

Frequency Synthesizer

TSN-EDR10938/1

Typical Performance Data

FREQ. (MHz)	POWER OUTPUT (dBm)			HARMONICS						VCO CURRENT (mA)			PLL CURRENT (mA)		
				(dBc)											
	F2			F3											
-45 °C	+25°C	+85 °C	-45 °C	+25°C	+85 °C	-45 °C	+25°C	+85 °C	-45 °C	+25°C	+85 °C	-45 °C	+25°C	+85 °C	
1950	14.07	14.15	14.09	-38.48	-38.84	-41.02	-33.08	-33.46	-33.97	57.24	59.02	59.42	9.47	10.41	11.81
1970	14.04	14.07	14.02	-33.23	-34.25	-36.22	-33.97	-34.74	-34.54	57.38	59.13	59.51	9.53	10.48	11.88
1990	13.96	14.02	13.97	-37.51	-37.28	-39.39	-34.74	-34.37	-34.97	57.56	59.28	59.62	9.59	10.53	11.94
2010	13.98	14.05	14.00	-32.13	-32.29	-34.36	-33.35	-32.79	-33.64	57.76	59.41	59.73	9.40	10.33	11.74
2030	14.14	14.21	14.15	-34.98	-34.74	-36.03	-33.30	-34.49	-35.37	57.83	59.41	59.70	9.52	10.45	11.86
2050	14.29	14.38	14.30	-32.88	-32.73	-34.90	-33.77	-34.30	-35.32	57.74	59.28	59.56	9.58	10.52	11.93
2070	14.28	14.38	14.29	-33.74	-33.78	-35.82	-33.17	-33.96	-34.52	57.80	59.32	59.57	9.63	10.58	11.99
2090	14.26	14.34	14.24	-32.28	-32.61	-34.04	-34.26	-34.86	-35.81	57.85	59.38	59.64	9.47	10.41	11.81
2110	14.43	14.49	14.37	-30.30	-30.23	-31.98	-36.66	-36.04	-36.34	57.67	59.23	59.50	9.59	10.52	11.94
2130	14.62	14.68	14.53	-33.53	-33.25	-35.53	-35.76	-35.77	-34.86	57.40	58.93	59.22	9.66	10.59	12.01
2150	14.64	14.70	14.53	-29.54	-30.82	-31.91	-34.88	-34.93	-34.38	57.28	58.80	59.10	9.71	10.65	12.06
2170	14.55	14.61	14.42	-32.54	-32.70	-34.90	-35.79	-35.46	-34.75	57.35	58.85	59.15	9.53	10.46	11.86
2190	14.67	14.70	14.48	-30.23	-31.29	-32.66	-37.33	-37.51	-35.95	57.11	58.63	58.98	9.65	10.57	11.98
2210	14.72	14.74	14.46	-31.41	-31.95	-34.23	-37.69	-36.50	-34.53	56.83	58.35	58.81	9.71	10.65	12.06
2230	14.62	14.62	14.3	-33.51	-34.3	-36.74	-36.68	-35.03	-32.93	56.82	58.35	58.85	9.76	10.69	12.11
2250	14.54	14.52	14.17	-30.86	-32.79	-34.84	-35.82	-33.17	-32.28	56.78	58.34	58.9	9.59	10.52	11.93
2280	14.46	14.40	14.01	-31.55	-33.31	-35.60	-36.06	-32.56	-31.86	56.63	58.29	58.93	9.74	10.67	12.09

