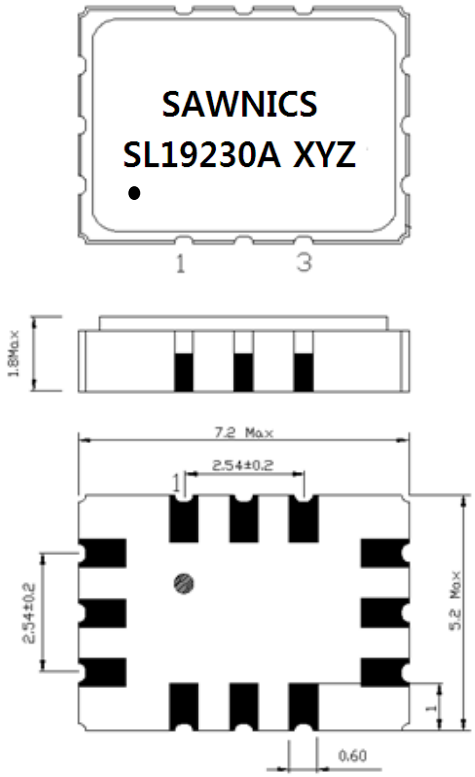
D a t a			**typ. value**		**tolerance / limit**		
Insertion loss (reference level)	a_e		13.0	dB	max.	15.0	dB
Nominal frequency	f_N		-			192,0	MHz
Centre frequency	f_C		192	MHz		-	
Passband	PB		-		f_N ±	15	MHz
Pass band ripple	p-p		0,45	dB	max.	1	dB
Amplitude ripple over any 200kHz of the PB	p-p		0.3	dB	max.	0,4	dB
Bandwidth	BW						
1 dB			33.65	dB	min.	33.5	MHz
40 dB			39.70	dB	max.	42	MHz
Relative attenuation	arel						
f_N … f_N ± 15 MHz			0,45	dB	max.	1	dB
f_N ± 18 MHz … f_N ± 21 MHz			5.5	dB	min.	3	dB
f_N - 90 MHz … f_N - 24 MHz			45	dB	min.	40	dB
f_N + 36 MHz … f_N + 90 MHz			45	dB	min.	40	dB
Group delay			0,73	us	max.	1	us
Group delay ripple within PB	p-p		30	ns	max.	80	ns
Group delay ripple over any 200kHz of the PB	p-p		25	ns	max.	35	ns
Return loss			10		min.	7	dB
Input power level			-		max.	18	dBm
Operating temperature range	OTR		-		- 40 °C ... + 85 °C		
Storage temperature range			-		- 40 °C ... + 85 °C		
Temperature coefficient of frequency	TCf	**	-86	ppm/K		-	

