

Listing of Standard SAW Hybrid Oscillators

Model No.	Center Freq. (MHz)	Tuning BW (KHz) Nom. (See note 1)	SAW Delay (USec)	Nominal Inflection Temperature (°C)	Case Style (See note 2)
SO-80.7-400-0.6	80.7	400	0.6	25	B
SO-100.00-1000-0.55	100.00	1000	0.55	25	B
SO-104.00-400-1.33	104.00	400	1.33	0	B
SO-104.50-400-1.33	104.50	400	1.33	0	B
SO-125.00-200-1.3	125.00	200	1.3	25	B
SO-137.10-200-1.0	137.10	200	1.0	25	B
SO-140.00-100-1.0	140.00	100	1.0	25	B
SO-143.00-400-1.3	143.00	400	1.3	0	B
SO-154.80-600-0.8	154.80	600	0.8	25	B
SO-162.50-400-0.6	162.5	400	0.6	25	B
SO-180.00-700-0.66	180.00	700	0.66	25	B
SO-187.75-600-0.66	187.75	600	0.66	25	B
SO-200.00-1000-0.55	200.00	1000	0.55	25	B
SO-239.616-400-1.0	239.616	400	1.0	25	B
SO-240-450-0.8	240.00	450	0.8	25	B
SO-254.70-100-1.0	254.70	100	1.0	25	B
SO-270-500-1.0	270.00	500	1.0	25	B
SO-278.52-400-0.6	278.52	400	0.6	25	B
SO-300.00-300-1.3	300.00	300	1.3	0	B
SO-303.87-400-1.33	303.87	400	1.33	0	B
SO-310-1000-0.6	310.00	1000	0.6	25	B
SO-311-600-0.66	311.00	600	0.66	25	B
SO-314.00-500-0.8	314.00	500	0.8	0	B
SO-320-100-1.5	320.00	100	1.5	25	B
SO-350.00-700-0.6	350.00	700	0.6	25	B
SO-353.18-40-2.0	353.18	40	2.0	25	Custom
SO-357.18-0-1.0	357.18	400	1.0	0	B
SO-360-1000-0.6	360.00	1000	0.6	25	B
SO-377.00-700-0.6	377.00	700	0.6	25	B
SO-377.59-1000-0.6	377.59	1000	0.6	25	B
SO-392.81-200-1.0	392.81	200	1.0	25	B
SO-397.2-200-1.0	397.2	200	1.0	25	B
SO-400.00-400-1.5	400.00	400	1.5	25	B
SO-410.00-200-1.0	410.00	200	1.0	25	B
SO-425.5-200-0.6	425.5	200	0.6	25	B
SO-445-400-0.6	445.00	400	0.6	25	B
SO-445.8-200-1.0	445.8	200	1.0	25	B
SO-450-400-0.6	450.00	400	0.6	25	B

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SO-476.00-200-1.0	476.00	200	1.0	25	B
SO-495-400-0.6	495.00	400	0.6	25	B
SO-497.3-400-0.6	497.3	400	0.6	25	B
SO-500.00-400-1.0	500.00	400	1.0	25	B
SO-503.6-300-0.6	503.6	300	0.6	25	B
SO-512.00-300-1.33	512.00	300	1.33	0	B
SO-512.00-500-0.83	512.00	500	0.83	25	B
SO-515.00-400-0.06	515.00	400	0.6	0	B
SO-540.00-400-1.0	540.00	400	1.0	25	B
SO-545.00-400-0.6	545.00	400	0.6	0	B
SO-548.35-520-0.6	548.35	520	0.6	25	B
SO-550.00-400-1.0	550.00	400	1.0	25	B
SO-564.99-400-1.0	564.99	400	1.0	25	B
SO-570.48-200-1.0	570.48	200	1.0	25	B
SO-595.20-500-1.0	595.20	500	1.0	25	B
SO-595.40-300-1.0	595.40	300	1.0	25	B
SO-599.44-400-1.0	599.44	400	1.0	25	B
SO-600.00-1000-0.5	600.00	1000	0.5	25	B
SO-600.30-300-1.0	600.30	300	1.0	25	B
SO-604.00-400-1.0	604.00	400	1.0	25	B
SO-607.5-400-0.6	607.5	400	0.6	25	B
SO-615-400-0.6	615.0	400	0.6	25	B
SO-622.08-300-0.6	622.08	300	0.6	25	B
SO-622.5-400-0.6	622.5	400	0.6	25	B
SO-630-400-0.6	630.0	400	0.6	25	B
SO-637.5-400-0.6	637.5	400	0.6	25	B
SO-638.40-250-1.0	638.40	250	1.0	25	B
SO-645-400-0.6	645.00	400	0.6	25	B
SO-652.5-400-0.6	652.5	400	0.6	25	B
SO-661.4-400-0.6	661.4	400	0.6	25	B
SO-662.08-400-0.6	662.08	400	0.6	25	B
SO-670.00-400-1.0	670.00	400	1.0	0	B
SO-676.80-250-1.0	676.80	250	1.0	25	B
SO-680.00-400-1.0	680.00	400	1.0	25	B
SO-690.0-200-1.0	690.00	200	1.0	25	B
SO-695-400-0.6	695.00	400	0.6	25	B
SO-700.00-600-0.66	700.00	600	0.66	25	V