FREQ. (MHz)	PHASE NOISE (dBc/Hz) @ OFFSETS														
	-45 °C					+25 °C					+85 °C				
	100Hz	1kHz	10kHz	100kHz	1MHz	100Hz	1kHz	10kHz	100kHz	1MHz	100Hz	1kHz	10kHz	100kHz	1MHz
1950	-90.33	-101.24	-101.01	-120.39	-142.98	-92.16	-102.08	-101.87	-120.88	-142.98	-88.55	-99.99	-101.44	-120.89	-144.45
1970	-89.20	-99.57	-102.94	-118.53	-143.02	-88.16	-99.29	-101.11	-120.80	-144.24	-89.03	-97.70	-101.06	-121.05	-144.41
1990	-89.07	-100.76	-102.53	-118.92	-143.47	-89.34	-98.79	-101.13	-120.91	-144.25	-92.43	-100.12	-100.45	-120.92	-144.33
2010	-90.88	-101.29	-102.23	-119.35	-143.47	-89.75	-99.85	-100.96	-120.97	-144.41	-90.37	-99.13	-100.67	-120.86	-144.44
2030	-88.88	-99.63	-101.83	-119.63	-143.52	-91.86	-100.78	-100.63	-121.15	-144.49	-88.94	-98.94	-100.51	-120.95	-144.35
2050	-87.65	-101.53	-101.85	-119.82	-143.86	-87.44	-100.56	-100.39	-120.87	-144.52	-90.19	-100.33	-100.14	-120.73	-144.21
2070	-89.30	-100.88	-101.87	-119.85	-144.03	-91.93	-99.89	-100.18	-121.11	-144.60	-89.62	-98.16	-99.83	-120.67	-144.01
2090	-89.70	-100.36	-101.96	-119.99	-144.14	-89.54	-100.74	-100.02	-121.10	-144.73	-90.02	-99.23	-99.14	-120.95	-144.16
2110	-90.09	-98.66	-101.15	-120.42	-144.24	-86.86	-97.33	-99.09	-121.57	-144.41	-91.95	-98.79	-98.77	-121.11	-143.99
2130	-88.79	-98.57	-99.37	-120.83	-144.25	-88.56	-96.80	-98.01	-121.48	-144.39	-89.86	-97.73	-98.37	-120.86	-143.53
2150	-87.80	-96.99	-98.84	-121.03	-144.27	-92.19	-96.48	-98.39	-121.25	-144.13	-89.06	-98.05	-98.75	-120.62	-143.47
2170	-89.17	-97.91	-99.74	-121.17	-144.49	-87.30	-98.72	-99.20	-121.34	-144.44	-89.02	-99.02	-98.62	-120.76	-143.46
2190	-87.47	-96.87	-98.63	-121.07	-144.13	-88.37	-97.65	-98.55	-121.21	-143.80	-92.02	-96.39	-97.85	-120.70	-143.10
2210	-89.02	-97.87	-98.21	-120.9	-143.7	-90.4	-96.12	-97.9	-121.07	-143.6	-91.13	-95.26	-96.66	-120.6	-142.8
2230	-89.55	-97.07	-98.50	-120.94	-143.79	-89.70	-97.08	-97.11	-121.32	-143.54	-89.34	-95.27	-95.40	-120.98	-142.96
2250	-87.91	-96.38	-97.69	-121.01	-143.41	-87.64	-95.32	-96.00	-121.43	-143.12	-88.36	-93.86	-95.09	-120.93	-142.57
2280	-85.88	-96.48	-96.19	-120.85	-142.87	-89.05	-92.45	-94.57	-121.32	-142.61	-88.77	-92.82	-93.57	-120.83	-142.11

Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
 B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
 C. The parts covered by this specification document are subject to Mini-Circuits' standard limited warranty and terms and conditions (collectively, "Standard Terms"). Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCStore/terms.jsp



Typical Performance Data

COMPARISON SPURIOUS ORDER	COMPARISON & REFERENCE SPURIOUS @F _{carrier} 1970 MHz± (n*F _{comparison}) (dBc) NOTE 1			COMPARISON & REFERENCE SPURIOUS @F _{carrier} 2110 MHz± (n*F _{comparison}) (dBc) NOTE 1			COMPARISON & REFERENCE SPURIOUS @F _{carrier} 2250 MHz± (n*F _{comparison}) (dBc) NOTE 1		
	-45 °C	+25°C	+85 °C	-45 °C	+25°C	+85 °C	-45 °C	+25°C	+85 °C
-5	-95.81	-100.15	-97.13	-106.51	-100.18	-103.98	-103.43	-106.75	-121.38
-4	-97.27	-100.83	-97.68	-108.95	-99.44	-104.02	-103.94	-107.62	-121.04
-3	-96.86	-105.67	-98.06	-116.73	-101.22	-103.88	-105.03	-115.04	-116.11
-2	-98.69	-102.49	-97.78	-106.13	-104.15	-100.36	-101.40	-116.15	-113.01
-1	-94.11	-93.24	-101.18	-101.09	-95.62	-91.61	-99.96	-96.13	-95.05
0 ^{note 2}	-	-	-	-	-	-	-	-	-
+1	-111.91	-108.06	-95.21	-97.03	-106.17	-100.94	-99.97	-101.98	-101.27
+2	-99.30	-103.98	-99.31	-99.54	-105.10	-112.17	-102.34	-115.68	-114.71
+3	-102.23	-104.40	-101.00	-101.04	-103.36	-120.63	-104.69	-122.85	-108.15
+4	-100.24	-99.20	-100.49	-99.63	-101.18	-112.88	-103.22	-109.59	-105.57
+5	-99.76	-99.12	-98.84	-98.72	-102.30	-108.40	-103.25	-118.29	-104.96

Note 1: Comparison & Reference frequency 10 MHz

Note 2: All spurs are referenced to carrier signal (n=0).

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