 25(1910 MHz) 20(1990 MHz) 30(4800 MHz) 25(7200 MHz)	2.0	50	1.60x0.80x0.70	B
RFBPF1608070A3T	2.4~2.5	1.8max.(25°C) 2.1max.(-40~+85°C)	27(800~900 MHz) 25(4800~5000 MHz) 30(7200~7500 MHz)	2.0	50	1.60x0.80x0.70	B
RFBPF1608070A5T	2.4~2.5	1.8max.(25°C) 2.2max.(-40~+85°C)	35(880~960MHz) 25(1710~1910MHz) 30(4800~5000MHz) 25(7200~7500MHz)	2.0	50	1.60x0.80x0.60	B
RFBPF2012060AM2T62	2.4~2.5	1.8	25( 870~960 MHz) 25(1710~1910 MHz) 20(1910~1990 MHz) 15(4800~5000 MHz) 15(7200~7500 MHz)	2.0	50	2.00x1.20x0.60	E
RFBPF2012080AM0T62	2.4~2.5	1.8max.(25°C) 2.0max.(-40~+85°C)	30(860~ 960MHz) 30(1545~ 1605MHz) 35(1710~ 1990MHz) 30(2170MHz) 30(4800~ 5000MHz)	2.0	50	2.00x1.20x0.80	D
RFBPF2012060AAT	2.4~2.5	1.8	30(880~960MHz) 25(1710~1910MHz) 25(4800~5000MHz) 30(7200~7500MHz)	2.0	50	2.00x1.20x0.60	C



# HIGH FREQUENCY MULTILAYER BAND PASS FILTER

Part Number	Frequency Range(GHz)	Insertion Loss (dB)	Attenuation (dB min. )	VSWR (max.)	Impedance (Ω)	Size(mm)	STRUCTURE
RFBPF2012040ABT	2.4~2.5	2.5	30(824~849 MHz) 30(880~915 MHz) 30(1545~1605 MHz) 30(1565~1585 MHz) 35(1710~1785 MHz) 40(1850~1910 MHz) 32(1920~1980 MHz) 7(3168~4752 MHz) 11(3300~3800 MHz) 35(4800~4967 MHz) 26(5150~6000 MHz) 23(7200~7450 MHz)	2.0	50	2.00x1.20x0.40	D
RFBPF2012050ACT	2.4~2.5	2.5	35(824~960 MHz) 38(1710~1910 MHz) 25(4880~5000 MHz) 20(7200~7500 MHz)	2.0	50	2.00x1.20x0.55	C
RFBPF2012080ADT	2.4~2.5	1.5max.(25°C) 1.7max.(-40~+85°C)	30(860~ 960MHz) 30(1545~ 1605MHz) 30(1710~ 1990MHz) 30(2170MHz) (typical) 30(4800~ 5000MHz)	2.0	50	2.00x1.25x0.80	D
RFBPF2012080AFT	2.4~2.5	1.8max.(25°C) 2.0max.(-40~+85°C)	30(824~ 915MHz) 30(1545~ 1605MHz) 35(1710~ 1990MHz) 30(2170MHz) 30(4800~ 4967MHz) 25(5150 ~ 6000MHz) 20(7200~ 7450.5MHz)	2.0	50	2.00x1.25x0.80	D
RFBPF2012040AHT	2.4~2.5	2.5	25(746~764 MHz) 30(824~849 MHz) 26(869~960 MHz) 28(1570~1580 MHz) 28(1710~1785 MHz) 30(1850~1910 MHz) 30(1930~1990 MHz) 30(2110~2170 MHz) 15(3300~3800 MHz) 35(4800~5000 MHz) 20(7200~7450.5 MHz)	2.0	50	2.00x1.25x0.45	D
RFBPF2012090AMT	2.4~2.5	2.6	40(880~960 MHz) 38(1710~1990 MHz) 16(2170 MHz) 30(4800~5000 MHz) 25(7200~7500 MHz)	2.0	50	2.00x1.20x0.90	B
RFBPF2012090AQT	2.4~2.5	1.2	20(1600 MHz) 25(3200 MHz) 20(4800~5000 MHz)	2.0	50	2.00x1.20x0.90	B
RFBPF2012090ART	2.4~2.5	1.0	20(1600 MHz) 25(3200 MHz)	2.0	50	2.00x1.20x0.90	B
RFBPF2012090A1T	2.4~2.5	1.7	30(900 MHz) 20(1850 MHz) 30(4800 MHz)	2.0	50	2.00x1.20x0.90	B
RFBPF2012090A2T	2.4~2.5	1.4	30(824~960MHz) 30(1710~1910 MHz) 20(1920~1990 MHz) 6(2110~2170MHz) 20(4800~5000 MHz)	2.0	50	2.00x1.20x0.90	B
RFBPF2012040A3T	2.4~2.5	2.0max.(25°C) 2.2max.(-40~+85°C)	25( 746~ 764MHz) 30( 824~ 849MHz) 26( 869~ 960MHz) 28( 1570~ 1580MHz) 28( 1710~ 1785MHz) 30( 1850~ 1910MHz) 30( 1930~ 1990MHz) 25( 2110~ 2170MHz) 15( 3300~ 3800MHz) 35( 4800~ 5000MHz) 20( 7200~7450.5MHz)	2.0	50	2.00x1.25x0.45	D
RFBPF2012080A5T	2.4~2.5	3.0	40(880~960 MHz) 40(1710~1990 MHz) 20(2110~2170 MHz) 40(4800~5000 MHz) 30(7200~7500 MHz)	2.0	50	2.00x1.20x0.80	C

# HIGH FREQUENCY MULTILAYER BAND PASS FILTER

Part Number	Frequency Range(GHz)	Insertion Loss (dB)	Attenuation (dB min. )	VSWR (max.)	Impedance ( $\Omega$ )	Size(mm)	STRUCTURE
RFBPF2012080A6T	2.4~2.5	3.5	30(880~960 MHz) 30(1710~1990 MHz) 20(2110~2170 MHz) 30(4800~5000 MHz) 30(7200~7500 MHz)	2.0	50	2.00x1.20x0.80	C
RFBPF2012080A7T	2.4~2.5	2.8 (typ.2.5)	40(DC~1600 MHz) 35(1710 MHz) 25(1900 MHz) 12(2100 MHz) 8(2170 MHz) 30(3100 MHz) 40(4800~5000 MHz) 20(7200~7500 MHz)	2.0	50	2.00x1.20x0.80	B
RFBPF2012060A9T	2.4~2.5	2.8	30(960 MHz) 30(1600 MHz) 20(1990 MHz) 35(3200 MHz) 40(4800 MHz) 25(7200 MHz)	2.0	50	2.00x1.20x0.60	B
RFBPF2520090ACT	2.4~2.5	2.1max.(25°C) 2.3max.(-40~+85°C)	43(806~960MHz) 43(1570~1580 MHz) 43(1710~1990 MHz) 20(2110~2170MHz) 30(4800~5000 MHz) 25(7200~7500MHz)	2.0	50	2.50x2.00x0.90	G
RFBPF2520070AMT	2.4~2.5	2.0max.(25°C) 2.2max.(-40~+85°C)	45(824~960 MHz) 45(1570~1580 MHz) 45(1710~1785 MHz) 40(1805~1850 MHz) 35(1850~1910 MHz) 35(1920~1990 MHz) 25(2110~2170 MHz) 5(2750~3000 MHz) 15(3000~4800 MHz) 30(4800~5000 MHz) 30(5150~5850 MHz) 20(7200~7500 MHz)	2.0	50	2.50x2.00x0.70	A
RFBPF2520080AUT	2.4~2.5	2.2	30(900 MHz) 30(1850 MHz) 33(2170 MHz) 35(4800 MHz) 25(7200 MHz)	2.0	50	2.50x2.00x0.80	A
RFBPF2520120A1T	2.4~2.5	1.7	30(900/1850 MHz) 20(2100 MHz) 40(4800 MHz) 25(7200 MHz)	2.0	50	2.50x2.00x1.20	A
RFBPF2520120A2T	2.4~2.5	2.1	30(900/1850 MHz) 30(4800 MHz)	2.0	50	2.50x2.00x1.20	A
RFBPF2520120A3T	2.4~2.5	$\leq 1.2(25^\circ\text{C})$	30(900/1850 MHz) 25(4800 MHz)	2.0	50	2.50x2.00x1.20	A
RFBPF2520120A4T	2.4~2.5	$\leq 1.7(25^\circ\text{C})$	30(900/1850 MHz) 25(4800 MHz)	2.0	50	2.50x2.00x1.20	A
RFBPF2520100A5T	2.4~2.5	2.0	40(900 MHz) 35(3200 MHz) 30(1990 MHz) 20(2100 MHz) 40(4800 MHz) 25(7200 MHz)	2.0	50	2.50x2.00x1.00	A
RFBPF2520100A6T	2.4~2.5	1.4	35(1900/4800 MHz)	2.0	50	2.50x2.00x1.00	A
RFBPF3225150A3T	2.4~2.5	2.5	40(1500 MHz) 30(2100 MHz) 30(4800 MHz)	1.7	-	3.20x2.50x1.50	A
RFBPF3225150A4T	2.4~2.5	2.0	30(900 MHz) 30(1850 MHz) 20(2100 MHz) 30(4800 MHz)	2.0	50	3.20x2.50x1.50	A
RFBPF3225150A5T	2.4~2.5	1.8	30(900 MHz) 30(1850MHz) 20(2100 MHz) 30(4800 MHz)	2.0	50	3.20x2.50x1.50	A

# HIGH FREQUENCY MULTILAYER BAND PASS FILTER

## ■ 5GHz BAND WORKING FREQUENCY

Part Number	Frequency Range(GHz)	Insertion Loss (dB)	Attenuation ( dB min. )	VSWR (max.)	Impedance (Ω)	Size(mm)	STRUCTURE
RFBPF1608060K2T	4.9~5.84	1.5max.(25°C) 1.7max.(-40~+85°C)	33(100~2170 MHz) 29(2170~2500 MHz) 32(9800~12000 MHz)	2.0	50	1.60x0.80x0.70	B
RFBPF2012100KST	4.9~5.9	1.5(4.90GHz) 1.5(5.25GHz) 1.5(5.85GHz)	30(3450 MHz) 20(11000 MHz)	2.0	50	2.00x1.20x1.00	B
RFBPF2012100K1T	5.15~5.9	3.0 (typ.2.5)	35(4000MHz) 35(4500MHz) 40(4600MHz)	2.0	50	2.00x1.20x1.00	B
RFBPF2520090K1T	4.9~5.85	1.2	47(824 MHz) 47(1500 MHz) 47(1910 MHz) 15(9800 MHz)	2.0	50	2.50x2.00x0.90	A

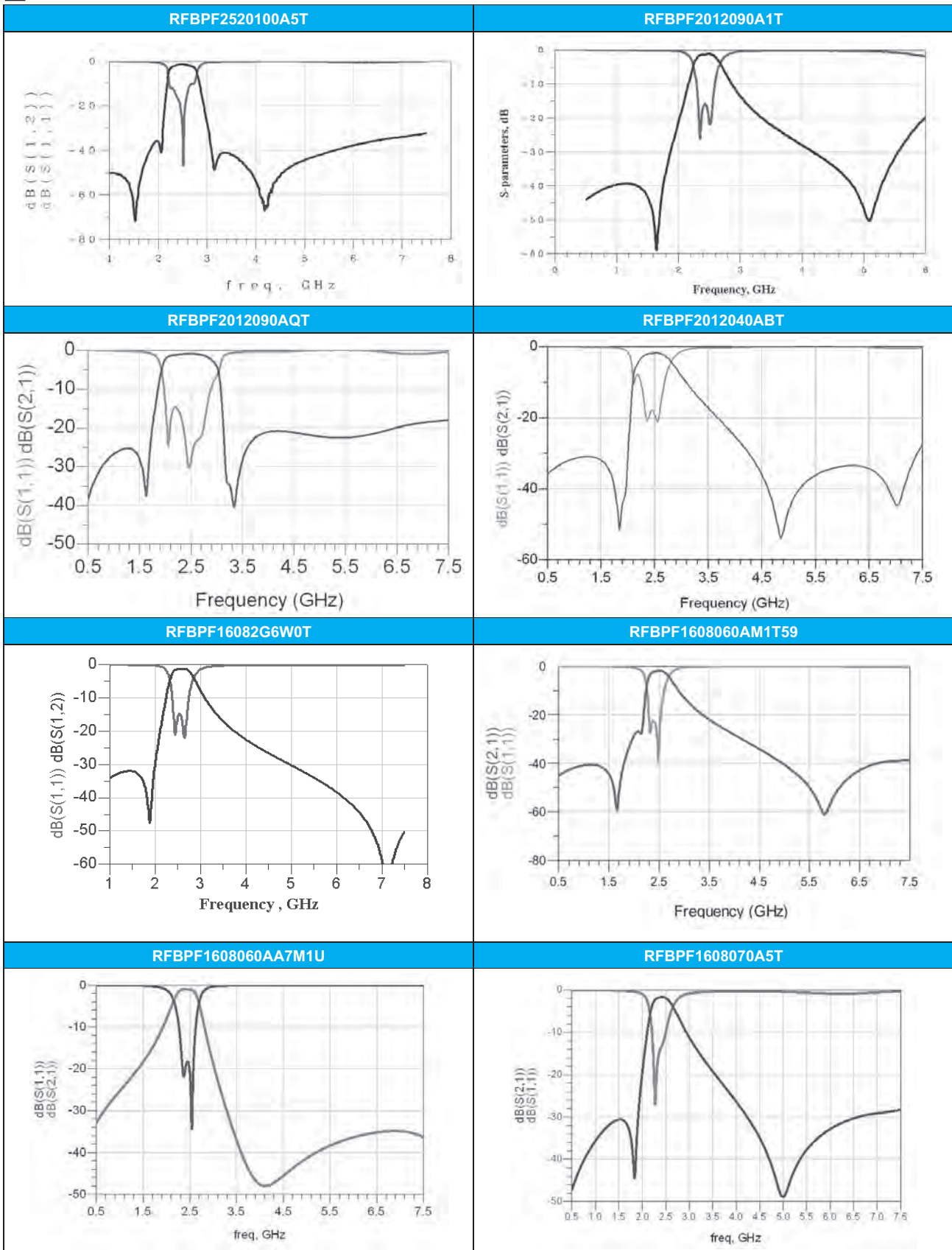
Part Number	Frequency Range(GHz)	Insertion Loss (dB)	Attenuation ( dB min. )	VSWR (max.)	Impedance (Ω)	Size(mm)	STRUCTURE
RFBPF16082G3W0T	2.3~2.39	2.0	29(880~915 MHz) 29(1710~1785 MHz) 21(1850~1910 MHz) 15(1920~1980 MHz) 18(4600~4780 MHz) 23(6900~7170 MHz)	2.0	50	1.60x0.80x0.70	B
RFBPF16082G6W0T	2.5~2.7	2.2	30(880~960 MHz) 30(1710~1785 MHz) 30(1850~1910 MHz) 30(1920~1980 MHz) 13(3300~3900 MHz) 20(4900~5900 MHz)	2.0	50	1.60x0.80x0.60	B
RFBPF16083G5W0T	3.3~3.7	1.8	30(806~915 MHz) 30(1710~1785 MHz) 30(1850~1910 MHz) 30(1920~1980 MHz) 31(2400~2500 MHz) 18(4900~5900 MHz)	2.0	50	1.60x0.80x0.60	B
RFBPF20122G5W0T	2.3~2.69	2.0	20(1600 MHz) 30(3490 MHz) 30(4000 MHz) 30(MHz) 30(8000 MHz)	2.0	50	2.00x1.20x0.50	B

■ For more information, please contact with local sales representative

■ All specifications are subject to change without notice

# HIGH FREQUENCY MULTILAYER BAND PASS FILTER

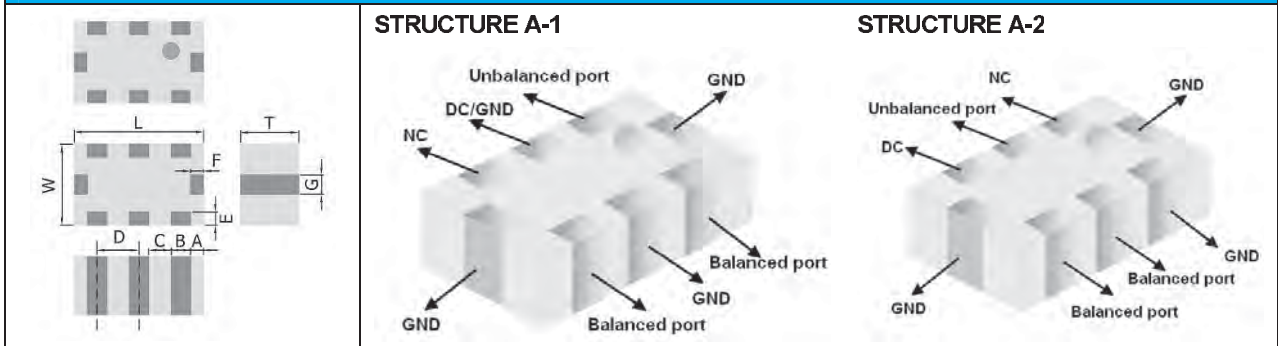
## TYPICAL ELECTRICAL CHARACTERISTICS



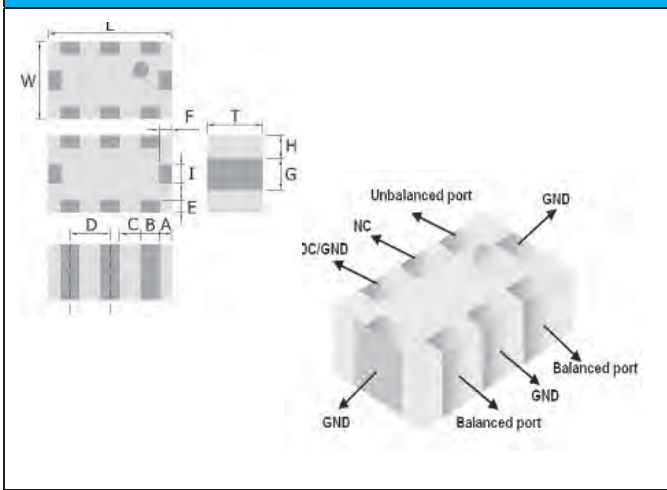
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## ■ STRUCTURE AND PIN ASSOCIATED