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SO-705.67-700-0.5	705.67	700	0.5	25	V
SO-707.17-700-0.5	707.17	700	0.5	25	V
SO-716.80-500-1.0	716.80	500	1.0	25	V
SO-717.00-500-1.0	717.00	500	1.0	25	V
SO-717.30-500-1.0	717.30	500	1.0	25	V
SO-724.80-250-1.0	724.80	250	1.0	25	V
SO-725.00-400-1.0	725.00	400	1.0	25	V
SO-728.00-300-1.0	728.00	300	1.0	25	V
SO-745-400-0.6	745.00	400	0.6	25	V
SO-763.84-300-1.0	763.84	300	1.0	25	V
SO-775.0-300-1.0	775.00	300	1.0	25	V
SO-777-300-1.0	777.00	300	1.0	25	V
SO-787.00-300-1.0	787.00	300	1.0	25	V
SO-833.7-400-0.6	833.7	400	0.6	25	V
SO-850.0-400-1.0	850.0	400	1.0	25	V
SO-850.1-400-0.6	850.1	400	0.6	25	V
SO-860-300-1.2	860.00	300	1.2	25	V
SO-862.5-350-1.0	862.5	350	1.0	25	V
SO-878.5-400-0.66	878.5	400	0.66	25	V
SO-889-400-0.6	889.00	400	0.6	25	V
SO-917.25-200-1.0	917.25	200	1.0	25	V
SO-918-400-0.6	918.00	400	0.6	25	V
SO-930.0-300-1.00	930.0	300	1.00	25	V
SO-950.244-350	950.244	350	1.0	25	V
SO-966-300-1.0	966.00	300	1.0	25	V
SO-989.5-500-0.6	989.5	500	0.6	25	V
SO-1000.00-400-1.0	1000.00	400	1.0	25	V
SO-1024.00-300-1.0	1024.00	300	1.0	25	V
SO-1030.00-400-1.0	1030.00	400	1.0	25	V
SO-1090.00-400-1.0	1090.00	400	1.0	25	V
SO-1114.11-400-0.6	1114.11	400	0.6	25	V
SO-1250.0-400-0.6	1250.0	400	0.6	25	B
SO-1280-400-0.6	1280.0	400	0.6	25	Y
SO-1667.52-1000-0.66	1667.52	1000	0.66	25	Y
SO-1700-1500-1.0	1700.0	1500	1.0	25	Y
SO-2400-1500-1.0	2400.0	1500	1.0	25	Y
SO-2488-1000-0.6	2488.0	1000	0.6	25	Y

NOTES

1. Tuning BW (KHz) Nom. — All models available as either fixed frequency or VCO.
2. Oscillators specified in Case V (flatpak) are available in Case B and Case B units are also available in Case V.
3. Case Y is also available without connector. It is designated as Case Z.
4. Case V (flatpak) is also available with mounting flanges.

For $M \geq 1$, approximately 99% of the signal power is retained in the bandlimited signal and the required VCO bandwidth is given by $BW = 2f_m (M + 1) = 2 (\Delta f + f_m)$. For only 95% of the signal power to be retained in the bandlimited signal the bandwidth is approximated by $BW = 2f_m (M) = 2\Delta f$.

For example, a requirement for a deviation frequency (Δf) of 200 KHz modulated at a 100 KHz rate (f_m), the necessary VCO bandwidth is 600 KHz to retain 99% of the signal power. If a 4% decrease in signal power can be tolerated, the necessary VCO bandwidth becomes 400 KHz. Modulation frequency, deviation, and signal power, therefore, should be considered when specifying an FM VCO requirement.

For $M \geq 5$ (when the modulation frequency is much less than the required frequency deviation) the

required VCO bandwidth can be approximated by $BW = 2\Delta f$, with less than .1% reduction in signal power.

For other than sinusoidal modulation, the required modulation bandwidth is determined by the frequency spectrum of the base band modulation. Generally, the above bandwidth relationships hold true and the specified modulation bandwidth and deviation must be consistent with the available VCO bandwidth.

Packaging

Standard package outlines for Andersen oscillator products are shown in Figure 13 below and on next page. Various configurations and sizes can be designed depending on individual requirements.

FIGURE 13 Standard SAW Oscillator Outline Drawing