❒ Package Dimensions

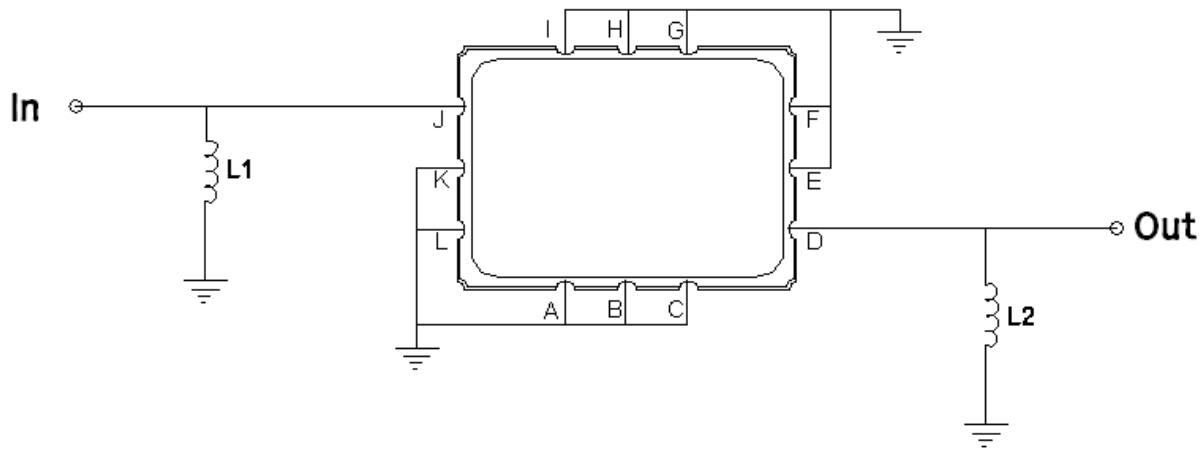
FS-192B33.pdf



Pin Description	
A,B,C,E,F,G,H,I,K,L	Ground
J	Input +
L	Input – or Ground
D	Output +
F	Output – or Ground

① SAWNICS: Brand
② SL19230A: Model Name
③ X : Date Code (Year)
④ Y : Date Code (Month)
⑤ Z : Date Code (Date)
● : Index Dot