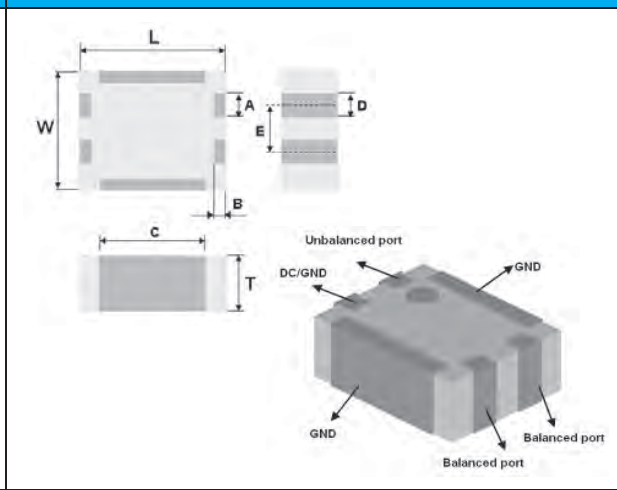
### STRUCTURE A



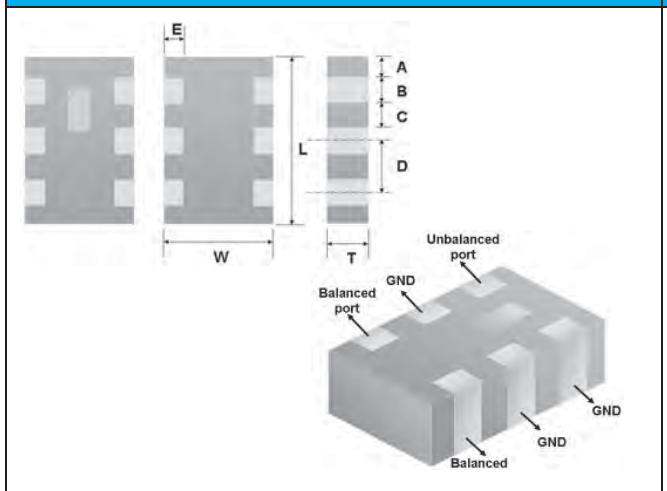
### STRUCTURE B



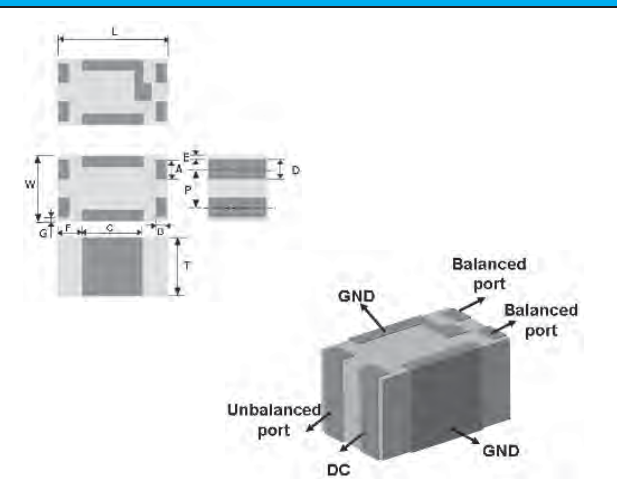
### STRUCTURE C



### STRUCTURE D



### STRUCTURE E



# HIGH FREQUENCY MULTILAYER BALANCED FILTER

## ■ STRUCTURE AND DIMENSION

Unit:mm

Structure\ Dimension	L	W	T	A	B	C	D	E	F	G	P	
A	1.60±0.15	0.80±0.15	0.60±0.10	0.175±0.15	0.25±0.15	0.25±0.15	0.50±0.15	0.20±0.15	0.20±0.15	0.30±0.15	-	
	2.00±0.15	1.25±0.15	1.20±0.10	0.40±0.10	0.175±0.10	0.35±0.15	0.30±0.15	0.65±0.10	0.20±0.10	0.20±0.15	0.50±0.10	-
			0.50±0.10	0.20±0.15	0.30±0.15	0.35±0.15	0.65±0.15	0.20±0.15	0.20±0.15	0.30±0.15	-	
			0.60±0.10	0.20±0.15	0.30±0.10	0.35±0.10	0.65±0.10	0.20±0.15	0.20±0.15	0.50±0.10	-	
			0.90±0.10	0.20±0.15	0.30±0.10	0.35±0.10	0.65±0.10	0.20±0.15	0.20±0.15	0.30±0.10	-	
			1.00±0.10	0.20±0.15	0.30±0.10	0.35±0.10	0.65±0.10	0.20±0.15	0.20±0.15	0.50±0.10	-	
					0.50±0.10	0.35±0.10	0.65±0.10	0.20±0.15	0.20±0.15	0.50±0.10	-	
	2.50±0.20	2.00±0.20	0.85±0.10	0.35±0.20	0.40±0.10	0.30±0.10	0.70±0.20	0.15 (Typical)	0.15 (Typical)	1.20±0.20	-	
B	2.00±0.15	1.25±0.10	1.00±0.10	0.20±0.15	0.30±0.15	0.35±0.15	0.65±0.15	0.20±0.15	0.20±0.15	0.50±0.15	-	
			0.90±0.10	0.20±0.15	0.30±0.15	0.35±0.15	0.65±0.15	0.20±0.15	0.20±0.15	0.55±0.15	-	
		1.25±0.15	0.90±0.10	0.175±0.15	0.35±0.15	0.30±0.15	0.65±0.15	0.20±0.15	0.20±0.15	0.55±0.15	-	
C	2.50±0.20	2.00±0.20	0.95±0.10	0.40±0.10	0.25±0.10	1.83±0.10	0.40±0.10	0.80±0.20	-	1.20±0.20	-	
	2.50±0.20	2.00±0.20	0.95±0.10	0.40±0.10	0.25±0.10	1.83±0.10	0.40±0.10	0.80±0.20	-	1.00±0.10	-	
	2.50±0.20	2.00±0.20	0.90±0.10	0.30±0.15	0.30±0.15	1.85±0.15	0.40±0.15	0.80±0.15	-	-	-	
D	1.60±0.10	0.80±0.10	0.60±0.10	0.175±0.10	0.25±0.10	0.25±0.10	0.50±0.10	0.15±0.10	-	-	-	
E	2.00±0.15	1.25±0.10	1.10±0.10	0.35±0.10	0.20±0.15	1.15±0.15	0.35±0.10	0.10±0.10	0.425±0.10	0.10±0.10	0.70±0.10	

## ■ ELECTRICAL SPECIFICATION

### ■ 2.4GHz BAND WORKING FREQUENCY

Part Number	Frequency Range (MHz)	Impedance(Ω)		Insertion Loss (dB)	Attenuation (dB min. )	VSWR (Max.)	Size (mm)	STRUCTURE
		Unbalance	Balance					
RBBPB1608060AAT	2.4~2.5	50	Conjugate matched to Atheros AR3011 Chipset	2.0	35(4800~5000 MHz) 25(7200~7500 MHz)	1.5	1.60x0.80x0.60	D
RFBPB1608060A1T	2.4~2.5	50	Conjugate with CSR BC series chipset solution	3.5	35(880~960 MHz) 30(1710~1880 MHz) 20(1880~1990 MHz) 30(4800~5000 MHz)	2.0	1.60x0.80x0.60	A-1
RFBPB1608060A9T	2.4~2.5	50	Conjugate with CSR BC series chipset solution	3.5	35(880~960 MHz) 30(1710~1880 MHz) 20(1880~1990 MHz) 30(4800~5000 MHz)	2.0	1.60x0.80x0.60	A-1
RFBPB1608060AM2T61	2.4~2.5	50	Conjugate with MTK bluetooth chipset series	3.5	35(880~960 MHz) 30(1710~1880 MHz) 20(1880~1990 MHz) 30(4800~5000 MHz)	2.0	1.60x0.80x0.60	A-1
RFBPB1608060AM6T61	2.4~2.5	50	Conjugate with MT_6616 chipset	3.5	35(880~960 MHz) 30(1710~1880 MHz) 20(1880~1990 MHz) 28(4800~5000 MHz)	2.0	1.60x0.80x0.60	A-1

# HIGH FREQUENCY MULTILAYER BALANCED FILTER

Part Number	Frequency Range (MHz)	Impedance ( $\Omega$ )		Insertion Loss (dB)	Attenuation (dB min. )	VSWR (Max.)	Size (mm)	STRUCTURE
		Unbalance	Balance					
RBBPB2012050A9T	2.4~2.5	50	Conjugate match to BC series of Bluetooth chipset	2.5	35(880~960 MHz) 15(1710~1880 MHz) 15(1880~1910 MHz) 25(4800~5000 MHz)	2.0	2.00x1.25x0.50	A-1
RFBPB2012060A1T	2.4~2.5	50	Conjugate match to BC series of Bluetooth chipset	3.5	35(880~960MHz) 30(1710~1880MHz) 25(1880~1900MHz) 20(1900~1990MHz) 30(4800~5000MHz)	2.0	2.00x1.25x0.60	A-1
RFBPB2012060AM1T61	2.4~2.5	50	Conjugate with MTK MT_6611 MT_6612 Bluetooth chipset	3.5	35(880~960 MHz) 30(1710~1880 MHz) 25(1880~1900 MHz) 20(1900~1990 MHz) 30(4800~5000 MHz)	2.0	2.00x1.25x0.60	A-1
RFBPB2012090A1T	2.4~2.5	50	Conjugate match to BC series of Bluetooth chipset	3.5	35(880~960MHz) 30(1710~1880MHz) 20(1880~1990MHz) 30(4800~5000MHz)	2.1	2.00x1.25x0.90	A-1
RFBPB2012090A2T	2.4~2.5	50	Conjugate match to MTK MT6611 series Bluetooth chipset	2.8	35(880~960 MHz) 30(1710~1880 MHz) 20(1880~1990 MHz) 30(4800~5000 MHz)	2.1	2.00x1.25x0.90	A-1
RFBPB2012090A3T	2.4~2.5	50	Conjugate match to BC series of Bluetooth chipset	3.5	35(880~960 MHz) 30(1710~1880 MHz) 20(1880~1990 MHz) 30(4800~5000 MHz)	2.1	2.00x1.25x0.90	A-1
RFBPB2012090A7T	2.4~2.5	50	Conjugate with chipset STLC25xx Series	2.8	35(880~960 MHz) 25(1710~1880 MHz) 15(1880~1990 MHz) 25(4800~5000 MHz) 20(7200~7500 MHz)	2.0	2.00x1.25x0.90	A-1
RFBPB2012090A9T	2.4~2.5	50	Conjugate match to BC series of Bluetooth chipset	2.8	35(880~960MHz) 30(1575MHz) 25(1710~1880MHz) 30(4800~5000MHz)	2.1	2.00x1.25x0.90	A-1
RFBPB2012090AAT	2.4~2.5	50	Conjugate match to CSR BC03/ 04 series	3.5	35(880~960 MHz) 30(1710~1880 MHz) 20(1880~1990 MHz) 30(4800~5000 MHz)	2.1	2.00x1.25x0.90	A-1
RFBPB2012090AHT	2.4~2.5	50	100	3.5	30(880~960MHz) 30(1710~1880MHz) 20(1880~1990MHz) 30(4800~5000MHz)	2.0	2.00x1.25x0.90	A-1
RFBPB2012090AM1T59	2.4~2.5	50	Conjunction to MT5931/ MT6628 Chipset	2.5 (typ.2.2)	35( 824~960 MHz) 32(1990 MHz) 18(2170 MHz) 40(4800~5000MHz) 25(7200~7500MHz)	2.0	2.00x1.25x0.95	A-1
RFBPB2012090AM1T61	2.4~2.5	50	Conjugate match to MTK MT6611 Bluetooth chipset	2.8	35(880~960MHz) 30(1710~1880MHz) 20(1880~1900MHz) 30(4800~5000MHz)	2.1	2.00x1.25x0.90	A-1

# HIGH FREQUENCY MULTILAYER BALANCED FILTER

Part Number	Frequency Range (MHz)	Impedance( $\Omega$ )		Insertion Loss (dB)	Attenuation ( dB min. )	VSWR (Max.)	Size (mm)	STRUCTURE
		Unbalance	Balance					
RFBPB2012100A6T	2.4~2.5	50	Conjugate match to BC series of Bluetooth chipset	3.5	35(880~960MHz) 30(1710~1880MHz) 20(1880~1900MHz) 40(4800~5000MHz)	2.0	2.00x1.25x1.00	A-1
RFBPB2012110A5T	2.4~2.5	50	50	2.8	30(880~960 MHz) 30(1710~1880 MHz) 20(1880~1990 MHz) 30(4800~5000 MHz)	2.0	2.00x1.25x1.10	A-1
RGBPB2520090A5T	2.4~2.5	50	Conjugate match to BC series of Bluetooth chipset	3.0	40(880~960MHz) 40(1710~1880MHz) 20(1880~1990MHz) 30(4800~5000MHz)	2.0	2.50x2.00x0.95	C
RGBPB2520090A6T	2.4~2.5	50	Conjugate match to BC series of Bluetooth chipset	3.5	40(880~960MHz) 40(1710~1880MHz) 20(1880~1990MHz) 30(4800~5000MHz)	2.0	2.50x2.00x0.95	C
RFBPB2520090A7T	2.4~2.5	50	Conjugate match to TI BRF6150	3.5	35(880~960MHz) 30(1710~1880MHz) 25(1880~1990MHz) 25(4800~5000MHz)	2.0	2.50x2.00x0.90	A-2

## ■ 5GHz BAND WORKING FREQUENCY

Part Number	Frequency Range (MHz)	Impedance ( $\Omega$ )		Insertion Loss (dB)	Attenuation ( dB min. )	VSWR (Max.)	Size(mm)	STRUCTURE
RFBPB2012090KET	4.9~5.875	50	100	2.0	30(3500 MHz)	2.0	2.00x1.25x0.90	A-1

