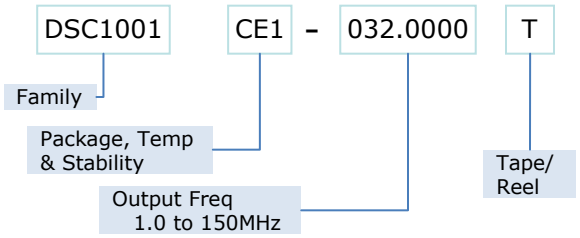
Absolute Maximum Ratings[1]

Item	Min	Max	Unit	Condition
Input Voltage	-0.3	VDD+0.3	V	
Junction Temp	-	+150	°C	
Storage Temp	-55	+150	°C	
Soldering Temp	-	+260	°C	40 sec max.
ESD **HBM** **MM** **CDM**	-	 4000 200 1500	V	

Ordering Code



* See Ordering Information for details

Recommended Operating Conditions

Parameter	Symbol	Range
Supply Voltage	V_{DD}	1.7 – 3.6V
Output Load	Z_L	R>10KΩ, C≤15pF
Operating Temperature **Option 1** **Option 2** **Option 3** **Option 4**	T	 -40 to +105 °C -40 to +85 °C -20 to +70 °C 0 to +70 °C

Specifications (VDD = 1.8 to 3.3v) T_A=85^{0}C unless otherwise specified

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Frequency	f_0	Single Frequency	1		150	MHz
Frequency Tolerance	Δf	Includes frequency variations due to initial tolerance, temperature and power supply voltage			±10,±25,±50	ppm
Aging	Δf	1 year @25°C			±5	ppm
Supply Current, standby	I_{DD}	T=25°C			15	uA
Output Logic Levels **Output logic high** **Output logic low**	 V_{OH} V_{OL}	 -4mA 4mA	 0.8*V_{DD} -		 - 0.2*V_{DD}	Volts
Output Startup Time[2]	t_{SU}	T=25°C		1.0	1.3	ms
Output Disable Time	t_{DA}			20	100	ns
Output Duty Cycle	SYM		45		55	%
Input Logic Levels **Input logic high** **Input logic low**	 V_{IH} V_{IL}		 0.75*V_{DD} -		 - 0.25* V_{DD}	Volts

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VDD = 1.8v

Parameter	Symbol	Condition		Min	Typ	Max	Unit
Supply Current, no load	I_{DD}	C_L=0p R_L=∞ T=25°C	1MHz 27MHz 70MHz 150MHz		6.0 6.5 7.2 8.3	6.3 6.9 7.5 9.1	mA
Output Transition time **Rise Time** **Fall Time**	 t_R t_F	C_L=15pF; T=25°C 20%/80%*V_{DD}			 1.8 1.0	 3 3	ns
Jitter, Max Cycle to Cycle	J_{CC}	F = 100MHz[3]			60		Ps

VDD = 2.5v

Parameter	Symbol	Condition		Min	Typ	Max	Unit
Supply Current, no load	I_{DD}	C_L=0p R_L=∞ T=25°C	1MHz 27MHz 70MHz 150MHz		6.0 6.7 7.7 9.6	6.3 7.0 8.1 10.6	mA
Output Transition time **Rise Time** **Fall Time**	 t_R t_F	C_L=15pF; T=25°C 20%/80%*V_{DD}			 1.0 0.9	 2 2	ns
Jitter, Max Cycle to Cycle	J_{CC}	F = 100MHz[3]			50		ps

VDD = 3.3v

Parameter	Symbol	Condition		Min	Typ	Max	Unit
Supply Current, no load	I_{DD}	C_L=0p R_L=∞ T=25°C	1MHz 27MHz 70MHz 150MHz		6.0 6.8 8.2 10.8	6.3 7.2 8.7 12.2	mA
Output Transition time **Rise Time** **Fall Time**	 t_R t_F	C_L=15pF; T=25°C 20%/80%*V_{DD}			 1.0 0.9	 2 2	ns
Jitter, Max Cycle to Cycle	J_{CC}	F = 100MHz[3]			50		ps

Notes:
1. Absolute maximum ratings are those values beyond which the safety of the device cannot be guaranteed. The device should not be operated beyond these limits.
2. t_{SU} is time to stable output frequency after V_{DD} is applied. t_{SU} and t_{EN} (after EN is asserted) are identical values.
3. Measured over 50k clock cycles.

