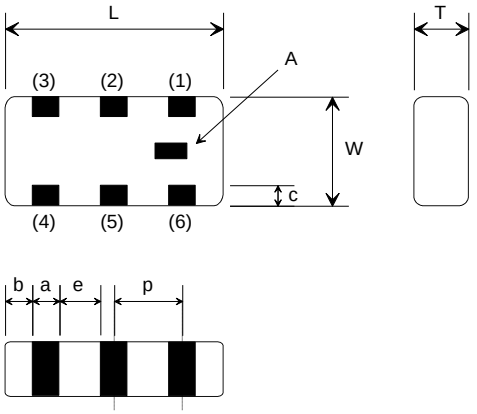
Balance Matching BAND PASS FILTER

1. Characteristics (at -40～＋85 °C)

Tentative Part Number	LFB18868MBG9E212	
Unbalance Port Impedance (Nominal)	50 Ω(Nominal)	
Balance Port Impedance (Nominal)	Conjugate match to TI CC1310	
Center Frequency	f1	863.00 MHz ~ 876.00MHz
	f2	902.00 MHz ~ 928.00MHz
Insertion Loss in BW	1.90 dB max. at 25 °C 2.10 dB max. at -40 ~ +85 °C	
Attenuation (Absolute value)	20.0 dB min. at 1726.00 ~ 1856.00 MHz 40.0 dB min. at 2589.00 ~ 2784.00 MHz 33.0 dB min. at 3452.00 ~ 3712.00 MHz	
Unbalance Port V.S.W.R.in BW.	1.90 max.	
Balance Port V.S.W.R.in BW	2.10 max.	
Amplitude Balance	3.5 dB max	
Phase Differential	180+/-15.0 deg.	
Power Capacity	500 mW max.	

2. Construction, Dimensions & Marking



Mark	Meaning
A	Directional Input Mark

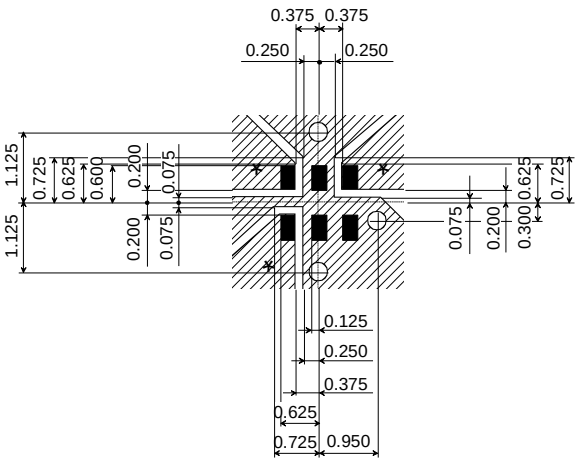
(in mm)

Mark	Dimension	Mark	Dimension	Mark	Dimension
L	1.6±0.1	a	0.2±0.1	e	0.3±0.1
W	0.8±0.1	b	0.20+0.10/-0.15	p	0.50±0.05
T	0.65 max.	c	0.15±0.10	-	-

TERMINAL CONFIGURATION

Terminal No.	Terminal Name	Terminal No.	Terminal Name
(1)	Unbalance Port	(4)	Balance Port
(2)	GND(DC feed)	(5)	GND
(3)	Balance Port	(6)	GND

3. Land Pattern



(in mm)