## ■ WiMAX BAND WORKING FREQUENCY

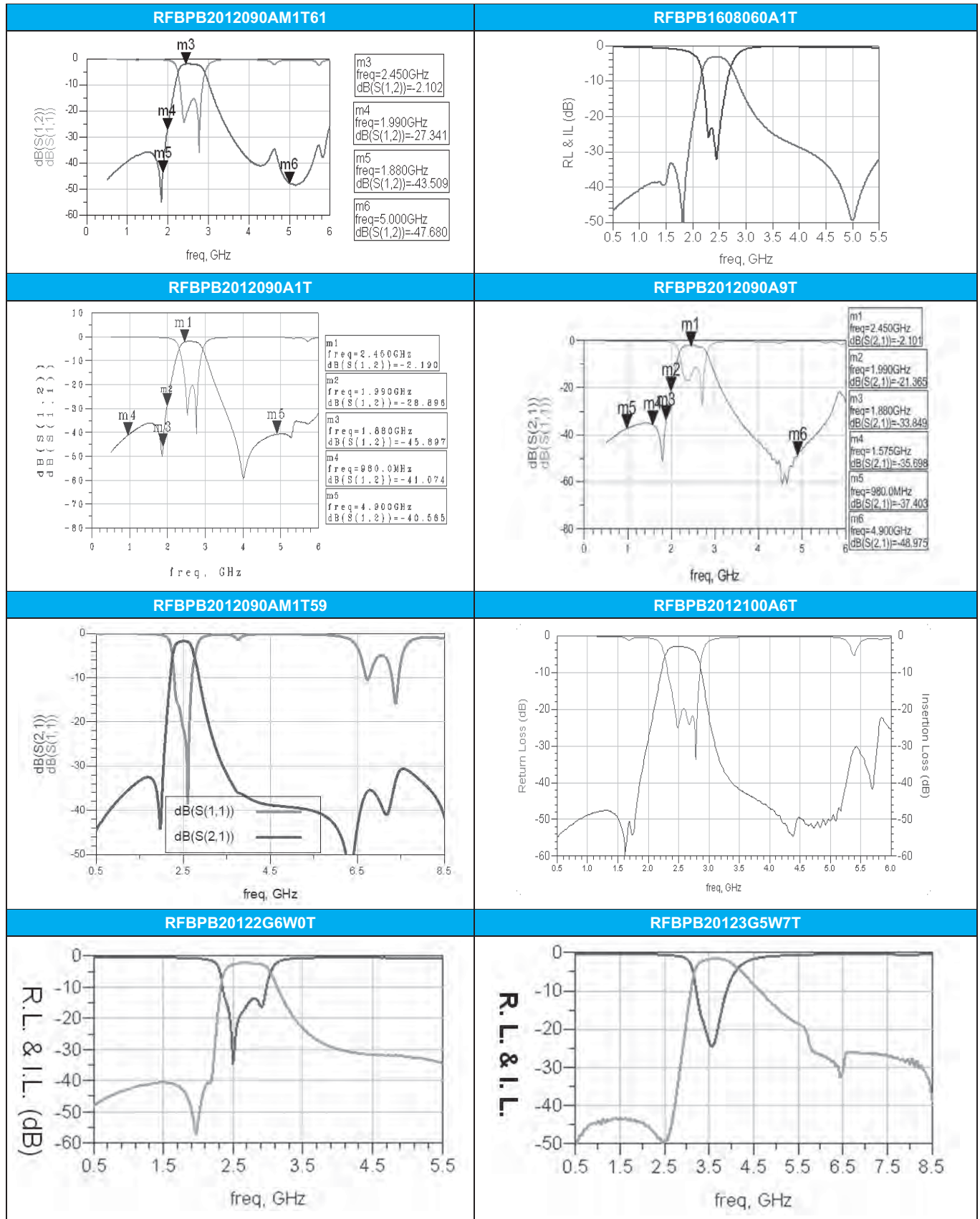
Part Number	Frequency Range (MHz)	Impedance( $\Omega$ )		Insertion Loss (dB)	Attenuation ( dB min. )	VSWR (Max.)	Size(mm)	STRUCTURE
RFBPB20122G6W0T	2.5~2.69	50	50	3.2	40(824~960 MHz) 40(1650~1990 MHz) 25(2110~2170 MHz) 10(3300~3600 MHz) 28(4150~4500 MHz)	2.0	2.00x1.25x0.90	B
RFBPB20123G5W7T	3.3~3.8	50	100	2.5	40(1710~1990 MHz) 40(2110~2170 MHz) 35(2400~2500 MHz) 10(4900~5850 MHz)	2.0	2.00x1.20x0.40	A-1
RFBPB25202G6W0T	2.5~2.7	50	100	3.3	47(824~960 MHz) 39(1710~1990 MHz) 29(2110~2170 MHz) 20(7500~8100 MHz)	2.1	2.50x2.00x0.90	C

■ For more information, please contact with local sales representative

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## TYPICAL ELECTRICAL CHARACTERISTICS

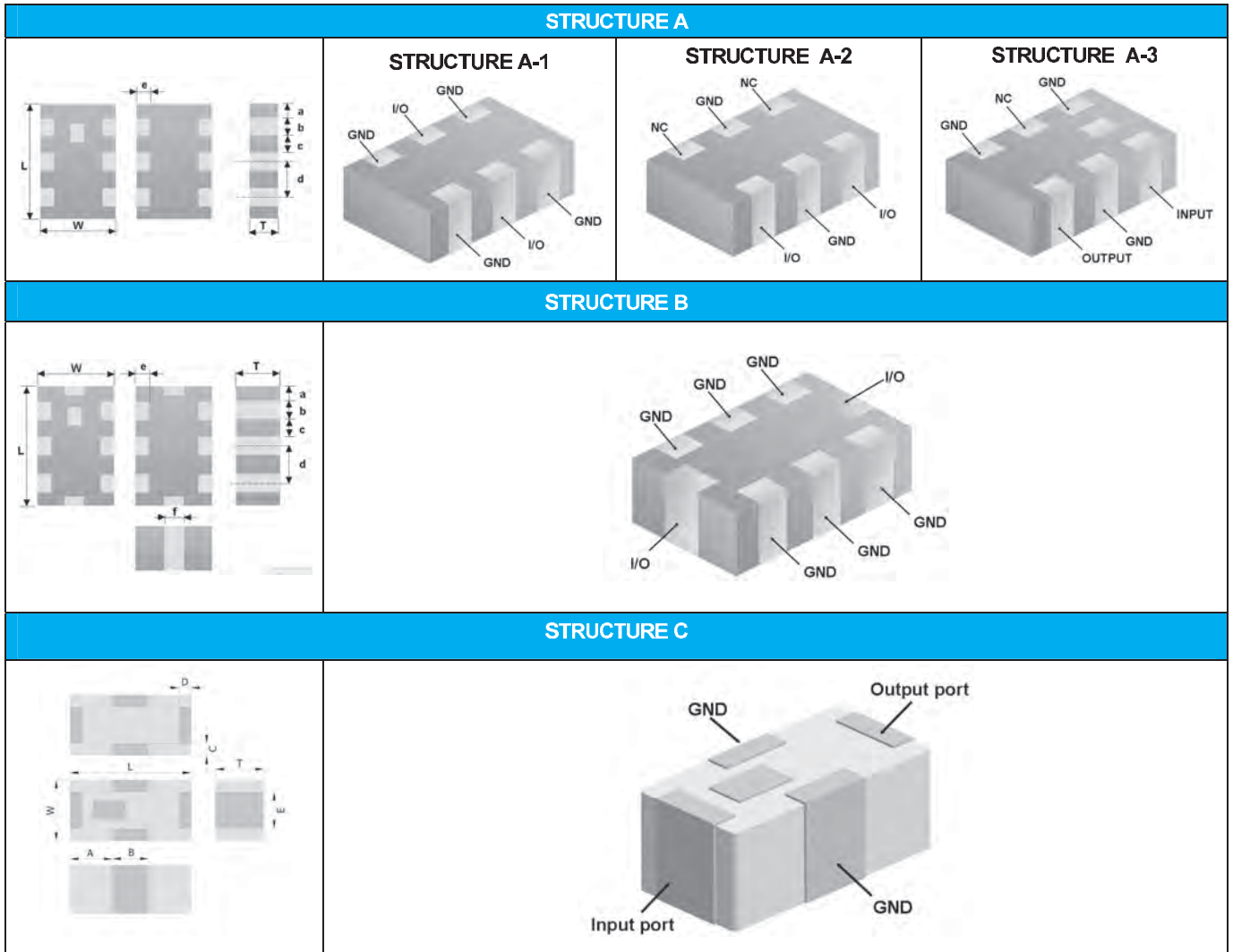


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# HIGH FREQUENCY MULTILAYER LOW PASS FILTER

## ■ STRUCTURE AND PIN ASSOCIATED



## ■ STRUCTURE AND DIMENSION

Unit:mm

Structure\ Dimension	L	W	T	a	b	c	d	e	f
A	1.60 ± 0.10	0.80 ± 0.10	0.60 ± 0.10	0.20 ± 0.10	0.24 ± 0.10	0.24 ± 0.10	0.50 ± 0.10	0.15 ± 0.10	-
	1.60 ± 0.15	0.80 ± 0.15		0.175 ± 0.15	0.25 ± 0.15	0.25 ± 0.15	0.50 ± 0.15	0.20 ± 0.15	-
B	2.00 ± 0.10	1.25 ± 0.10	0.90 ± 0.10	0.30 ± 0.10	0.30 ± 0.10	0.30 ± 0.10	0.65 ± 0.10	0.25 ± 0.10	0.30 ± 0.10
	2.00 ± 0.15		1.05 ± 0.10	0.30 ± 0.10	0.30 ± 0.10	0.30 ± 0.10	0.65 ± 0.10	0.25 ± 0.10	0.30 ± 0.10
C	1.00 ± 0.10	0.50 ± 0.10	0.40 ± 0.10	0.35 ± 0.10	0.30 ± 0.10	0.15 ± 0.10	0.15 ± 0.10	0.30 ± 0.10	-

## ■ ELECTRICAL SPECIFICATION

### ■ GSM850/900GHz BAND WORKING FREQUENCY

Part Number	Frequency Range (MHz)	Insertion Loss (dB)	Attenuation (dB min.)	VSWR (max.)	Impedance (Ω)	Size (mm)	Structure
RFLPF100500G9D0T	824- 915	0.6	25(1648~1830 MHz) 25(2472~2745 MHz) 25(3296~3660 MHz)	2	50	1.00x0.50x0.40	C

# HIGH FREQUENCY MULTILAYER LOW PASS FILTER

## ■ DCS/PCS BAND WORKING FREQUENCY

Part Number	Frequency Range (MHz)	Insertion Loss (dB)	Attenuation (dB min. )	VSWR (max.)	Impedance (Ω)	Size(mm)	Structure
RFLPF10051G8D0T	1710-1910	0.8	35(3420~3570 MHz) 35(3700~3820MHz) 35(5130~5730 MHz)	2	50	1.00x0.50x0.40	C
RFLPF10051G8DM5T51	1710~1910	0.6	26(3420~3570 MHz) 21(3700~3820MHz) 21(5130~5730 MHz)	2	50	1.00x0.50x0.40	C

## ■ TD-SCDMA BAND WORKING FREQUENCY

Part Number	Frequency Range (MHz)	Insertion Loss (dB)	Attenuation (dB min. )	VSWR (max.)	Impedance (Ω)	Size(mm)	Structure
RFLPF1005040Z0T	f1: 2017.5±7.5 f2: 1900± 20	0.50	24@2x f1 MHz 16@3x f1 MHz 17@2x f2 MHz 16@3x f2 MHz	2.0	50	1.00x0.50x0.40	C

## ■ 2.4GHz BAND WORKING FREQUENCY

Part Number	Frequency Range (MHz)	Insertion Loss (dB)	Attenuation (dB min. )	VSWR (max.)	Impedance (Ω)	Size (mm)	Structure
RFLPF1005040A0T	2450±50	0.45max.(25°C) 0.55max.(-40~+85°C)	21(4800- 5000MHz) 21(7200- 7500MHz)	1.7	50	1.00x0.50x0.40	C
RFLPF1005040A1T	2450±50	0.75	33(4800~ 5000MHz) 37(7200~ 7500MHz)	2.0	50	1.00x0.50x0.40	C
RFLPF1608060A0T	2450±50	0.65 (typ.0.48)	35(4800 MHz (typ. 40)) 27(7200 MHz (typ. 40))	1.5	50	1.60x0.80x0.60	A-1
RFLPF1608060A1T	2450±50	0.6	27(4800~5000 MHz) 30(7200~7500 MHz)	2.0	50	1.60x0.80x0.60	A-2
RFLPF1608060A2T	2450±50	0.42	25(4800 MHz) 18(7200 MHz)	1.5	50	1.60x0.80x0.60	A-1
RFLPF2012110A0T	2450±50	0.7	30(2 x ( fo ± BW/2 )) 20(3 x ( fo ± BW/2 ))	1.5	50	2.00x1.25x1.05	B

## ■ 5GHz BAND WORKING FREQUENCY

Part Number	Frequency Range (MHz)	Insertion Loss (dB)	Attenuation (dB min. )	VSWR (max.)	Impedance (Ω)	Size(mm)	Structure
RFLPF1608050K0T	5400 ± 500	-0.60	25@9800 MHz 30@11900 MHz 20@17850 MHz (for reference)	2.0	50	1.60x0.85x0.50	C
RFLPF2012090K0T	5400 ± 500	0.55(25°C) 0.65(-40~+85°C)	30(9800 MHz) 30(11800 MHz) 20(17550 MHz (for reference)	2.0	50	2.00x1.25x0.90	B

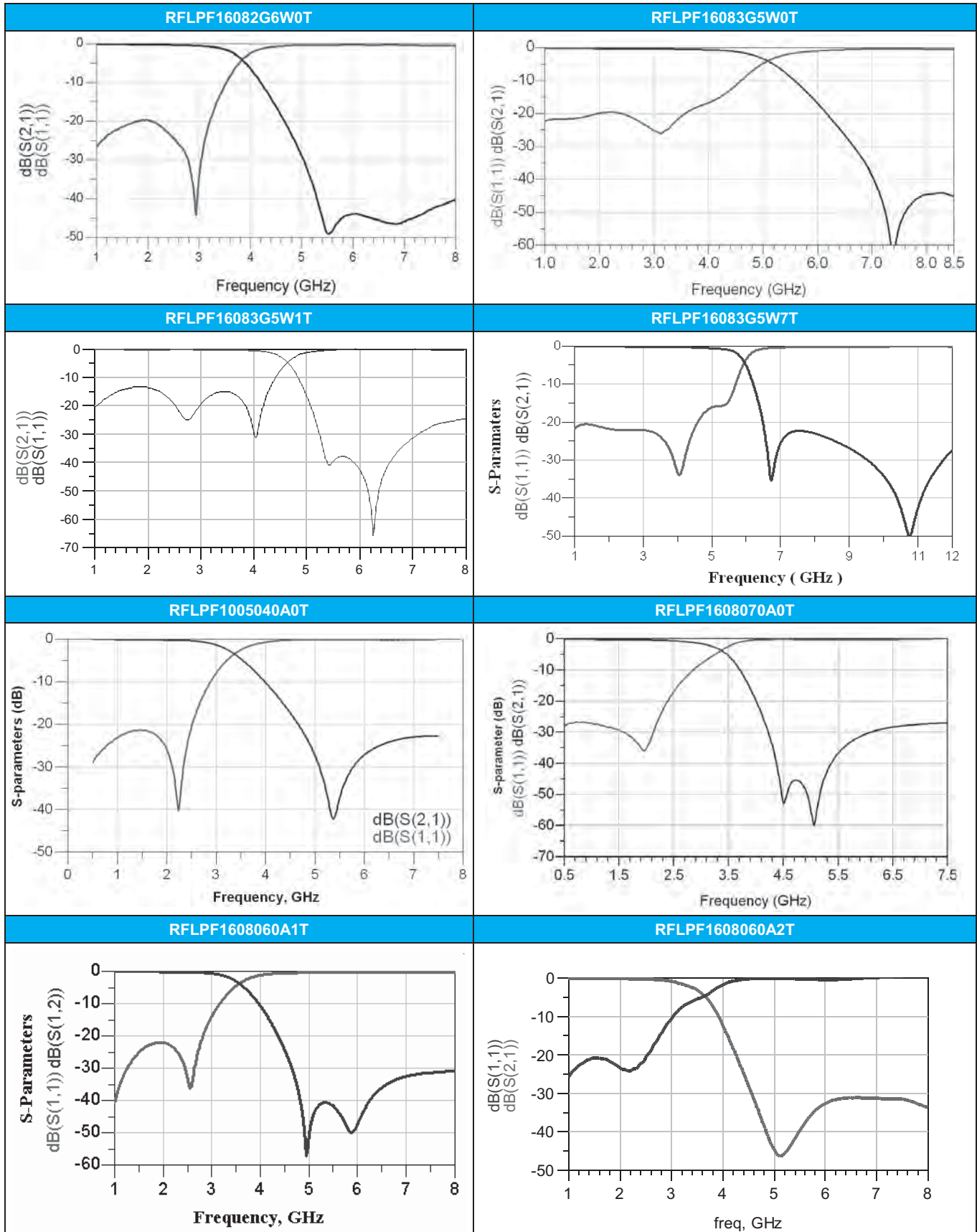
## ■ WiMAX 2.3~3.5GHz BAND WORKING FREQUENCY

Part Number	Frequency Range (MHz)	Insertion Loss (dB)	Attenuation (dB min. )	VSWR (max.)	Impedance (Ω)	Size(mm)	Structure
RFLPF16082G6W0T	2400~2690	0.6	26(4800~5390 MHz) 23(7200~8085 MHz)	2.0	50	1.60x0.80x0.60	A-2
RFLPF16083G5W0T	3300~3800	0.55	35(7600 MHz) 25(11400 MHz)	1.7	50	1.60x0.80x0.60	A-1
RFLPF16083G5W1T	3400~3700	0.65	25(7400 MHz) 25(11100 MHz )	2.0	50	1.60x0.80x0.60	A-1
RFLPF16083G5W7T	3300~3800	0.55	17(6600~7600 MHz) 20(9900~11400 MHz)	1.9	50	1.60x0.80x0.60	A-3

- For more information, please contact with local sales representative
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# HIGH FREQUENCY MULTILAYER LOW PASS FILTER

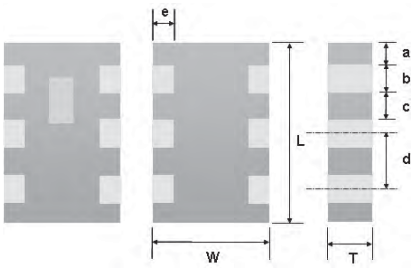
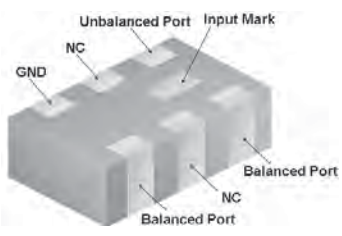
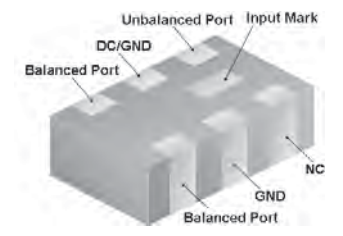
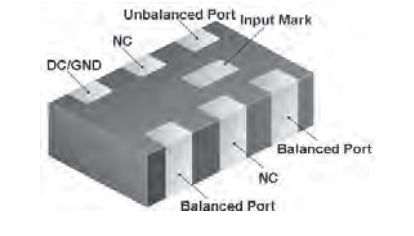
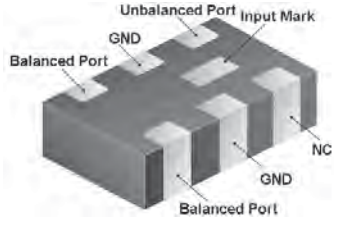
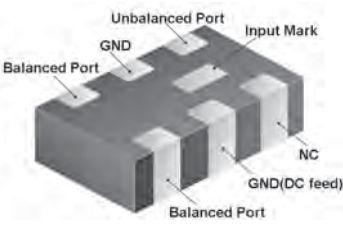
## ■ TYPICAL ELECTRICAL CHARACTERISTICS