❒ Testing Environment

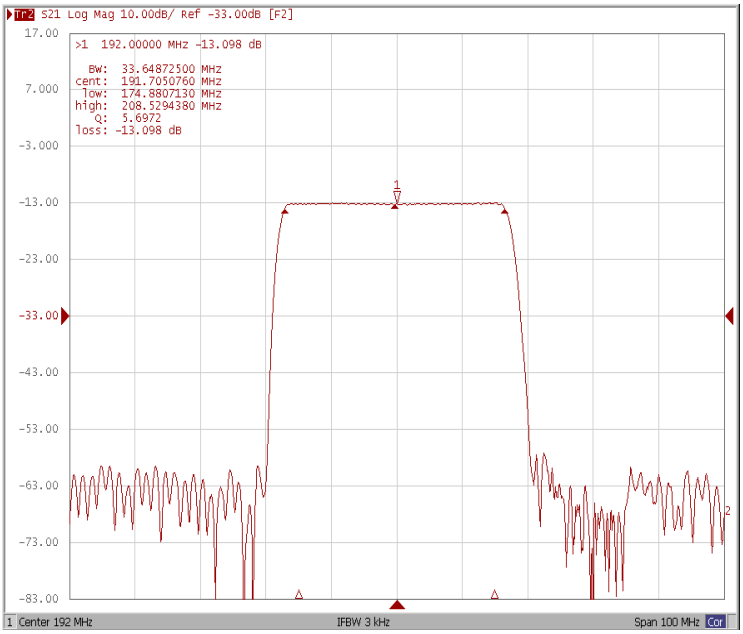


Test Fixture & Values	
Input	L1=33 nH
Output	L2=33 nH
Source/Load Impedance	50 Ω

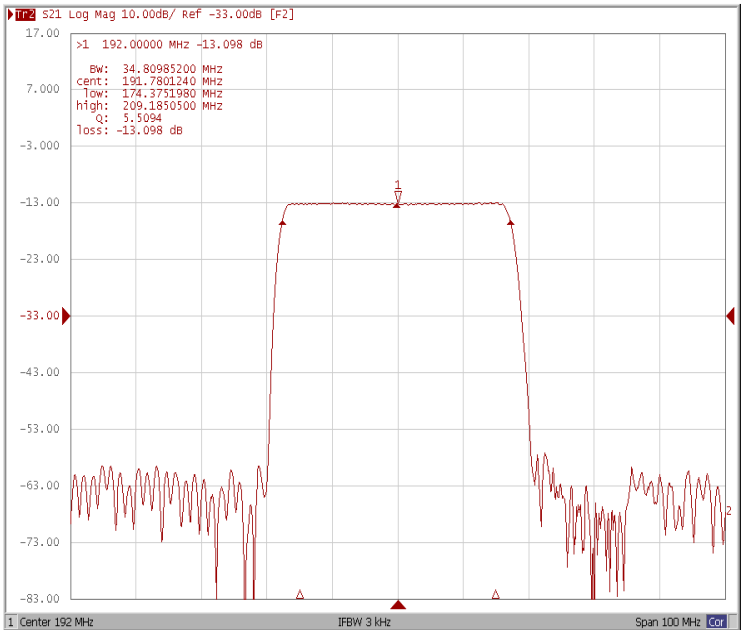
❒ Frequency Characteristics

Frequency Response

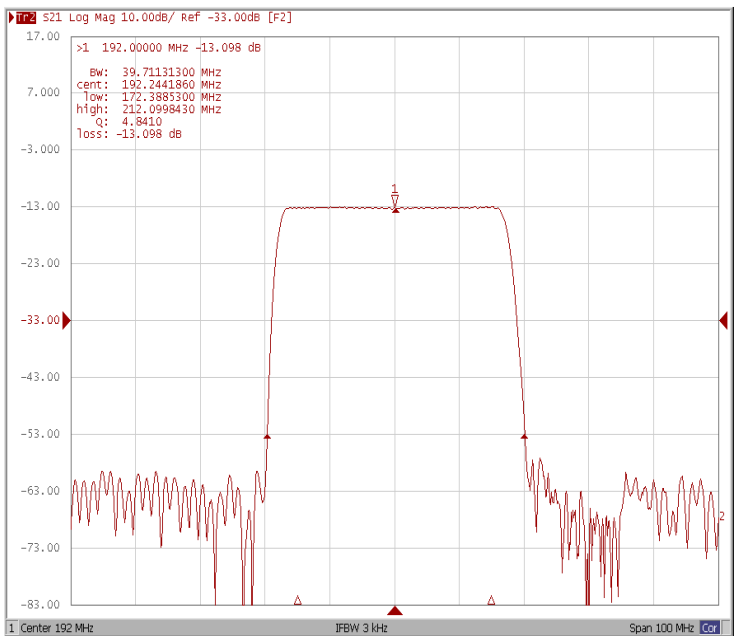
Bandwidth at –1.0 dB



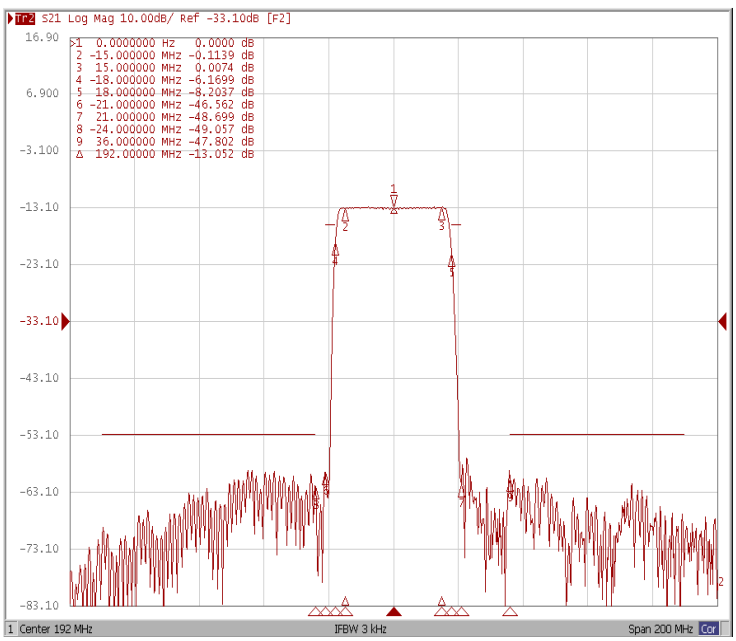