Land

Solder resist

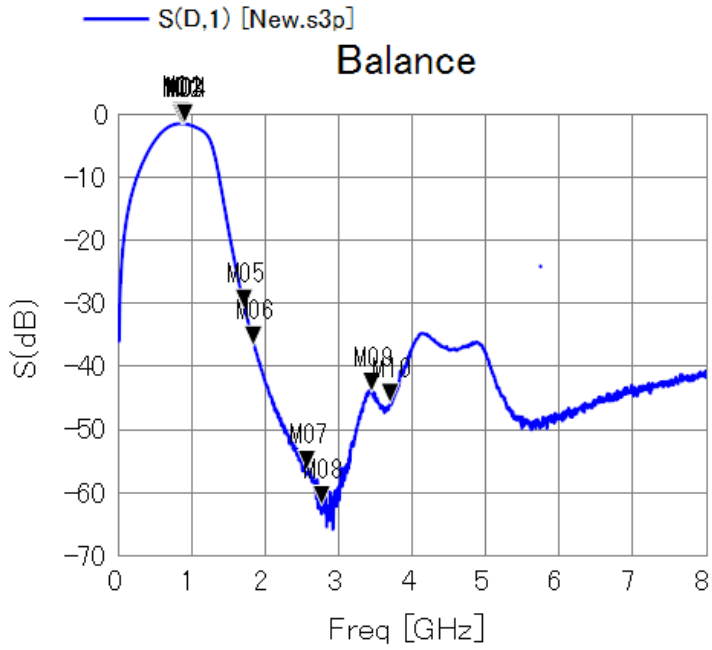
No pattern
Solder resist

Through Hole ϕ0.30

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

■ Measurement S-parameters

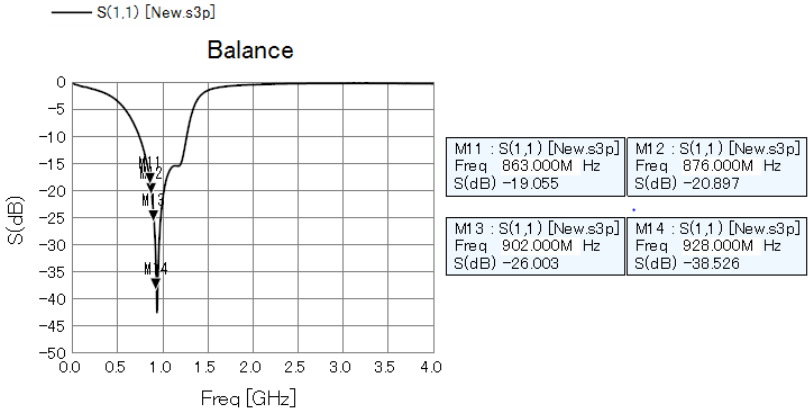
< Insertion Loss &Attenuation >



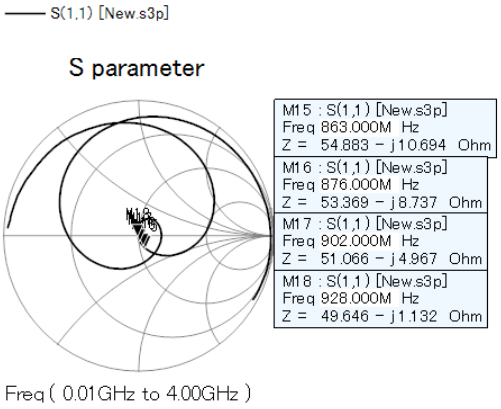
M01 : S(D,1) [New.s3p] Freq 863.000M Hz S(dB) −1.467	M02 : S(D,1) [New.s3p] Freq 876.000M Hz S(dB) −1.478
M03 : S(D,1) [New.s3p] Freq 902.000M Hz S(dB) −1.504	M04 : S(D,1) [New.s3p] Freq 928.000M Hz S(dB) −1.550

M05 : S(D,1) [New.s3p] Freq 1.726G Hz S(dB) −31.012	M06 : S(D,1) [New.s3p] Freq 1.856G Hz S(dB) −36.894
M07 : S(D,1) [New.s3p] Freq 2.589G Hz S(dB) −56.757	M08 : S(D,1) [New.s3p] Freq 2.784G Hz S(dB) −62.270
M09 : S(D,1) [New.s3p] Freq 3.452G Hz S(dB) −44.326	M10 : S(D,1) [New.s3p] Freq 3.712G Hz S(dB) −45.976