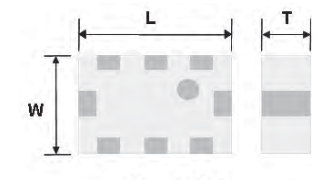

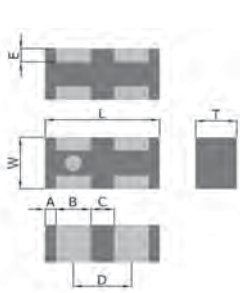
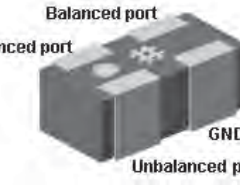
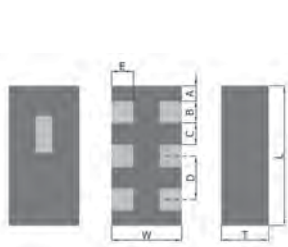
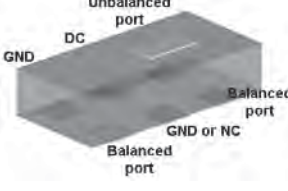
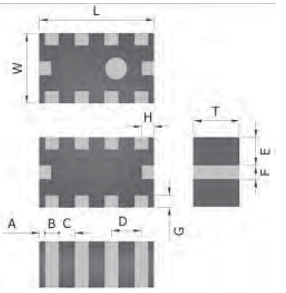



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## ■ STRUCTURE AND PIN ASSOCIATED

STRUCTURE A		
	<p><b>STRUCTURE A-1</b></p> 	<p><b>STRUCTURE A-2</b></p> 
<p><b>STRUCTURE A-3</b></p> 	<p><b>STRUCTURE A-4</b></p> 	<p><b>STRUCTURE A-5</b></p> 

STRUCTURE B	STRUCTURE C	STRUCTURE D	STRUCTURE E
 	 	 	 

## ■ STRUCTURE AND DIMENSION

Unit:mm

Structure\ Dimension	L	W	T	a	b	c	d	e	f	g	h
A	1.60±0.10	0.85±0.10	0.70±0.10	0.20±0.10	0.20±0.10	0.30±0.10	0.50±0.05	-	-	-	-
	1.60±0.15	0.85±0.10	0.40 max.	0.175±0.15	0.25±0.15	0.25±0.15	0.50±0.15	0.20±0.15	-	-	-
			0.60±0.10	0.175±0.15	0.25±0.15	0.25±0.15	0.50±0.15	0.20±0.15	-	-	-
		0.85±0.15	0.70±0.10	0.175±0.15	0.25±0.15	0.25±0.15	0.50±0.15	-	-	-	-
			0.65±0.10								
	2.00±0.15	1.25±0.15	0.80±0.10	0.20±0.20	0.30±0.20	0.35±0.20	0.65±0.20	-	-	-	-
			0.85±0.10	0.20±0.20	0.30±0.20	0.35±0.20	0.65±0.20	-	-	-	-
			0.80±0.10	0.20±0.15	0.30±0.20	0.35±0.20	0.65±0.20	-	-	-	-
0.95±0.10			0.20±0.20	0.30±0.20	0.35±0.20	0.65±0.20	-	-	-	-	
B	1.60±0.15	0.80±0.15	0.60±0.10	0.175±0.15	0.25±0.15	0.25±0.15	0.50±0.15	-	-	-	-
C	1.00±0.10	0.50±0.10	0.40±0.10	0.10±0.10	0.30±0.10	0.20±0.10	0.50±0.10	0.125±0.10	-	-	-
D	1.60±0.15	0.80±0.15	0.50±0.10	0.175±0.10	0.25±0.10	0.25±0.10	0.50±0.10	0.25±0.10	-	-	-
E	2.00±0.10	1.25±0.10	0.90±0.10	0.125±0.10	0.25±0.10	0.25±0.10	0.50±0.10	0.475±0.10	0.30±0.10	0.20±0.10	0.20±0.10

## ■ ELECTRICAL SPECIFICATION

### ■ ISM Band 2.4GHz Application

Part Number	Frequency Range (MHz)	Impedance(Ω)		Return Loss (dB)Min.	Insertion Loss (dB)	Amplitude Difference (dB)Max.	Size (mm)	Structure
		Unbalance	Balance					
RFBLN1005040A3T	2450±50	50	Conjugate match to AR6003 chipset	10	1.4	2.0	1.00x0.50x0.40	C
RFBLN1608040ANT	2.3~2.7G	50	50	-	0.9	2.0	1.60x0.80x0.40	A-5
RFBLN1608050AAT	2450±50	50	Conjugate match to AR6003 chipset	-	1.2	2.0	1.60x0.80x0.50	D
RFBLN1608060F1T	2.11~2.17G	50	100	-	0.9max.(25°C) 1.0max.(-40~+85°C)	2.0	1.60x0.80x0.60	A-4
RFBLN1608060AJT	2450±50	50	Conjugate with Infineon chipset	10	1.2	2.0	1.60x0.80x0.70	A-4
RFBLN1608060A8T	2450±50	50	50	10	1.2	2.0	1.60x0.80x0.60	A-3
RFBLN1608060AM1T59	2450±50	50	200	10	1.2	2.0	1.60x0.80x0.65	A-3
RFBLN1608060AM2T61	2450±50	50	Conjugate with MTK bluetooth chipset series	10	1.6	2.0	1.60x0.80x0.60	B
RGBLN1608070A1T	2450±50	50	100	10	1.5	2.0	1.60x0.85x0.70	A-1
RFBLN1608070A3T	2450±50	50	100	10	1.0	2.0	1.60x0.85x0.70	A-1
RFBLN1608070A4T	2450±50	50	100	10	1.0	2.0	1.60x0.80x0.70	A-1
RGBLN1608070A5T	2450±50	50	100	10	1.2	2.0	1.60x0.80x0.70	A-2
RGBLN2012080A4T	2450±50	50	50	10	1.5	2.0	2.00x1.25x0.80	A-2
RGBLN2012080A5T	2450±50	50	50	12	1.0	1.0	2.00x1.25x0.85	A-2
RGBLN2012080A6T	2450±50	50	100	20	1.0	2.0	2.00x1.25x0.85	A-2
RFBLN2012080A7T	2450±50	50	100	10	1.0	2.0	2.00x1.25x0.80	A-2
RGBLN2012090A0T	2450±50	50	50	10	1.2	2.0	2.00x1.25x0.95	A-2
RFBLN2012090A1T	2.4GHz	50	100	10	1.0	2.0	2.00x1.25x0.95	A-2
RFBLN2012090A2T	2.4GHz	50	200	10	1.0	2.0	2.00x1.25x0.95	A-2

## ■ ISM Band 5GHz Application

Part Number	Frequency Range (GHz)	Impedance(Ω)		Return Loss (dB)Min.	Insertion Loss (dB)	Amplitude Difference (dB)Max.	Size (mm)	Structure
		Unbalance	Balance					
RFBLN2012090K0T	4.9 / 5.2/ 5.8	50	50	10	1.1	2.0	2.00x1.25x0.95	A-4
RFBLN2012090K1T	4.9 / 5.2/ 5.8	50	100	10	1.2	2.0	2.00x1.25x0.95	A-4

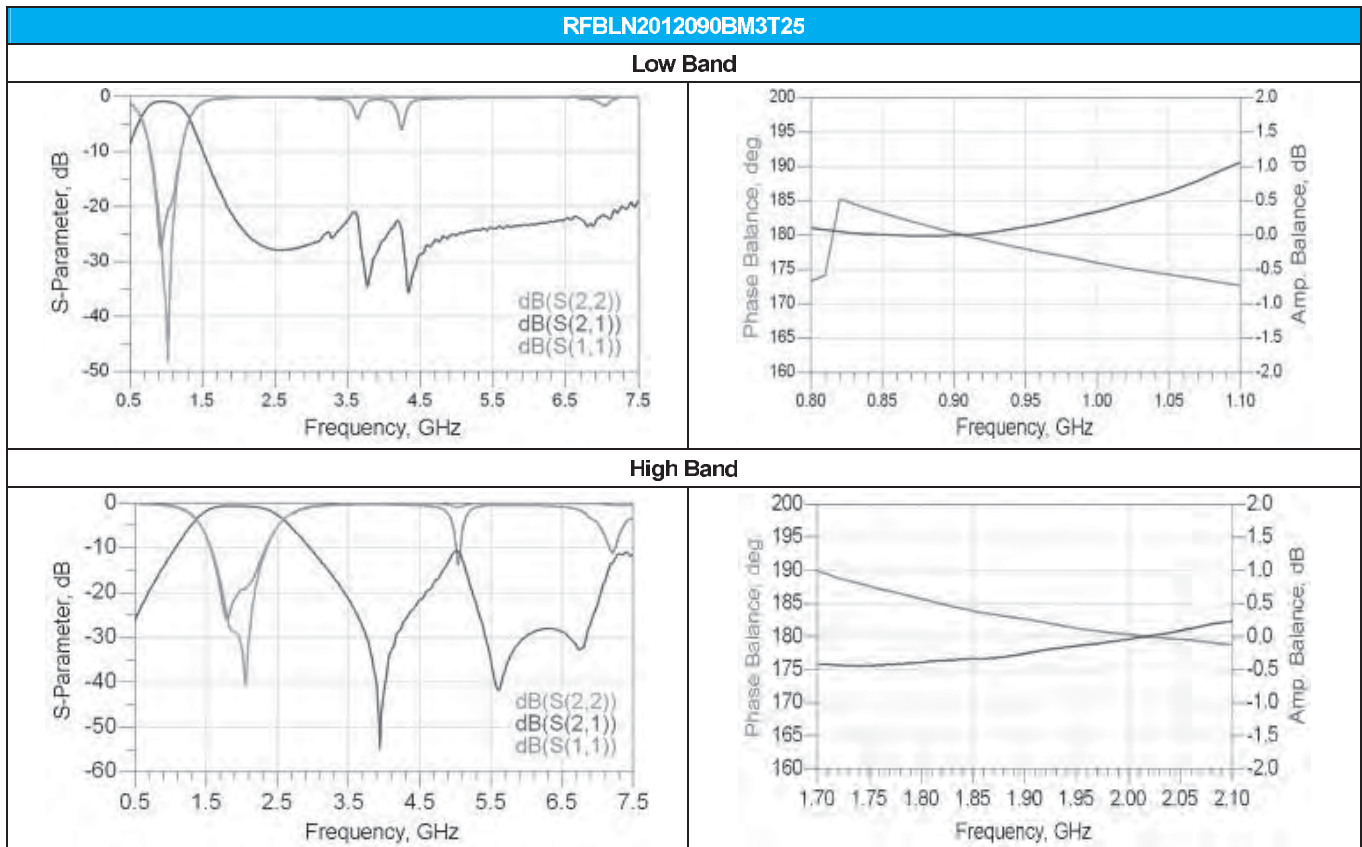
## ■ WiMAX 2.3~3.5GHz Application

Part Number	Frequency Range (MHz)	Impedance(Ω)		Return Loss (dB)Min.	Insertion Loss (dB)	Amplitude Difference (dB)Max.	Size(mm)	Structure
		Unbalance	Balance					
RFBLN16082G5W0T	2500 ± 200	50	100	-	1.1	2.0	1.60x0.80x0.70	A-2

## ■ GSM 850/ GSM 900/ DCS1800/ PCS1900 Application

Part Number	Frequency Range (MHz)	Unbalance	Balance	Return Loss (dB) Min	Insertion Loss (dB)	Amplitude Difference (dB)Max	Attenuation (dB min.)	Size (mm)	Structure
RFBLN2012090BM3T25	869~960	50	200	10	1.0	1.0	10(1738~1920 MHz) 20(2607~2880 MHz)	2.00x1.25x0.90	E
	1805~1990	50	200	10	1.0	1.0	15(3610~3980 MHz) 15(5415~5970 MHz)		
RFBLN2012090BM5T25	869~960	50	200	10	1.1	1.0	10(1738~1920MHz) 20(2400~2500MHz) 20(2607~2880MHz)	2.00x1.25x0.90	E
	1805~1990	50	200	10	1.6	1.0	15(2400~2500MHz) 20(3610~3980MHz) 20(5415~5970MHz)		
RFBLN2012090BS0T53	869~960	50	200	10	1.1(25°C) 1.3(-40~+85°C)	1.0	10(1738~1920MHz) 20(2400~2500MHz) 20(2607~2880MHz)	2.00x1.25x0.90	E
	1805~1990	50	200	10	1.6(25°C) 1.8(-40~+85°C)	1.0	15(2400~2500MHz) 15(3610~3980MHz) 20(5415~5970MHz)		

