1. Device Name VC-TCXO
2. Model Name DSA535SD
3. Nominal Frequency 20.000 MHz
4. Mass 0.08g max.
5. Absolute Maximum Ratings

	Item	Symbol	Rating	unit
1	Supply Voltage	V_{CC}	-0.3 ~ +6.0	V
2	Storage Temperature Range	$T_{_STR}$	-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	Load impedance (resistance part)	$L_{OAD_}R$	9	10	11	kΩ
	(parallel capacitance)	$L_{OAD_}C$	9	10	11	pF
3	Control Voltage Range	V_{CONT}	+0.5	+1.5	+2.5	V
4	Operable Temperature Range	$T_{_OPR}$	-40	-	+85	°C

7. Electrical Characteristics

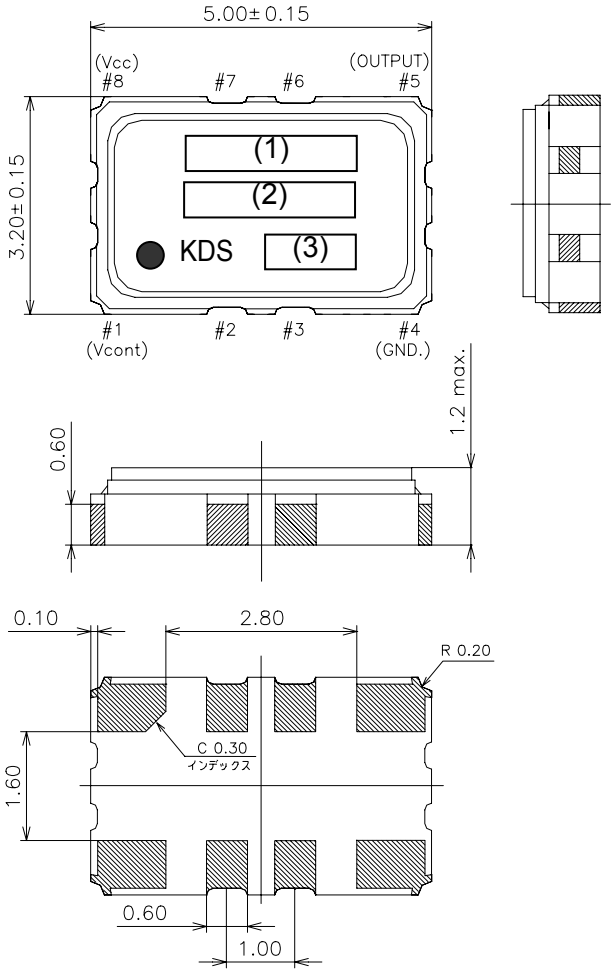
(T_A =-40 ~ +85 °C, $L_{OAD_}R//C$ =10kΩ//10pF,V_{CC}=+3.3V, V_{CONT}=+1.5V unless otherwise noted)

	Item	Conditions	Limits			unit	Notes
			min.	typ.	max.		
1	Current consumption		-	-	1.7	mA	
2	Output Level		0.8	-	-	V_{P-P}	1
3	Symmetry	GND level (DC-cut)	40/60	-	60/40	%	
4	Frequency Stability						
	1.Tolerance	After 2 times reflow (T_A =+25 °C)	-	-	±1.5	ppm	2,3
	2.vs Temperature	T_A =-40 ~ +85 °C	-	-	±0.5	ppm	4
	3.vs Supply Voltage	V_{CC}=+3.3V±5%	-	-	±0.2	ppm	
	4.vs Load Variation	$L_{OAD_}R//C$ =(10kΩ//10pF)±10%	-	-	±0.2	ppm	
	5.vs. Aging	T_A= Room ambient	-	-	±1.0	ppm/year	
5	Start up	@90% of Final V_{OUT} level	-	-	2.0	ms	
6	Frequency Control						
	1.Control Range	V_{CONT}=+1.5±1.0V	±3.0	-	±5.0	ppm	5
	2.Input Resistance		500	-	-	kΩ	
7	SSB Phase Noise	Relative to f0 level offset 1kHz	-	-	-135	dBc/Hz	

Notes
1. Clipped sine wave (DC-coupled)
2. Ref. to Nominal Frequency.
3. Please leave after Reflow in 2h or more at room ambient
4. Ref. to Frequency (T_A=+25 °C)
5. Positive slope (Frequency becomes high in proportion to frequency control voltage.)

8. Outline, Pin Connections

Outline



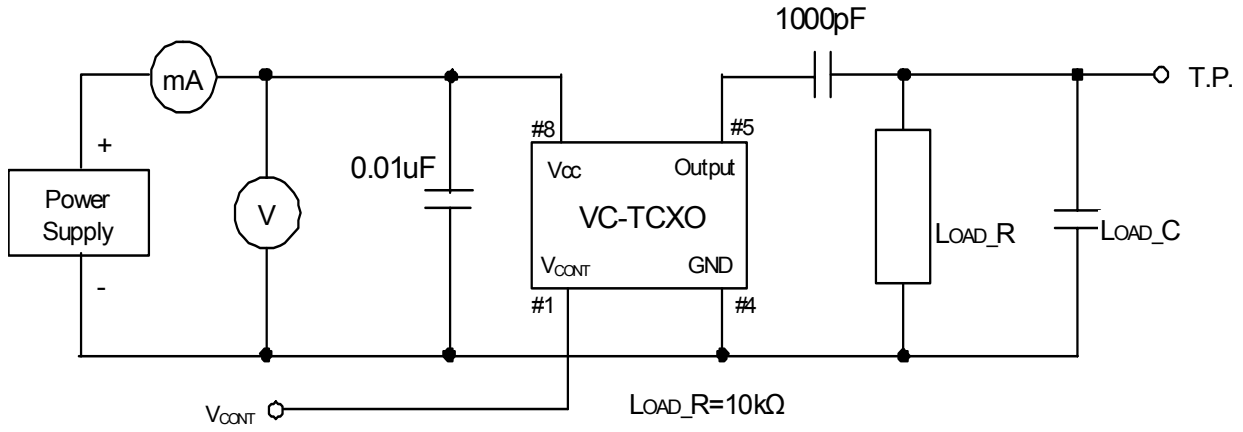
Pin Connections

Pin No.	Connection
#1	V_{CONT}
#2	N.C.
#3	N.C.
#4	GND
#5	Output
#6	N.C.
#7	N.C.
#8	V_{CC}

Marking
(1) Frequency 20000 (kHz, 5digits)
(2) Model code A535SD
(3) EIA Date code Year (1digit) + Week (2digits)
e.g. 2009/1/1 → 901

unit:mm
Dimensional Tolerance:±0.15
(Unless otherwise noted)

9. Measurement Circuit



LOAD_R=10kΩ
LOAD_C=10pF (Include Jig stray capacitance)

TITLE	Remark		
VC-TCXO SPECIFICATION			
Date	Spec. No.	Rev.	Page
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