< Return Loss & Impedance>

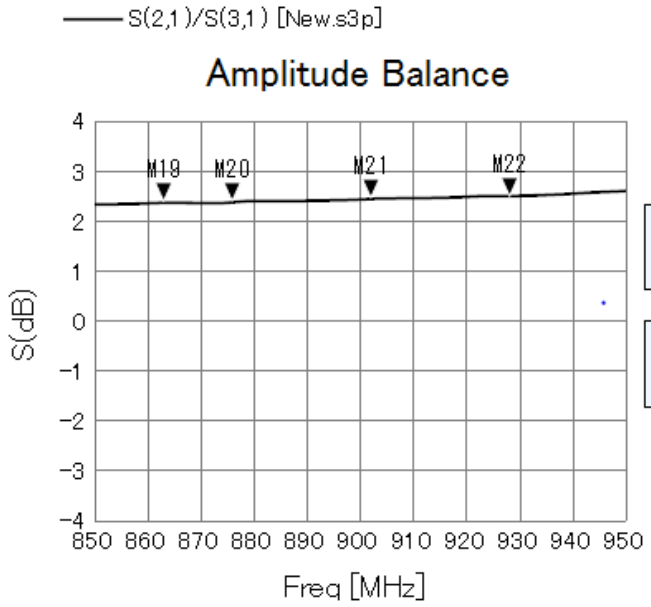


M11 : S(1,1) [New.s3p] Freq 863.000M Hz S(dB) −19.055	M12 : S(1,1) [New.s3p] Freq 876.000M Hz S(dB) −20.897
M13 : S(1,1) [New.s3p] Freq 902.000M Hz S(dB) −26.003	M14 : S(1,1) [New.s3p] Freq 928.000M Hz S(dB) −38.526



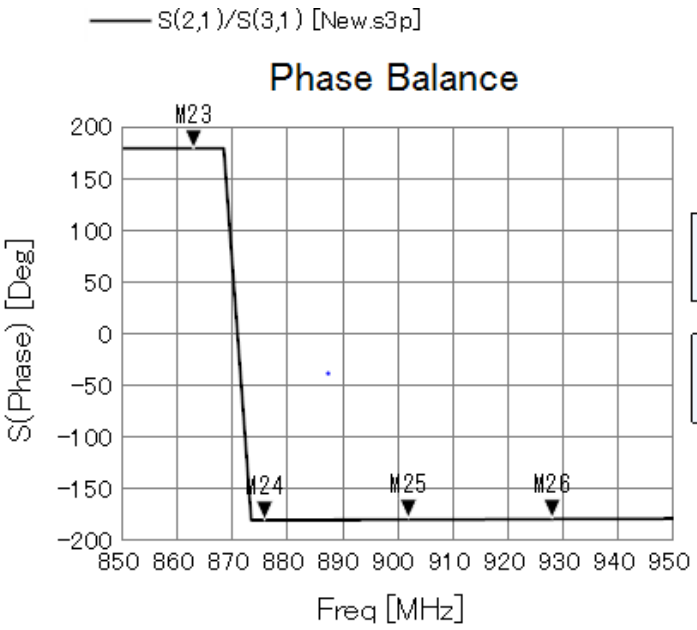
M15 : S(1,1) [New.s3p] Freq 863.000M Hz Z = 54.883 − j10.694 Ohm
M16 : S(1,1) [New.s3p] Freq 876.000M Hz Z = 53.369 − j8.737 Ohm
M17 : S(1,1) [New.s3p] Freq 902.000M Hz Z = 51.066 − j4.967 Ohm
M18 : S(1,1) [New.s3p] Freq 928.000M Hz Z = 49.646 − j1.132 Ohm

< Amplitude Balance >



M19 : S(2,1)/S(3,1) [New.s3p] Freq 863.000M Hz S(dB) 2.387	M20 : S(2,1)/S(3,1) [New.s3p] Freq 876.000M Hz S(dB) 2.397
M21 : S(2,1)/S(3,1) [New.s3p] Freq 902.000M Hz S(dB) 2.464	M22 : S(2,1)/S(3,1) [New.s3p] Freq 928.000M Hz S(dB) 2.520

< Phase Balance >



M23 : S(2,1)/S(3,1) [Nev Freq 863.000M Hz S(Phase) 179.805	M24 : S(2,1)/S(3,1) [New.s3p] Freq 876.000M Hz S(Phase) -179.931
M25 : S(2,1)/S(3,1) [Nev Freq 902.000M Hz S(Phase) -179.520	M26 : S(2,1)/S(3,1) [New.s3p] Freq 928.000M Hz S(Phase) -178.933

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