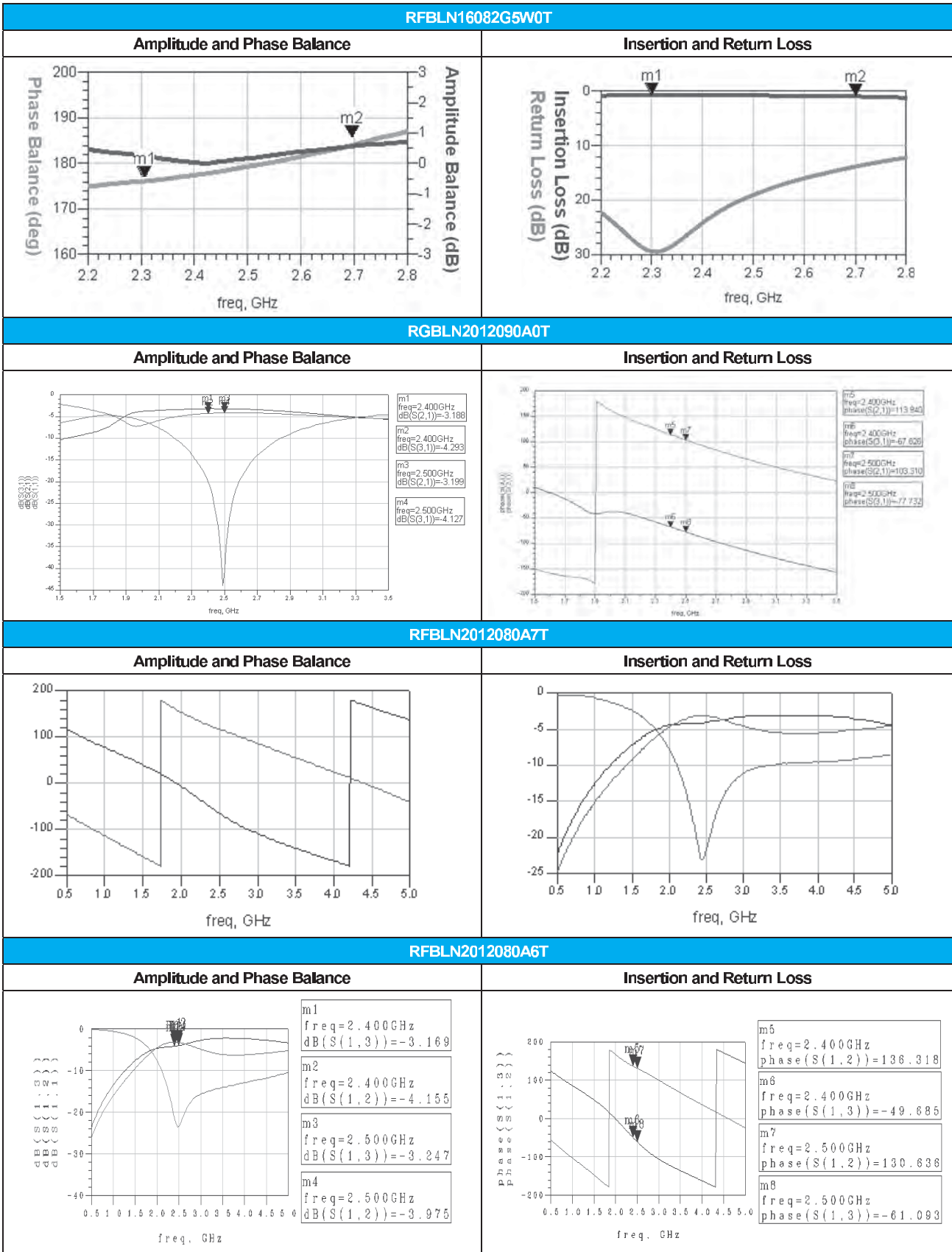
## ■ TYPICAL ELECTRICAL CHARACTERISTICS



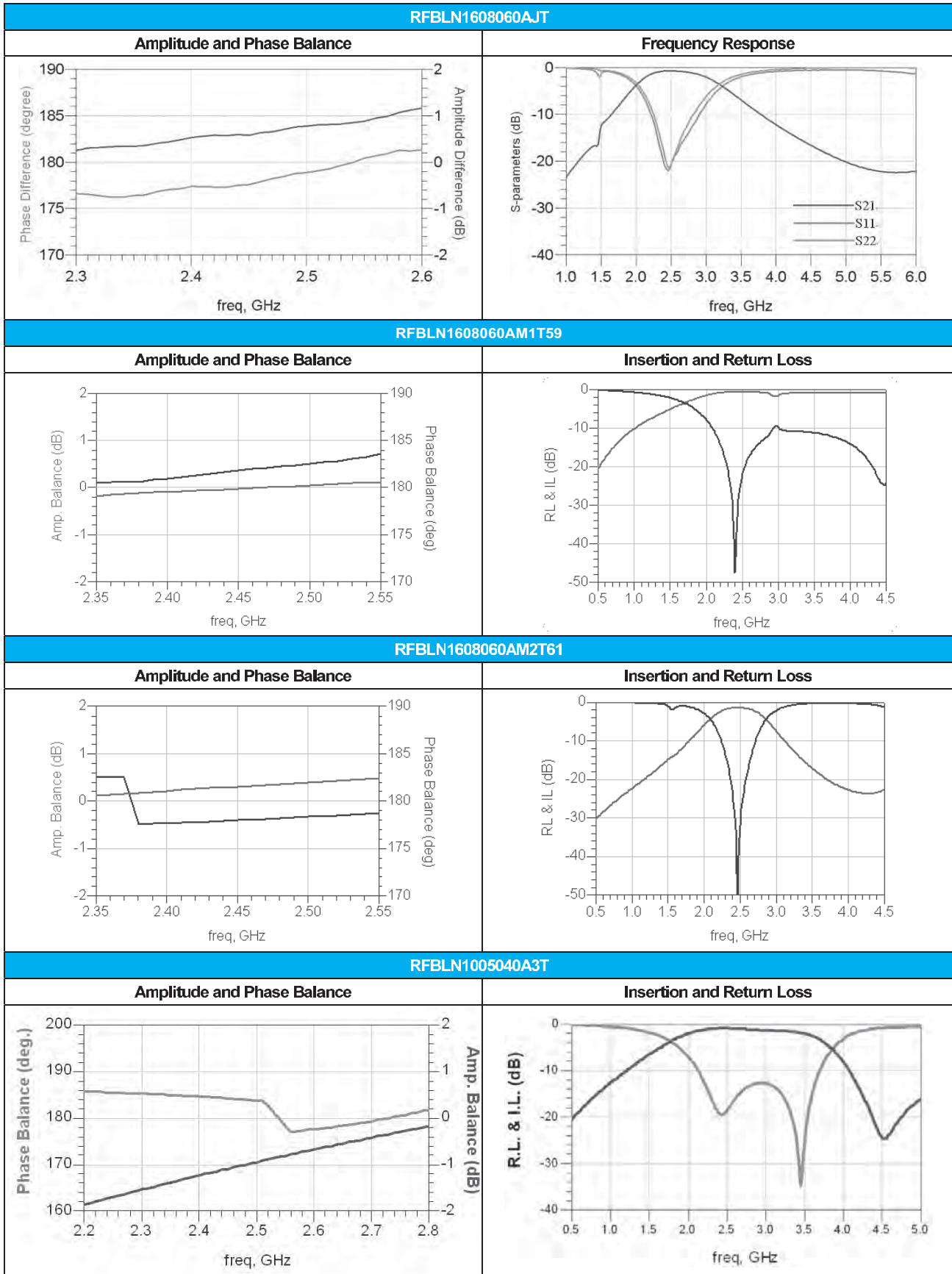
■ For more information, please contact with local sales representative

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## ■ TYPICAL ELECTRICAL CHARACTERISTICS



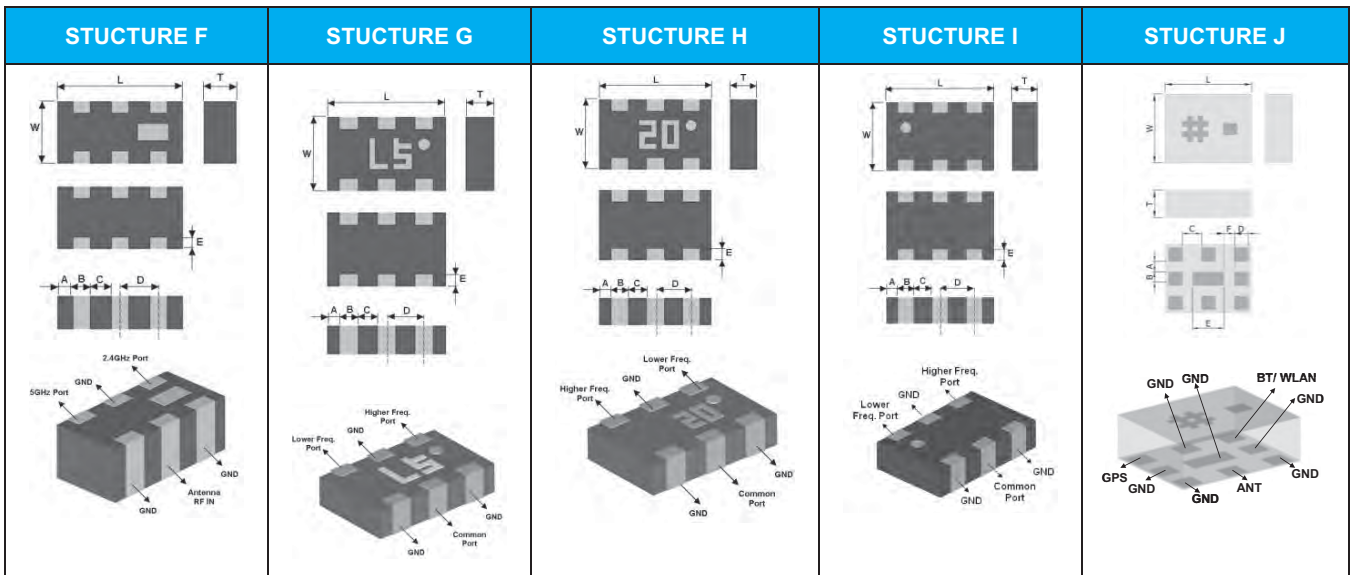
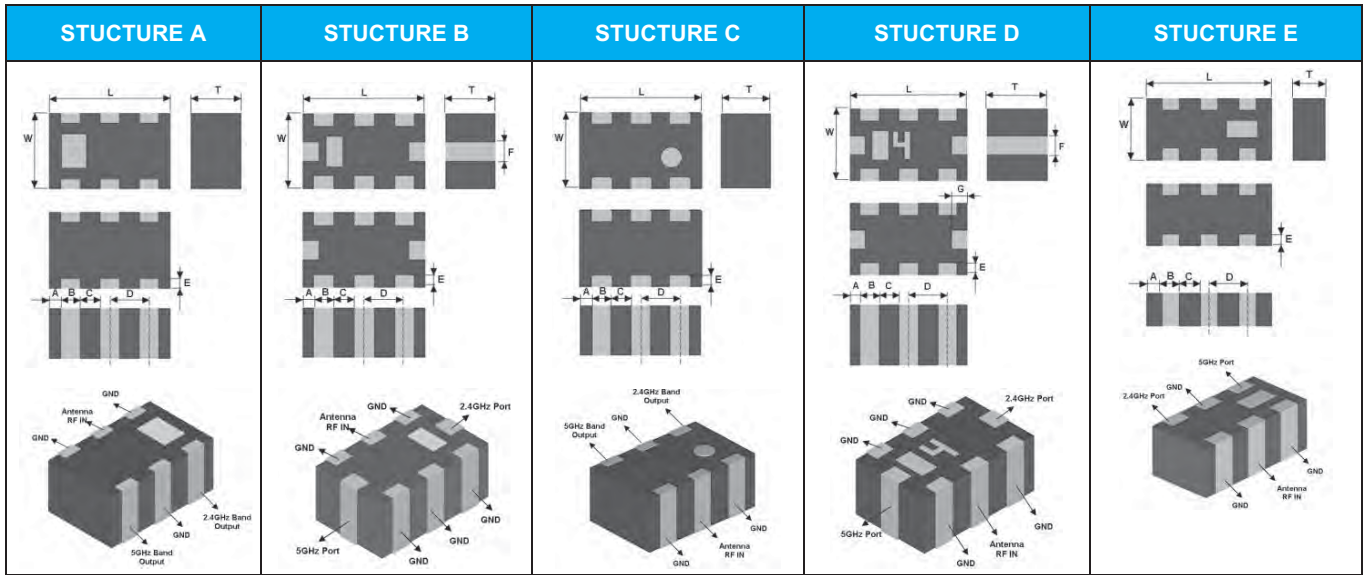




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## ■ STRUCTURE AND PIN ASSOCIATED



## ■ STRUCTURE AND DIMENSION

Unit:mm

Structure Dimension	L	W	T	a	b	c	d	e	f	g
A	2.00±0.15	1.25±0.15	0.95±0.10	0.20±0.20	0.30±0.20	0.35±0.20	0.65±0.20	-	-	-
B	2.00±0.15	1.25±0.15	0.95±0.10	0.20±0.20	0.30±0.20	0.35±0.20	0.65±0.20	0.25±0.20	0.30±0.20	-
C	2.00±0.15	1.25±0.15	0.95±0.10	0.20±0.20	0.30±0.20	0.35±0.20	0.65±0.20	-	-	-
D	2.00±0.15	1.25±0.15	0.95±0.10	0.20±0.20	0.30±0.20	0.35±0.20	0.65±0.20	0.20±0.15	0.30±0.20	0.25±0.15
E	1.60±0.15	0.80±0.15	0.60±0.10	0.175±0.15	0.25±0.15	0.25±0.15	0.50±0.15	0.20±0.15	-	-
F	1.60±0.15	0.80±0.15	0.60±0.10	0.175±0.15	0.25±0.15	0.25±0.15	0.50±0.15	0.20±0.15	-	-
G	2.00±0.10	1.25±0.20	0.55±0.15	0.20±0.15	0.30±0.15	0.35±0.15	0.65±0.15	0.20±0.10	-	-
H	2.00±0.10	1.25±0.20	0.55±0.15	0.20±0.15	0.30±0.15	0.35±0.15	0.65±0.15	0.20±0.10	-	-
I	2.00±0.10	1.25±0.20	0.55±0.15	0.20±0.15	0.30±0.15	0.35±0.15	0.65±0.15	0.20±0.10	-	-
J	2.50±0.15	2.00±0.15	0.80±0.10	0.30±0.10	0.40±0.10	0.55±0.10	0.40±0.10	0.90±0.10	0.30±0.10	-

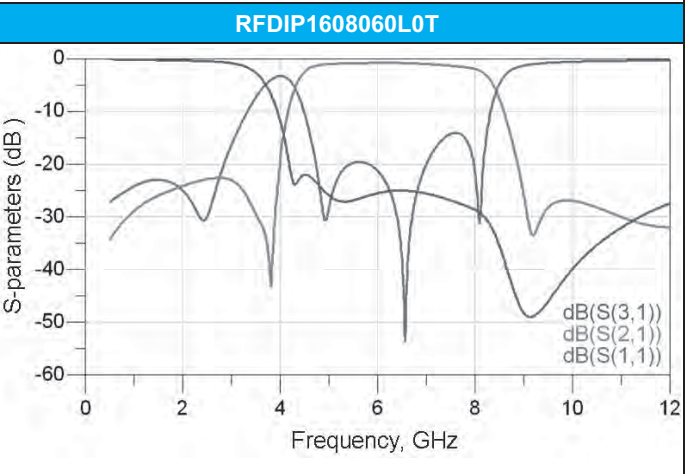
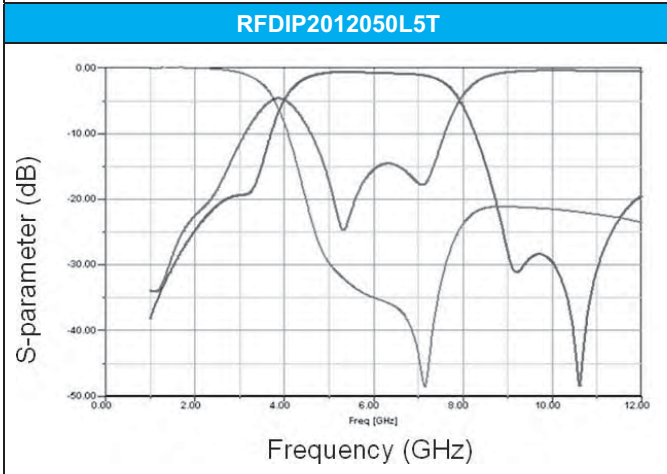
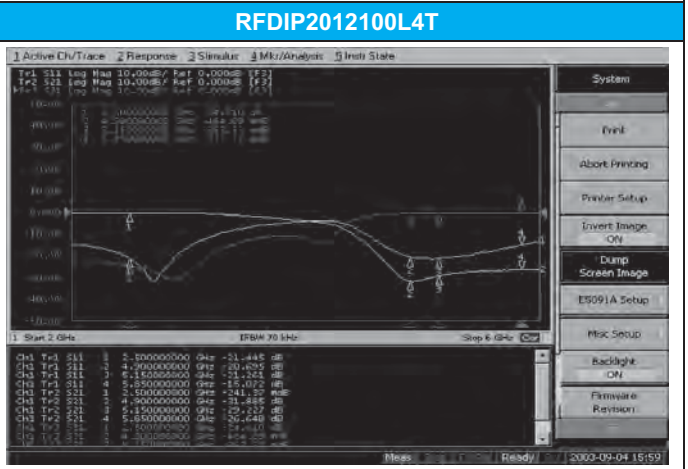
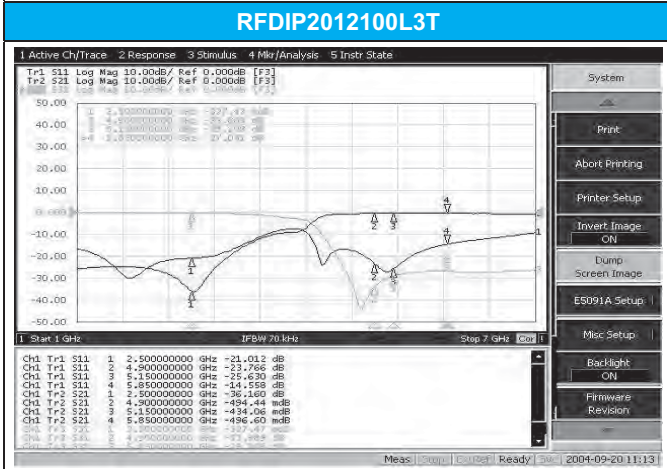
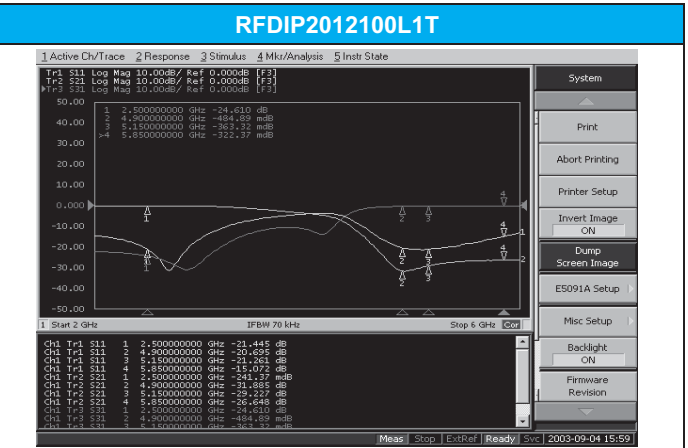
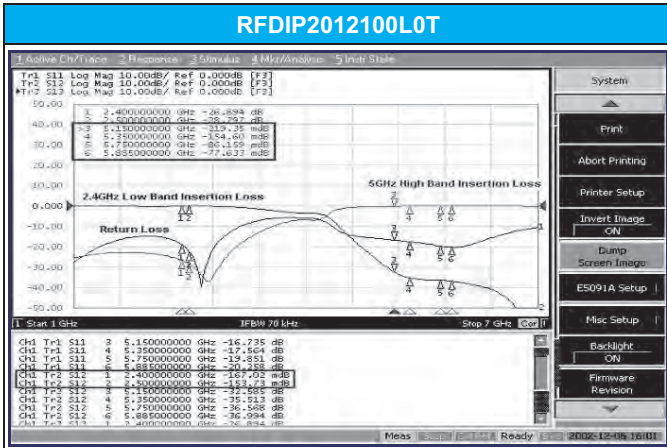
■ ELECTRICAL SPECIFICATION