Bandwidth at –3.0 dB



Bandwidth at –40.0 dB



Relative Attenuation

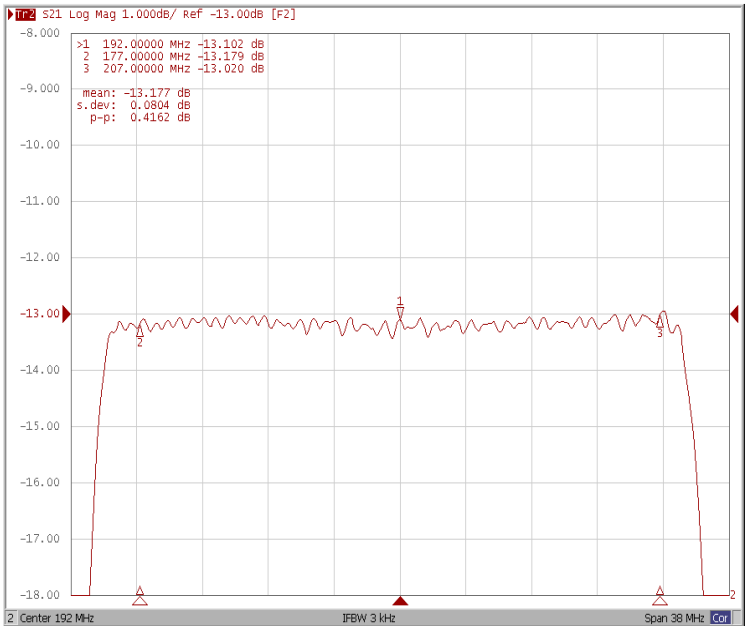


❒ Frequency Characteristics

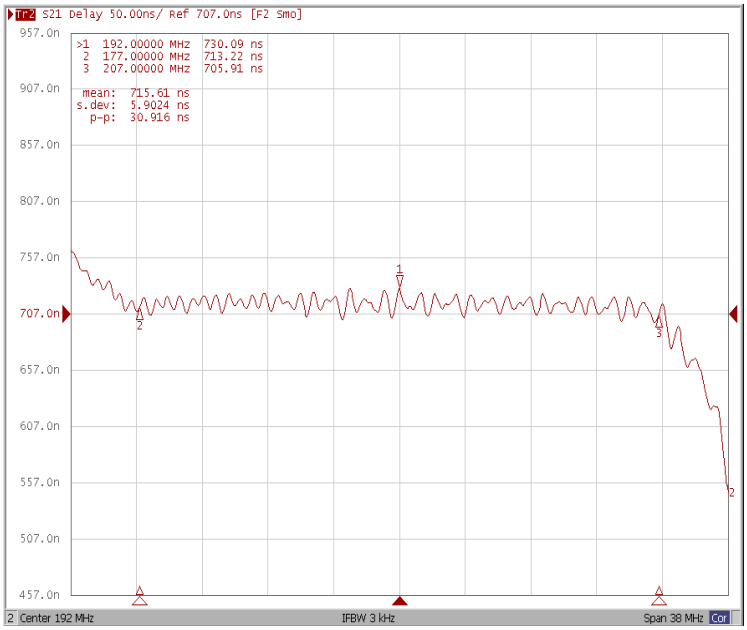
FS-192B33.pdf

Frequency Response

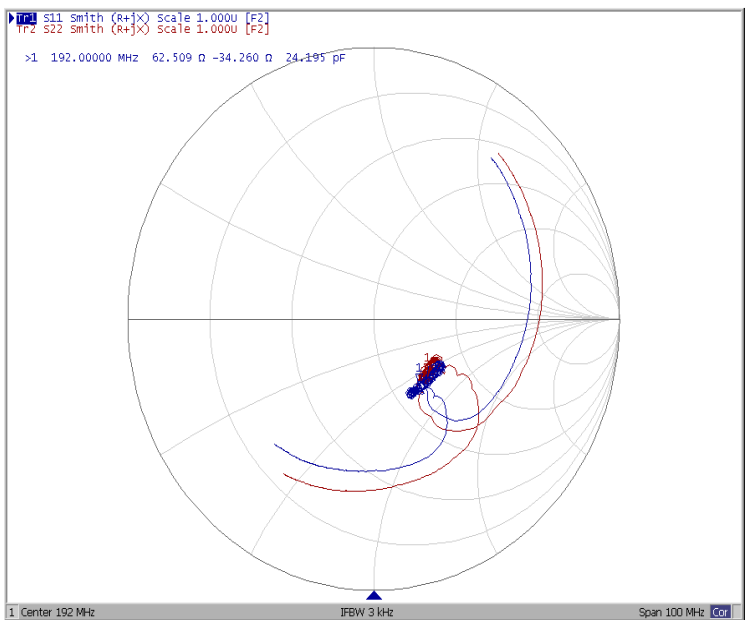
Ripple Variation at Fo ±15.0MHz



Ripple Variation at Fo ±15.0MHz



Smith Chart



Return Loss