1. Device Name TCXO
2. Model Name DSB535SG
3. Nominal Frequency 32.512 MHz
4. Weight 0.08g max.
5. Absolute Maximum Value

	Item	Symbol	Rating	Unit
1	Supply Voltage	V_{CC}	-0.3 ~ +6.0	V
2	Storage Temperature Range	$T_{_STG}$	-40 ~ +85	°C

6. Recommended Operating Conditions

	Item	Symbol	min.	typ.	max.	Unit
1	Supply Voltage	V_{CC}	+3.135	+3.3	+3.465	V
2	Output Enable 1. "L" level	V_{IL}	–	–	V_{CC}x0.3	V
	2. "H" level	V_{IH}	V_{CC}x0.7	–	–	V
3	Operable Temperature Range	$T_{_OPR}$	-40	–	+85	°C
4	Load impedance (resistance part)	$L_{_CMOS}$	–	15	–	pF

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TCXO SPECIFICATION			
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7. Electrical Characteristics

(T_A =-40 ~ +85 °C, $L_{_CMOS}$ =15pF, V_{CC}=+3.3V, Output Enable="H"or "Open" unless otherwise noted)

	Item	Conditions	Limits			Unit	Notes
			min.	typ.	max.		
1	Current consumption		–	–	4.0	mA	
2	Output						1
	1. Rise Time	V_{CC}x0.1 ~ V_{CC}x0.9	–	–	7	ns	
	2. Fall Time	V_{CC}x0.9 ~ V_{CC}x0.1	–	–	7	ns	
	3. Low Level		–	–	V_{CC}x0.1	V	
	4. High Level		V_{CC}x0.8	–	–	V	
	5. Symmetry	V_{CC}x0.5 Level	40/60	50	60/40	%	
3	Frequency Stability						
	1.Tolerance	After 2 times reflow(T_A = +25 °C)	–	–	±1.50	ppm	2,3
	2.vs Temperature	T_A =-40 ~ +85 °C	–	–	±0.30	ppm	4
	3.vs Slope		–	–	±0.10	ppm	
	4.vs Supply Voltage	V_{CC}=+3.3V±5%	–	–	±0.10	ppm	
	5.vs Load Variation	$L_{_CMOS}$ =15pF ±5%	–	–	±0.10	ppm	
	6.vs Aging	T_A = Room ambient	–	–	±0.70	ppm/1years	
		T_A = Room ambient	–	–	±1.30	ppm/3years	
		T_A = Room ambient	–	–	±2.50	ppm/10years	
4	Start up time	@90% of Final Vout level	–	–	2.0	ms	
5	SSB Phase Noise	Relative to F0 Level Offset 100Hz	–	–	-108	dBc/Hz	
		Relative to F0 Level Offset 1kHz	–	–	-132	dBc/Hz	5
		Relative to F0 Level Offset 10kHz	–	–	-148	dBc/Hz	
		Relative to F0 Level Offset 100Hz	–	–	-110	dBc/Hz	
		Relative to F0 Level Offset 1kHz	–	–	-135	dBc/Hz	6
		Relative to F0 Level Offset 10kHz	–	–	-148	dBc/Hz	

Notes

1. CMOS Output
2. Ref. to Nominal Frequency.
3. Please leave after Reflow in 2-hour or more at room ambient.
4. Ref. to Frequency(T_A=+25 °C)
5. Standerd mode : without VC_FILTER (terminal #7 : N.C.)
6. Shipping optional function : Extra low phase noise mode with external VC_Filter (terminal #7 : C_{VC} = 0.033uF)

INSPECTION DATA

USER : Shanghai Winson Electronics
Type : DSB535SG
Freq. : 32.512 MHz

S.C.No. : ZC04969
Date : 2010.03.11

No.	Frequency	Frequency Stability								Low Level	High Level	Rise Time	Fall Time	Symmetry	Current Consumption
		Tolerance Ref:Nomina	vs. Vcc Ref : Vcc=+3.3V		vs. Temperature Ref : +25℃							10 ~ 90%Vdd		50%Vdd	
		Frequency	+3.135V	+3.465V	-40℃	+0℃	+50℃	+85℃		V_{OL}	V_{OH}	Tr	Tf		
	[MHz]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]	[ppm]		[V]	[V]	[ns]	[ns]	[%]	[mA]
1	32.511994	-0.17	+0.01	+0.01	+0.08	+0.12	+0.14	+0.04		+0.03	+3.25	2.6	2.6	51.9	3.94
2	32.511995	-0.15	-0.01	+0.03	+0.03	+0.16	+0.16	-0.07		+0.03	+3.25	2.6	2.5	52.0	3.93
3	32.512008	+0.24	+0.00	+0.02	+0.15	+0.09	+0.13	-0.02		+0.03	+3.25	2.6	2.6	51.8	3.97
4	32.512008	+0.23	-0.02	+0.03	+0.00	+0.07	+0.11	-0.05		+0.03	+3.25	2.6	2.6	52.1	3.97
5	32.512008	+0.26	-0.01	+0.03	+0.02	+0.06	+0.07	-0.04		+0.03	+3.25	2.5	2.6	51.9	3.95
6	32.511992	-0.25	-0.02	+0.04	+0.02	+0.14	+0.13	-0.02		+0.03	+3.25	2.5	2.5	52.0	3.41
7	32.512004	+0.12	+0.00	+0.02	+0.11	+0.12	+0.09	-0.07		+0.03	+3.25	2.6	2.6	51.9	3.98
8	32.511995	-0.15	+0.00	+0.01	-0.00	+0.08	+0.10	+0.04		+0.03	+3.25	2.6	2.6	51.8	3.97
9	32.511994	-0.18	-0.01	+0.03	+0.09	+0.13	+0.11	-0.01		+0.03	+3.25	2.6	2.5	52.1	3.64
10	32.512004	+0.13	+0.02	+0.00	-0.10	+0.15	+0.15	+0.09		+0.03	+3.25	2.6	2.7	52.0	3.98

Remark : Ta=+25℃, Load=15pF, Vcc=+3.3V, Vcont=1.5V, Output Enable="H" or "Open" unless otherwise noted.
Measurement Circuits : Refer to Spec sheets.

Equipment : Oscilloscope : Agilent MSO8104A
Probe : TEK P6243

Approve	Check	Test
M. Yamashita		S. Sakamoto

DAISHINKU CORP.