Part Number	Frequency (MHz)	Impedance (Ω)	Insertion Loss (dB)	Attenuation (dB)	Return Loss (dB)Min.	Ripple (dB)	Size (mm)	Structure
RFDIP1608060L0T	2400-2500	50	0.8	18(4.8~5.0GHz) 20(7.2~7.5GHz)	-	-	1.60x0.80x0.60	E
	4900-5900	50	1.2	20(3.7~3.9GHz) 20(1.8~2.5GHz) 20(9.8~11.8GHz)				
RFDIP1608060L3T	2400-2500	50	0.8	18(4.8~5.0GHz) 20(7.2~7.5GHz)	-	-	1.60x0.80x0.60	F
	4900-5900	50	1.2	20(3.7~3.9GHz) 20(1.8~2.5GHz) 20(9.8~11.8GHz)				
RFDIP2012050L5T	2400-2500	50	0.7	18(4.8-6.0GHz) 18(7.2-7.5 GHz)	-	-	2.00x1.25x0.55	G
	4900-5900	50	1.0	19(1.8-2.5GHz) 25(10.3-10.7GHz)				
RFDIP2012050L7T	2400-2500	50	0.7	18(4.8-6.0GHz) 18(7.2-7.5 GHz)	-	-	2.00x1.25x0.55	H
	4900-5900	50	1.0	19(1.8-2.5GHz) 25(10.3-10.7GHz)				
RFDIP2012050L8T	2300-2500	50	0.65(25°C) 0.8(-40~+85°C)	20(4.6-5.0GHz) 20(6.9-7.5 GHz)	-	-	2.00x1.25x0.55	I
	4900-5950	50	1.0	19(1.8-2.5GHz) 25(10.3-10.7GHz)				
RFDIP2012100L0T	Band1: 2450 ± 50	50	0.7	20(4.9GHz) 25(5.2GHz) 25(5.8GHz)	10	0.5	2.00x1.25x0.95	A
	Band2: 5400 ± 500	50	0.9	25(2.45GHz)				
RFDIP2012100L1T	Band1: 2450 ± 50	50	0.7	20(4.9GHz) 20(5.2GHz) 20(5.8GHz)	10	0.5	2.00x1.25x0.95	B
	Band2:5400 ± 500	50	0.9	20(2.45GHz)				
RFDIP2012100L3T	Band1: 2450 ± 50	50	0.7	20(4.9GHz) 25(5.2GHz) 25(5.8GHz)	10	0.5	2.00x1.25x0.95	C
	Band2: 5400 ± 500	50	0.9	25(2.45GHz)				
RFDIP2012100L4T	Band1: 2450 ± 50	50	0.7	20(4.9GHz) 20(5.2GHz) 20(5.8GHz)	10	0.5	2.00x1.25x0.95	D
	Band2:5400 ± 500	50	1.1	20(2.45GHz)				
RFDIP2520080TM0T62	f1: 1575 ± 5	50	0.7	10(2400 MHz)	10	-	2.50x2.00x0.80	J
	f2: 2450 ± 50	50	3.5	33(1910 MHz) 30(2170 MHz) 40(4800 MHz)				

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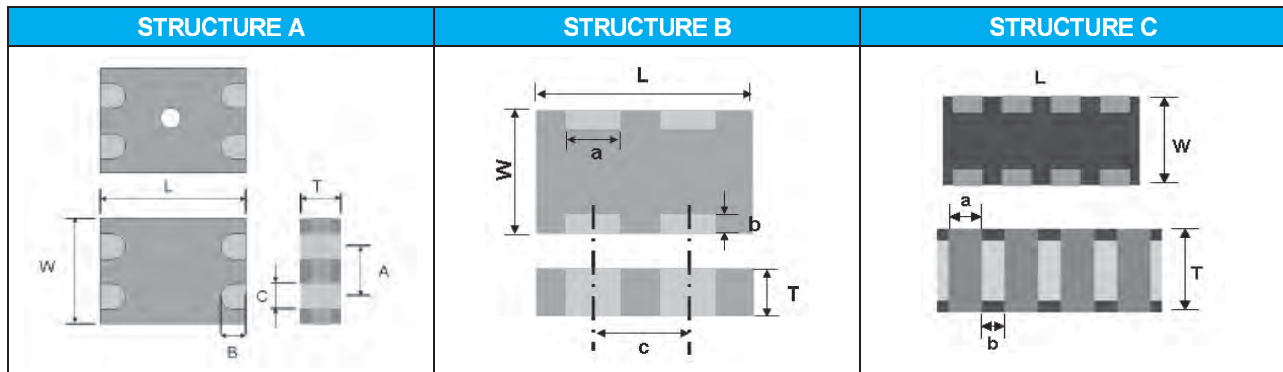
## TYPICAL ELECTRICAL CHARACTERISTICS



For more information, please contact with local sales representative

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## ■ STRUCTURE AND PIN ASSOCIATED



## ■ STRUCTURE AND DIMENSION

Unit:mm

Unit:mm Structure/ Dimension	Type	L	W	T	a	b	c
A	CMF Discrete	1.25 ± 0.10	1.00 ± 0.10	0.80 ± 0.10	0.55 ± 0.1	0.25 ± 0.1	0.30 ± 0.1
		2.03 ± 0.10	1.29 ± 0.10	0.8 ± 0.10	-	-	-
		1.98 ± 0.10	1.25 ± 0.10	0.96 ± 0.10	0.35 ± 0.1	0.30 ± 0.1	0.65 ± 0.1
		2.00 ± 0.40/-0.20	1.20 ± 0.40/-0.20	1.00 ± 0.20	0.45 ± 0.20	0.40 ± 0.20	-
		3.20 ± 0.20	1.60 ± 0.20	1.00 ± 0.20	0.60 ± 0.20	0.50 ± 0.20	-
B		3.20 ± 0.20	1.60 ± 0.20	0.95 ± 0.20	0.70 ± 0.20	0.30 ± 0.20	2.10 ± 0.20
C	CMF Array	2.00 ± 0.1	1.05 ± 0.1	0.90 ± 0.1	0.25 ± 0.15	0.25 ± 0.1	-

## ■ ELECTRICAL SPECIFICATION

DISCRETE CMF for HIGH SPEED TRANSMISSION LINES、USB2.0、IEEE1394、LVDS(mini)

Part Number	Characteristic Impedance (Differential)	Impedance (Ω) Common Mode	DC Resistance (Ω) max.	Rated Current (mA)	Size(mm)	Structure
RGCMF1210350X0T	90 ohm	35 ± 25%(100MHz)	0.7	300	1.25x1.00x0.80	A
RGCMF1210650X1T	90 ohm	65 ± 20%(100MHz)	0.85	300	1.25x1.00x0.80	A
RGCMF1210101X2T	90 ohm	100 ± 20%(100MHz)	1.5	300	1.25x1.00x0.80	A
RGCMF1210900X3T	90 ohm	90 ± 20%(100MHz)	1.5	300	1.25x1.00x0.80	A
RGCMF1210121X4T	90 ohm	120 ± 20%(100MHz)	1.5	300	1.25x1.00x0.90	A

Part Number	Characteristic Impedance (Differential)	Common Mode Attenuation ( Min. )	DC Resistance ( $\Omega$ ) max.	Rated Current (mA)	Size(mm)	Structure
RFCMF1220100M3T	90 ohm	9.0(240MHz ~ 1GHz)	1.5	300	1.20x2.00x1.00	A
RFCMF1220100M4T	90 ohm	9.0(130 MHz ~ 1GHz)	2.5	200	1.20x2.00x1.00	A
RFCMF1632100M3T	90 ohm	9.0(240 MHz ~ 1.0 GHz)	1.5	300	1.60x3.20x1.00	A
RFCMF1632140M2T	90 ohm	9.0(140 MHz ~ 1.0 GHz)	2.5	300	1.60x3.20x1.40	A
RGCMF3216090M1T	90 ohm	8(240MHz ~ 1.0GHz)	1.5	200	3.20x1.60x0.95	B

- DISCRETE CMF for HIGH SPEED TRANSMISSION LINES、DVI、LVDS(mini)、HDMI、SATA、Display Port、PCI-E

Part Number	Characteristic Impedance (Differential)	Impedance( $\Omega$ )	DC Resistance ( $\Omega$ ) max.	Rated Current (mA)	Size (mm)	Structure
RGCMF1210350H0T	100 ohm	35 $\pm$ 25%(100MHz)	0.6	300	1.25x1.00x0.80	A
RGCMF1210650H1T	100 ohm	65 $\pm$ 20%(100MHz)	0.8	300	1.25x1.00x1.00	A
RGCMF1210101H2T	100 ohm	100 $\pm$ 20%(100MHz)	1.0	300	1.25x1.00x0.80	A
RGCMF1210900H3T	100 ohm	90 $\pm$ 20%(100MHz)	1.0	300	1.25x1.00x0.80	A
RGCMF1210121H4T	100 ohm	120 $\pm$ 20%(100MHz)	1.2	300	1.25x1.00x0.90	A
RGCMF2012900H1T	100 ohm	90 ohm $\pm$ 20%(100MHz)	1.0	200	2.00x1.25x1.00	A

- USB3.0

Part Number	Cut-off Frequency	Impedance( $\Omega$ )	DC Resistance ( $\Omega$ ) max.	Rated Current (mA)	Size (mm)	Structure
RGCMF1210180U0T	8 GHz (Typical)	18 $\pm$ 25%(100MHz)	0.5	300	1.25x1.00x0.80	A
RGCMF1210350U0T	7 GHz( Typical)	35 $\pm$ 20%(100MHz)	0.8	300	1.25x1.00x0.80	A

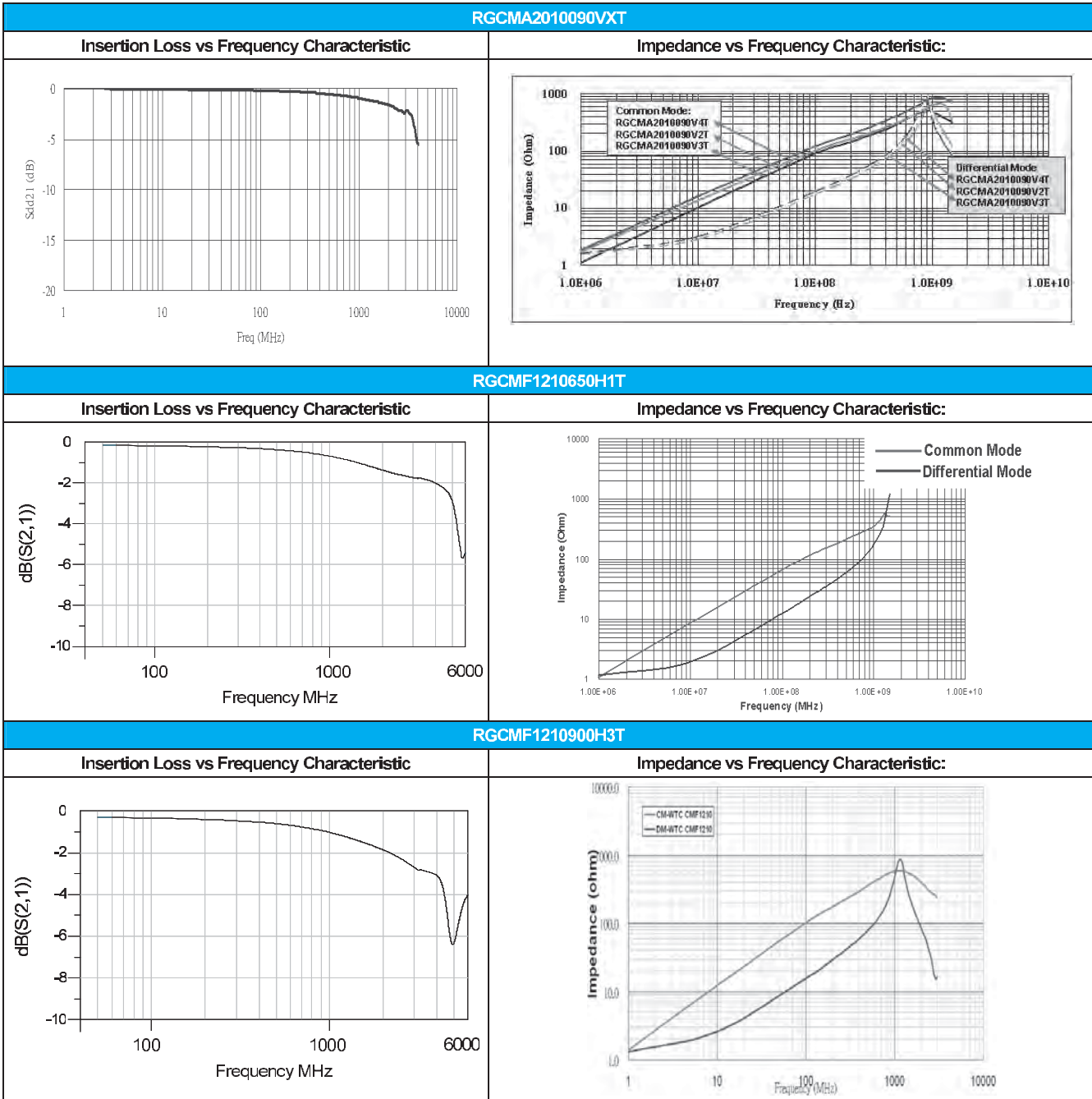
- ARRAY CMF for HIGH SPEED TRANSMISSION LINESDVI、LVDS(mini)、HDMI、SATA、Display Port、PCI-E

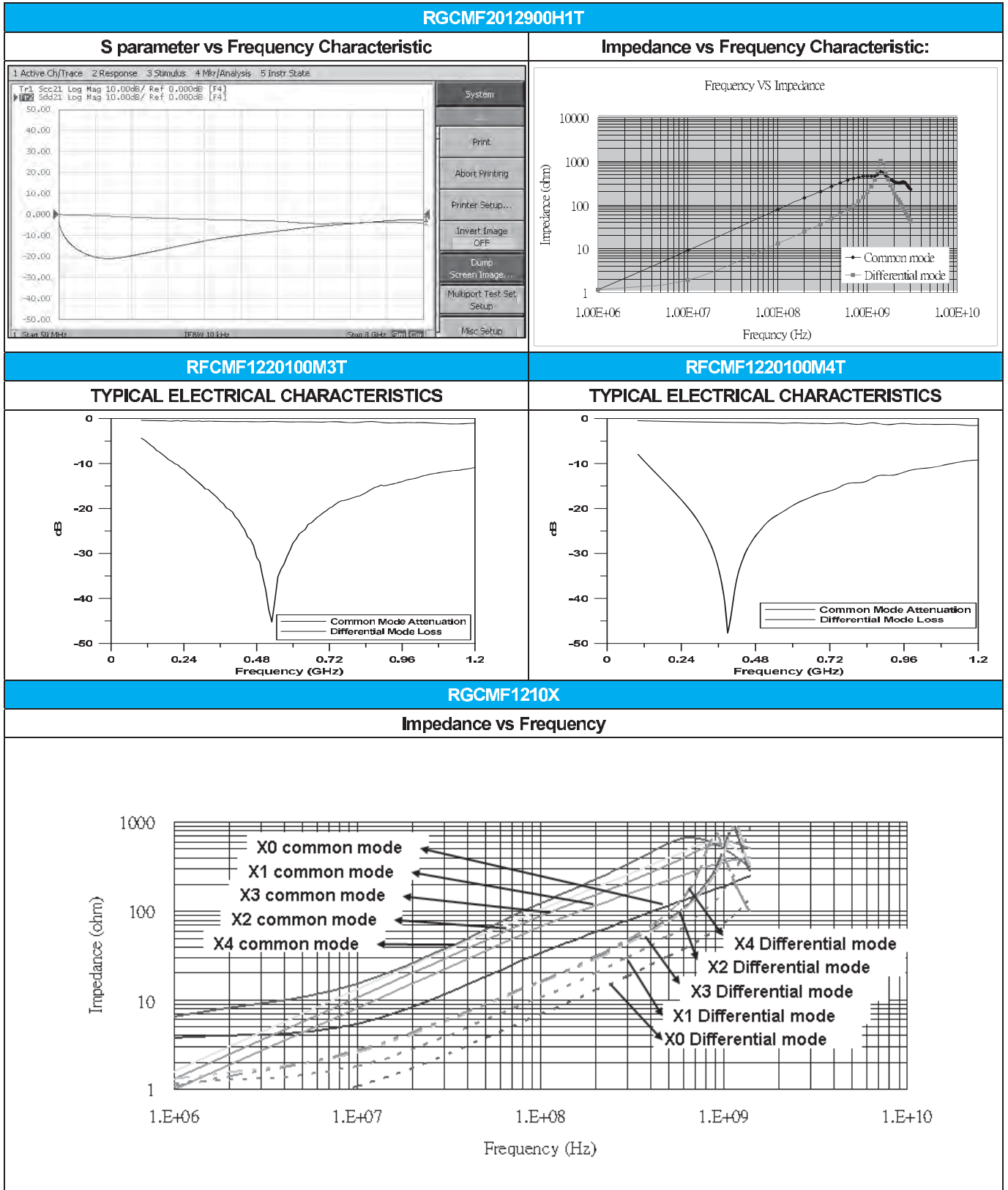
Part Number	Characteristic Impedance (Differential)	Impedance( $\Omega$ )	DC Resistance ( $\Omega$ ) max.	Rated Current (mA)	Size (mm)	Structure
RGCA2010090V2T	100 ohm	100 $\pm$ 25%(100MHz)	1.1	300	2.00x1.05x0.90	C
RGCA2010090V3T	100 ohm	90 $\pm$ 25%(100MHz)	1.0	300	2.00x1.05x0.90	C
RGCA2010090V4T	100 ohm	120 $\pm$ 25%(100MHz)	1.1	300	2.00x1.05x0.90	C

- For more information, please contact with local sales representative

- All specifications are subject to change without notice

## TYPICAL ELECTRICAL CHARACTERISTICS



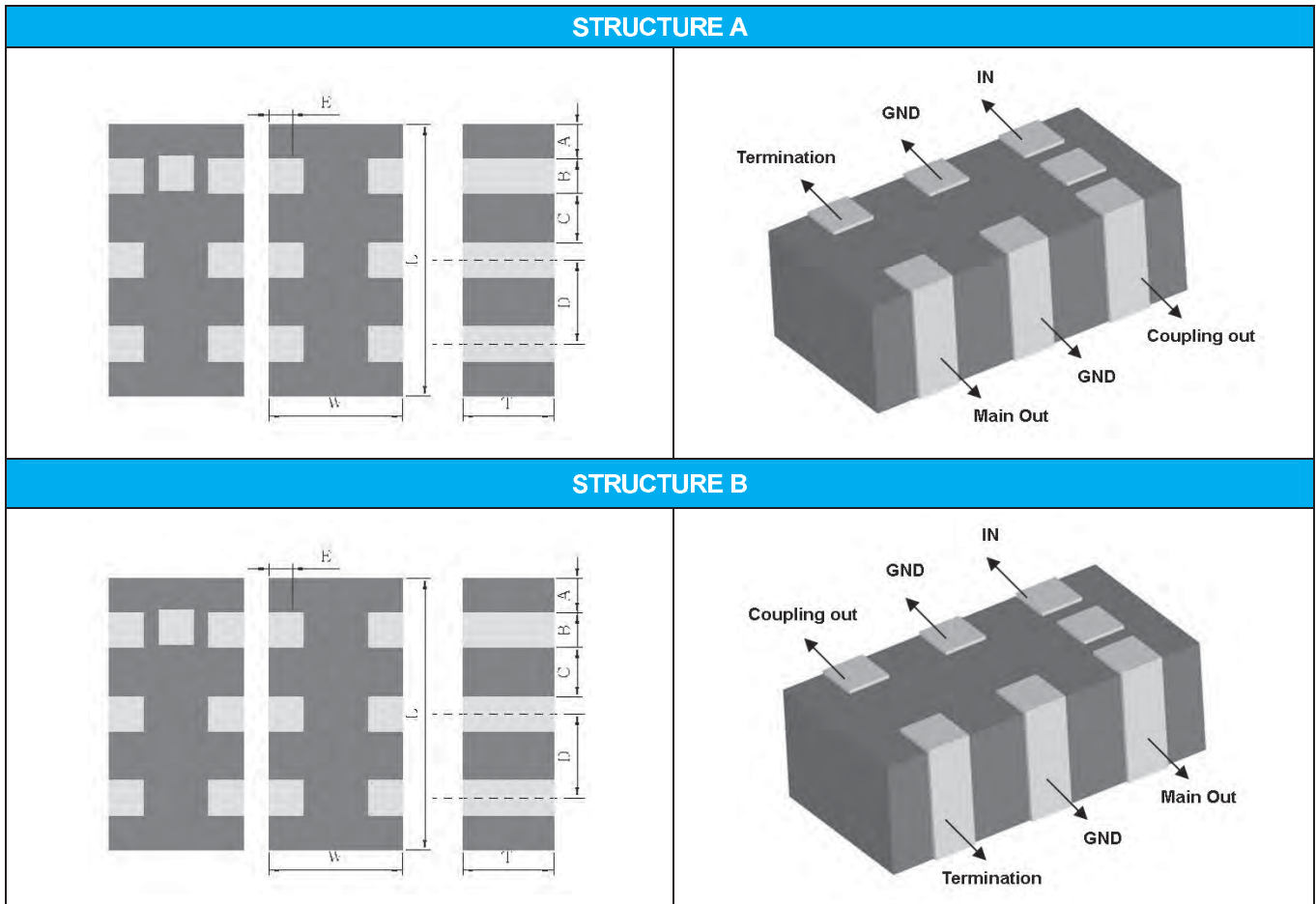


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■ STRUCTURE AND PIN ASSOCIATED



■ STRUCTURE AND DIMENSION

Unit:mm

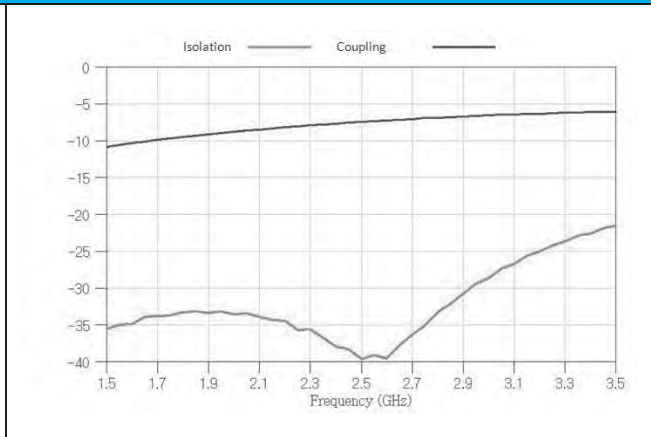
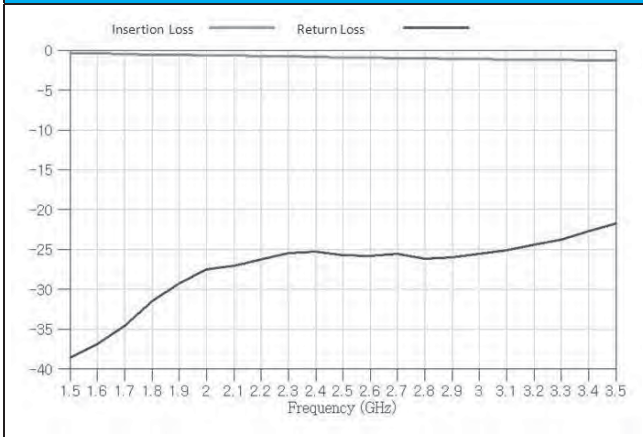
Structure\ Dimension	L	W	T	A	B	C	D	E
A	1.60±0.10	0.80±0.10	0.60±0.10	0.10±0.10	0.30±0.10	0.25±0.10	0.55±0.10	0.20±0.10
B	1.60±0.10	0.80±0.10	0.60±0.10	0.10±0.10	0.30±0.10	0.25±0.10	0.55±0.10	0.20±0.10

■ ELECTRICAL SPECIFICATION

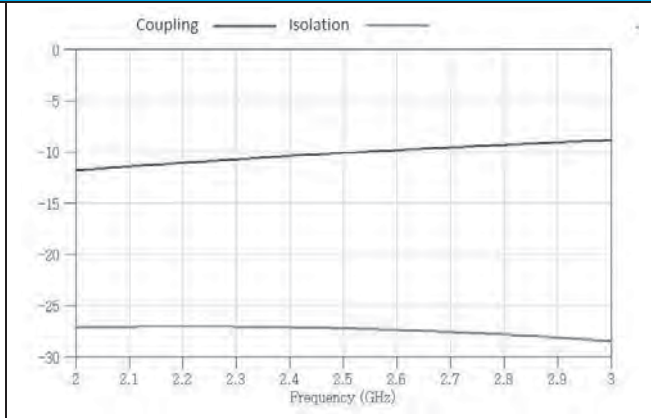
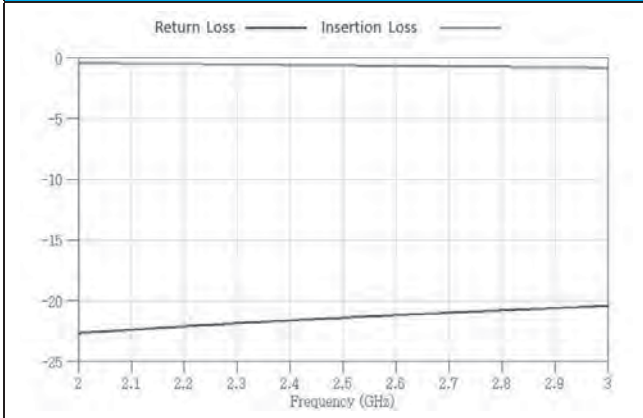
Part Number	Application	Insertion Loss (dB)	Coupling in BW	Isolation in BW	VSWR	Dimension (mm <sup>3</sup> )	Structure
RFCPL1807B2450T	2450 ± 50	1.30	7.0 ± 1.0 dB	30.0 dB min	2.0	1.60x1.80x0.60	A
RFCPL1810B2450T	2450 ± 50	0.74	10.0 ±1.0 dB	22.0 dB min	1.8	1.60x1.80x0.60	B

## ■ TYPICAL ELECTRICAL CHARACTERISTICS

RFCPL1807B2450T



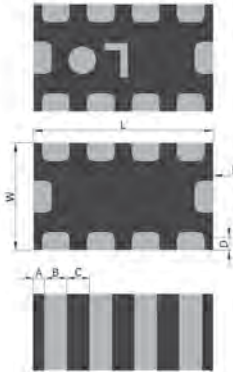

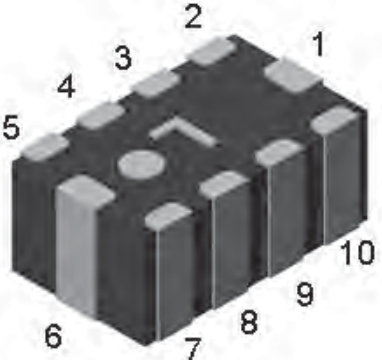
RFCPL1810B2450T



## ■ STRUCTURE AND PIN ASSOCIATED

**STRUCTURE A**

Pin Assignment	
Channel	I/O
Channel 1	PIN 1/9
Channel 2	PIN 2/8
Channel 3	PIN 3/7
Channel 4	PIN 4/6
1, 2, 3, 4	IN
9, 8, 7, 6	OUT
5, 10	Ground

## ■ STRUCTURE AND DIMENSION

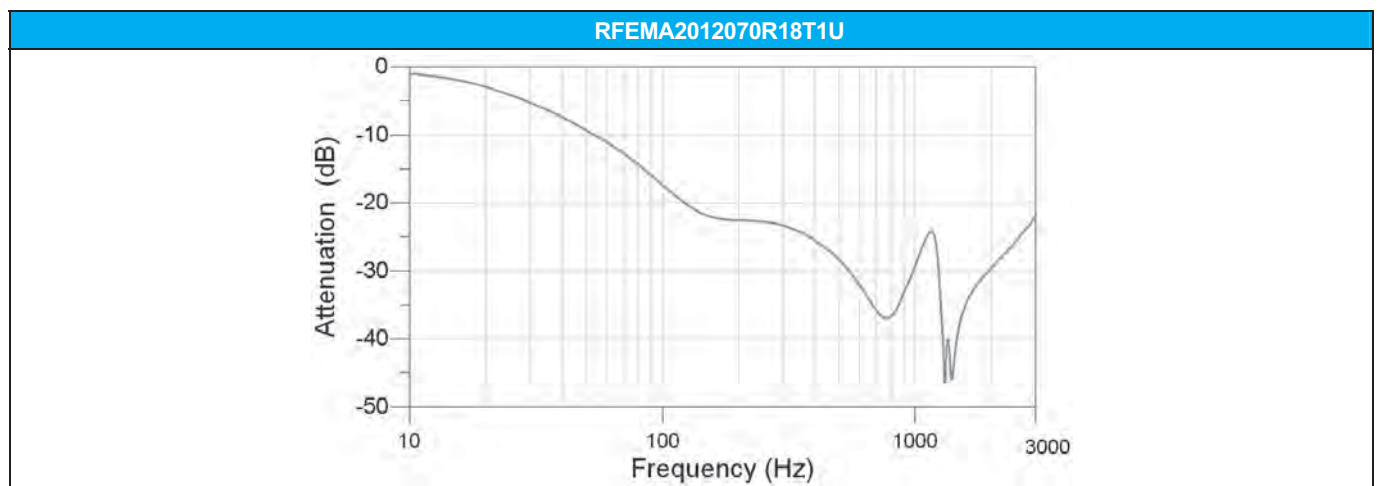
Structure\ Dimension	L	W	T	A	B	C	D	E	F	G
A	2.05 ± 0.20	1.25 ± 0.20	0.70 ± 0.10	0.15 ± 0.10	0.25 ± 0.10	0.25 ± 0.10	0.20 ± 0.15	0.20 ± 0.15	0.45 ± 0.10	0.35 ± 0.10

Unit:mm

## ■ ELECTRICAL SPECIFICATION

Part Number	-3dB Cut-off Frequency (20MHz)	Attenuation ( min.)	Size(mm)	Structure
RFEMA2012070R18T1U	0-6dB @ 20 MHz	15(100 MHz) 32(800 MHz) 35(1500 MHz) 23(2400 MHz)	2.05x1.25x0.70	A

## ■ TYPICAL ELECTRICAL CHARACTERISTICS

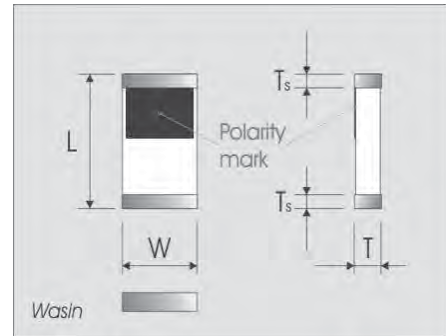


■ For more information, please contact with local sales representative

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## ■ STRUCTURE AND DIMENSION

Chip Size	WL1608 Series	WL1005 Series	WL0603 Series
L	1.60 ± 0.15 mm	1.00 ± 0.10	0.60 ± 0.03
W	0.80 ± 0.15 mm	0.50 ± 0.10	0.30 ± 0.03
T	0.80 ± 0.15 mm	0.50 ± 0.10	0.30 ± 0.03
Ts	0.30 ± 0.20 mm	0.25 ± 0.10	0.15 ± 0.05



## ■ HIGH FREQUENCY INDUCTOR 1608 (0603)

Walsin Part Number	L(nH)	Tolerance	Q Min (MHz)	Typical Q @ Frequency (MHz)			SRF Typical (MHz)	RDC Maximum (Ω)	IDC (mA)
			100	100	800	1800			
WL160808G1N0SGT03	1.0	± 0.3nH	8	13	44	60	8100	0.10	300
WL160808G1N2SGT03	1.2	± 0.3nH	8	13	44	60	8100	0.10	300
WL160808G1N5SGT03	1.5	± 0.3nH	8	14	37	56	8100	0.10	300
WL160808G1N8SGT03	1.8	± 0.3nH	8	12	37	55	8300	0.10	300
WL160808G2N2SGT03	2.2	± 0.3nH	8	12	38	54	8000	0.10	300
WL160808G2N7SGT03	2.7	± 0.3nH	8	13	38	53	7600	0.10	300
WL160808G3N3SGT03	3.3	± 0.3nH	8	12	37	49	5800	0.12	300
WL160808G3N9SGT03	3.9	± 0.3nH	8	14	44	62	5100	0.14	300
WL160808G4N7SGT03	4.7	± 0.3nH	8	15	43	63	4600	0.16	300
WL160808G5N6SGT03	5.6	± 0.3nH	8	15	45	59	4200	0.18	300
WL160808G6N8JGT03	6.8	± 5%	8	15	43	58	3700	0.22	300
WL160808G8N2JGT03	8.2	± 5%	8	15	44	52	3600	0.24	300
WL160808G10NJGT03	10	± 5%	12	17	49	50	3500	0.26	300
WL160808G12NJGT03	12	± 5%	12	15	41	37	2500	0.28	300
WL160808G15NJGT03	15	± 5%	12	17	45	35	2600	0.32	300
WL160808G18NJGT03	18	± 5%	12	16	45	39	2000	0.35	300
WL160808G22NJGT03	22	± 5%	12	16	43	21	1800	0.40	300
WL160808G27NJGT03	27	± 5%	12	16	41	11	1600	0.45	300
WL160808G33NJGT03	33	± 5%	12	19	41	11	1500	0.55	300
WL160808G39NJGT03	39	± 5%	12	19	42	17	1400	0.60	300
WL160808G47NJGT03	47	± 5%	12	17	35	-	1300	0.70	300
WL160808G56NJGT03	56	± 5%	12	19	31	-	1300	0.75	300
WL160808G68NJGT03	68	± 5%	12	19	26	-	1150	0.85	300
WL160808G82NJGT03	82	± 5%	12	19	21	-	1000	0.95	300
WL160808GR10JGT03	100	± 5%	12	19	20	-	1000	1.00	300
WL160808GR12JGT03	120	± 5%	12	19	16	-	950	1.20	300
WL160808GR15JGT03	150	± 5%	12	19	-	-	800	1.50	300
WL160808GR18JGT03	180	± 5%	12	19	-	-	750	1.90	300
WL160808GR22JGT03	220	± 5%	12	18	-	-	680	2.20	300
WL160808GR27JGT03	270	± 5%	12	20	-	-	600	2.50	300

## ■ HIGH FREQUENCY INDUCTOR 1005 (0402)

Walsin Part Number	L(nH)	Tolerance	Q Min (MHz)	Typical Q @ Frequency (MHz)			SRF Typical (MHz)	RDC Maximum (Ω)	IDC (Ma)
			100	100	800	1800			
WL100505G1N0SGT03	1.0	± 0.3nH	8	9	27	44	13000	0.12	300
WL100505G1N2SGT03	1.2	± 0.3nH	8	9	25	45	12000	0.12	300
WL100505G1N3SGT03	1.3	± 0.3nH	8	9	25	45	12000	0.13	300
WL100505G1N5SGT03	1.5	± 0.3nH	8	9	23	43	10000	0.13	300
WL100505G1N8SGT03	1.8	± 0.3nH	8	9	24	43	9000	0.14	300
WL100505G2N0SGT03	2.0	± 0.3nH	8	9	26	45	9000	0.16	300
WL100505G2N2SGT03	2.2	± 0.3nH	8	9	26	45	9000	0.16	300
WL100505G2N4SGT03	2.4	± 0.3nH	8	9	26	42	9000	0.17	300
WL100505G2N7SGT03	2.7	± 0.3nH	8	9	26	42	8000	0.17	300
WL100505G3N0SGT03	3.0	± 0.3nH	8	9	26	42	8000	0.19	300
WL100505G3N3SGT03	3.3	± 0.3nH	8	9	26	42	6500	0.19	300
WL100505G3N6SGT03	3.6	± 0.3nH	8	9	26	40	6000	0.22	300
WL100505G3N9□GT03	3.9	± 0.3nH ±10%	8	9	26	40	6000	0.22	300
WL100505G4N3□GT03	4.3	± 0.3nH ±10%	8	9	26	42	6000	0.24	300
WL100505G4N7□GT03	4.7	± 0.3nH ±10%	8	9	27	46	5000	0.23	300
WL100505G5N1□GT03	5.1	± 0.3nH ±10%	8	9	27	44	5000	0.27	300
WL100505G5N6□GT03	5.6	± 3% ±10%	8	10	28	40	4700	0.27	300
WL100505G6N8□GT03	6.8	± 5% ±10%	8	10	28	36	4500	0.32	250
WL100505G7N5□GT03	7.5	± 5% ±10%	8	10	28	35	4500	0.35	250
WL100505G8N2□GT03	8.2	± 5% ±10%	8	10	28	36	4000	0.37	250
WL100505G9N1□GT03	9.1	± 5% ±10%	8	10	28	36	4000	0.40	250
WL100505G10N□GT03	10	± 5% ±10%	8	10	27	33	3500	0.42	250
WL100505G12N□GT03	12	± 5% ±10%	8	11	31	41	3000	0.48	250
WL100505G15N□GT03	15	± 5% ±10%	8	10	27	33	2900	0.53	250
WL100505G18N□GT02	18	± 5% ±10%	8	11	29	31	2200	0.65	200
WL100505G20N□GT02	20	± 5% ±10%	8	10	26	15	2100	0.80	200
WL100505G22N□GT02	22	± 5% ±10%	8	10	26	15	2100	0.80	200
WL100505G27N□GT02	27	± 5% ±10%	8	10	23	15	2000	0.90	200
WL100505G33N□GT02	33	± 5% ±10%	8	10	22 <sup>note 1</sup>	24 <sup>note 2</sup>	1900	1.00	200

Walsin Part Number	L(nH)	Tolerance	Q Min (MHz)	Typical Q @ Frequency (MHz)			SRF Typical (MHz)	RDC Maximum ( $\Omega$ )	IDC (Ma)
			100	100	800	1800			
WL100505G39N□GT02	39	$\pm 5\% \pm 10\%$	8	10	19 <sup>note 1</sup>	20 <sup>note 2</sup>	1800	1.20	200
WL100505G43N□GT02	43	$\pm 5\% \pm 10\%$	8	10	*22	**20	1500	1.30	200
WL100505G47N□GT02	47	$\pm 5\% \pm 10\%$	8	12	22 <sup>note 1</sup>	20 <sup>note 2</sup>	1500	1.30	200
WL100505G56N□GT02	56	$\pm 5\% \pm 10\%$	8	12	22 <sup>note 1</sup>	18 <sup>note 2</sup>	1400	1.60	200
WL100505G68N□GT02	68	$\pm 5\% \pm 10\%$	8	11	18 <sup>note 1</sup>	10 <sup>note 2</sup>	1200	1.90	180
WL100505G82N□GT02	82	$\pm 5\% \pm 10\%$	8	12	20 <sup>note 1</sup>	7 <sup>note 2</sup>	1100	2.10	150
WL100505GR10□GT01	100	$\pm 5\% \pm 10\%$	8	11	18 <sup>note 1</sup>	-	930	2.30	100

Note1: at 500MHz

Note2: at 1000MHz

For special inductance value, please contact with sales representatives of the HF Business Division.

### ■ HIGH FREQUENCY INDUCTOR 0603 (0201)

Walsin Part Number	L(nH)	Tolerance	Q Min (MHz)	Typical Q @ Frequency (MHz)			SRF Typical (MHz)	RDC Maximum ( $\Omega$ )	IDC (mA)
			100	100	800	1800			
WL060303G1N0SGT03	1.0	$\pm 0.3nH$	4	13	17	26	13000	0.12	300
WL060303G1N2SGT03	1.2	$\pm 0.3nH$	4	14	17	26	13000	0.15	300
WL060303G1N5SGT03	1.5	$\pm 0.3nH$	4	14	17	26	13000	0.18	300
WL060303G1N8SGT03	1.8	$\pm 0.3nH$	4	15	17	28	10500	0.22	300
WL060303G2N2SGT03	2.2	$\pm 0.3nH$	4	15	18	28	9500	0.26	300
WL060303G2N7SGT03	2.7	$\pm 0.3nH$	4	16	18	18	8500	0.32	300
WL060303G3N3SGT03	3.3	$\pm 0.3nH$	4	16	19	28	7500	0.38	300
WL060303G3N9SGT03	3.9	$\pm 0.3nH$	4	16	20	26	6800	0.45	300
WL060303G4N7SGT03	4.7	$\pm 0.3nH$	4	16	20	26	6000	0.50	300
WL060303G5N6SGT03	5.6	$\pm 0.3nH$	5	16	20	25	5500	0.60	300
WL060303G6N8JGT03	6.8	$\pm 5\%$	5	16	20	25	4800	0.70	250
WL060303G8N2JGT03	8.2	$\pm 5\%$	5	16	20	23	4600	0.90	250
WL060303G10NJGT03	10	$\pm 5\%$	5	16	20	23	4000	1.20	250
WL060303G12NJGT03	12	$\pm 5\%$	5	16	19	22	3500	1.30	250
WL060303G15NJGT03	15	$\pm 5\%$	5	15	19	18	3000	1.40	250
WL060303G18NJGT02	18	$\pm 5\%$	5	15	19	16	2500	1.50	200
WL060303G22NJGT02	22	$\pm 5\%$	5	14	18	15	2200	1.80	200
WL060303G27NJGT02	27	$\pm 5\%$	5	13	18	9	1800	2.00	200
WL060303G33NJGT02	33	$\pm 5\%$	5	13	17	7	1500	2.30	200

■ For more information, please contact with local sales representative

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## ■ INTRODUCTION-PLATED & LEAD-FREE TERMINATION

High Speed ESD Voltage Suppressor is an advanced series of Walsin's Multilayer Chip Varistor (MLV). Nowadays, more and more communication devices become compact and apply denser and higher frequency circuits inside. Protection against the electronic static discharge (ESD) generated from human body transient voltage surge is more important when downsize of high-speed transistor makes its vulnerability to ESD and surge.

Walsin's High Speed ESD Voltage Suppressor provides protection from ESD and EFT in high-speed data line and radio frequency (RF) circuits. Also, if capacitance of MLV is a concern to circuit designers, Walsin MLV H Series would supply a solution, MLV with specified capacitance and range. It is compatible with modern reflow and wave soldering procedures. We would give you a solution to transient over voltage and ESD protection to your products.

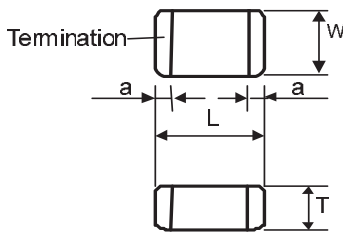
## ■ FEATURES

- Multilayer Fabrication Technology
- Small size(0402&0603)
- -55°C to 125°C Operating Temperature Range
- Operating Voltage Range VM(DC) at 5.5V ~ 38V
- Able to withstand ESD test of IEC-61000-4-2
- Bi-directional Clamping characteristic
- Standard / Low / customized Capacitance Types Available

## ■ APPLICATIONS

- Protection of Cellular phones, PDA, High Speed Data Line...etc.
- ESD Protection for Components Sensitive to IEC 61000-4-2, Provides Circuit Board Transient Voltage Protection for Transistors.
- Protection of Video & Audio Ports.

Unit: mm



Size	0402	0603	0805	1206
L	1.00±0.10	1.60±0.15	2.00±0.20	3.20 ±0.20
W	0.50±0.10	0.80±0.15	1.25±0.20	1.60 ±0.20
T	0.50±0.10	0.80±0.15	0.80±0.20	0.80±0.10* 1.10±0.20**
a	0.25±0.15	0.35±0.15	0.50±0.20	0.65 ± 0.25

Note: \* means VZ1206 5.5Vdc~22Vdc items

\*\* means VZ1206 26Vdc~38Vdc items

## ■ QUICK REFERENCE SPECIFICATIONS

### VH Series

Part Number	Maximum Ratings			Specifications			
	Maximum Continuous Working Voltage	Maximum Non-Repetitive Surge Energy (10/100 $\mu$ s)	Max. Clamping Voltage at Specified Current (8/20 $\mu$ s)	Nominal Voltage at 1mA(DC) Current		Max. Capacitance @ 1MHz	
	VM(DC)	WTM	VC	VN(DC) Min.	VN(DC) Max.	C	
	(V)	(J)	(V)	(V)	(V)	(pF)	%
VH0402M050CGT5R0	5	0.05	55 at 1A	20	30	5	+80/-20%
VH0402M050CGT100	5	0.05	60 at 1A	24	36	10	$\pm$ 30%
VH0402M050CGT220	5	0.05	45 at 1A	15	25	22	$\pm$ 30%
VH0402M050CGT220	5	0.05	45 at 1A	15	25	33	$\pm$ 30%
VH0402M050CGT560	5	0.05	45 at 1A	15	25	56	$\pm$ 30%
VH0402M050CGT101	5	0.05	30 at 1A	11	21	100	$\pm$ 30%
VH0402M120CGT5R0	12	0.05	85 at 1A	33	50	5	+80/-20%
VH0402M120CGT100	12	0.05	70 at 1A	27	42	10	$\pm$ 30%
VH0402M120CGT220	12	0.05	55 at 1A	20	30	22	$\pm$ 30%
VH0402M120CGT330	12	0.05	55 at 1A	20	30	33	$\pm$ 30%
VH0402M120CGT560	12	0.05	55 at 1A	20	30	56	$\pm$ 30%
VH0402M120CGT101	12	0.05	55 at 1A	20	30	100	$\pm$ 30%
VH0402M240CGT0R8	24	0.05	200 at 1A	100	150	0.8~1	$\pm$ 30%
VH0402M240CGT2R5	24	0.05	200 at 1A	100	150	2~4	$\pm$ 30%
VH0603M050CGT5R0	5	0.1	55 at 1A	20	30	5	+80/-20%
VH0603M050CGT100	5	0.1	60at 1A	24	36	10	$\pm$ 30%
VH0603M050CGT220	5	0.1	45 at 1A	15	25	22	$\pm$ 30%
VH0603M050CGT330	5	0.1	45 at 1A	15	25	33	$\pm$ 30%
VH0603M050CGT560	5	0.1	45 at 1A	15	25	56	$\pm$ 30%
VH0603M050CGT101	5	0.1	30 at 1A	11	21	100	$\pm$ 30%
VH0603M120CGT5R0	12	0.1	85 at 1A	33	50	4~9	+80/-20%
VH0603M120CGT100	12	0.1	70 at 1A	27	42	10	$\pm$ 30%
VH0603M120CGT220	12	0.1	55 at 1A	20	30	22	$\pm$ 30%
VH0603M120CGT330	12	0.1	55 at 1A	20	30	33	$\pm$ 30%
VH0603M120CGT101	12	0.1	55 at 1A	20	30	100	$\pm$ 30%
VH0603M240CGT0R8	24	0.1	200 at 1A	100	150	0.8~1	$\pm$ 30%
VH0603M240CGT2R5	24	0.1	200 at 1A	100	150	2~4	$\pm$ 30%

Part Number	Maximum Continuous Working Voltage	Typical ESD Trigger Voltage	Typical ESD clamping Voltage after 30ns	Leakage Current @ VDC	Minimum ESD pulse withstand	Capacitance @ 1MHz
	VM(DC)	VT	Clamp (V)	$\mu$ A	Times	Cp (pF)
VH0402M240CGT0R20	24	150	30	0.05	>2000	0.2-0.1/+0.5
VH0402M240CGT0R05	24	350	50	0.001	>2000	0.05+0.05-0.05
VH0603M240CGT0R20	24	150	30	0.05	>2000	0.2-0.1/+0.5
VH0603M240CGT0R25	24	350	50	0.001	>2000	0.05+0.05-0.05



## ■ QUICK REFERENCE SPECIFICATIONS

### VZ Series

Part Number	Maximum Ratings					Specifications		
	Maximum Continuous Working Voltage		Maximum Non-Repetitive Surge Energy (8/20 $\mu$ s)	Maximum Non-Repetitive Surge Energy (10/1000 $\mu$ s)	Max. Clamping Voltage at Specified Current (8/20 $\mu$ s)	Nominal Voltage at 1mA(DC) Current		Capacitance @ 1MHz
	VM (DC)	VM (AC)	ITM	WTM	VC	VN (DC) Min.	VN (DC) Max.	C
	(V)	(V)	(A)	(J)	(V)	(V)	(V)	(pF)
VZ0402M050AGT	5.5	4	20	0.05	20 at 1A	8.0	11.0	295
VZ0402M090AGT	9	6	20	0.05	23 at 1A	10.2	13.8	190
VZ0402M110AGT	11	8	20	0.05	25 at 1A	12.75	17.25	160
VZ0402M140AGT	14	11	20	0.05	30 at 1A	15.3	20.7	135
VZ0402M180AGT	18	14	20	0.05	40 at 1A	21.6	26.4	93
VZ0603M050AGT	5.5	4	30	0.1	20 at 1A	8.0	11.0	800
VZ0603M090AGT	9	6	30	0.1	23 at 1A	10.2	13.8	680
VZ0603M140AGT	14	11	30	0.1	30 at 1A	15.3	20.7	350
VZ0603M180AGT	18	14	30	0.1	39 at 1A	21.6	26.4	270
VZ0603M260AGT	26	20	30	0.1	54 at 1A	29.7	36.3	200
VZ0603M300AGT	30	25	30	0.1	65 at 1A	35.1	42.9	120
VZ0603M380AGT	38	30	30	0.1	77 at 1A	42.3	51.7	100
VZ0805M050AGT	5.5	4	80	0.1	20 at 1A	8.0	11.0	1600
VZ0805M090AGT	9	6	80	0.1	23 at 1A	10.2	13.8	1180
VZ0805M140AGT	14	10	100	0.2	35 at 1A	15.3	20.7	1180
VZ0805M180AGT	18	14	100	0.2	39 at 1A	21.6	26.4	550
VZ0805M220AGT	22	17	100	0.2	44 at 1A	24.3	29.7	400
VZ0805M260AGT	26	20	100	0.3	54 at 1A	29.7	36.3	350
VZ0805M300AGT	30	25	100	0.3	65 at 1A	35.1	42.9	310
VZ0805M380AGT	38	30	100	0.3	77 at 1A	42.3	51.7	280
VZ0805M450AGT	45	35	80	0.3	90 at 1A	50.4	61.6	195
VZ1206M050AGT	5.5	4	100	0.2	20 at 1A	8.0	11.0	3200
VZ1206M140AGT	14	11	100	0.3	30 at 1A	15.3	20.7	1150
VZ1206M180AGT	18	14	100	0.3	38 at 1A	21.6	26.4	900
VZ1206M220AGT	22	17	100	0.4	44 at 1A	24.3	29.7	840
VZ1206M260AGT	26	20	100	0.5	54 at 1A	29.7	36.3	490
VZ1206M300AGT	30	25	100	0.6	65 at 1A	35.1	42.9	440
VZ1206M380AGT	38	30	100	0.7	77 at 1A	42.3	51.7	400
VZ1206M450AGT	45	35	100	0.8	90 at 1A	50.4	61.6	310
VZ1206M560AGT	56	40	100	1.0	110 at 1A	61.2	74.8	280
VZ1206M650AGT	65	50	100	0.5	135 at 1A	73.8	90.2	240
VZ1206M850AGT	85	60	100	0.6	165 at 1A	90.0	110	160

■ For more information, please contact with local sales representative

■ All specifications are subject to change without notice





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