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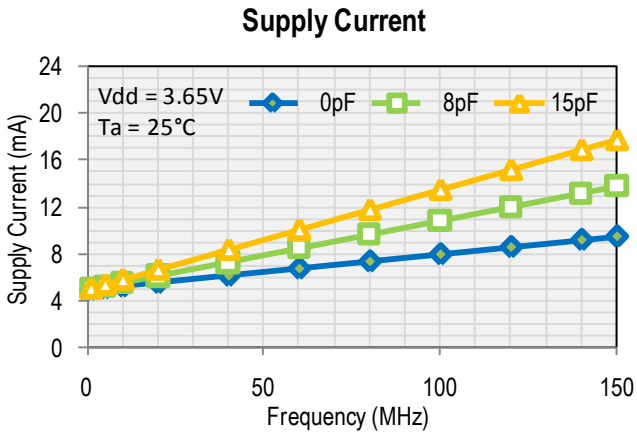
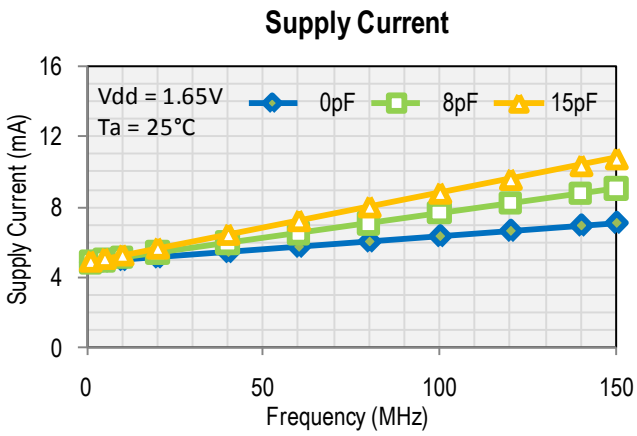
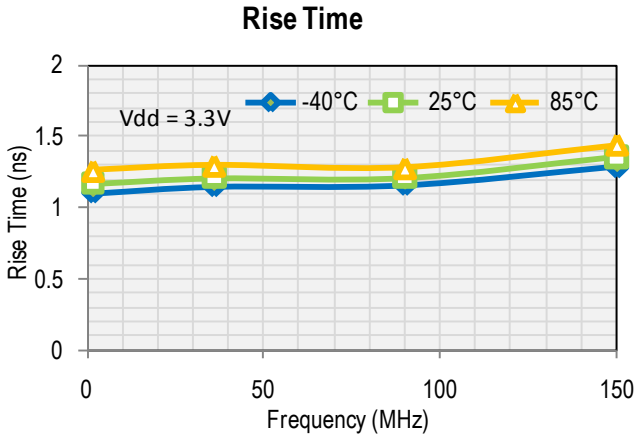
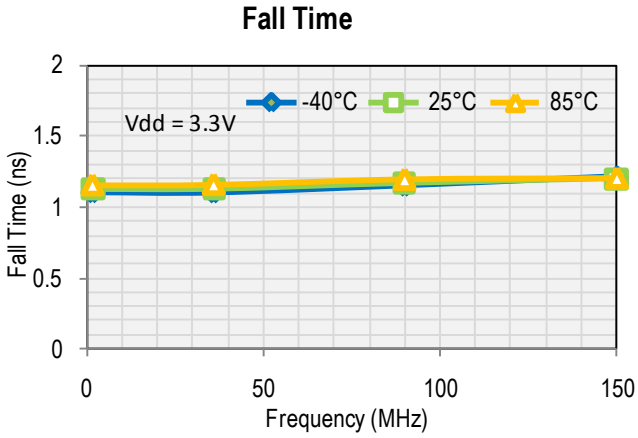
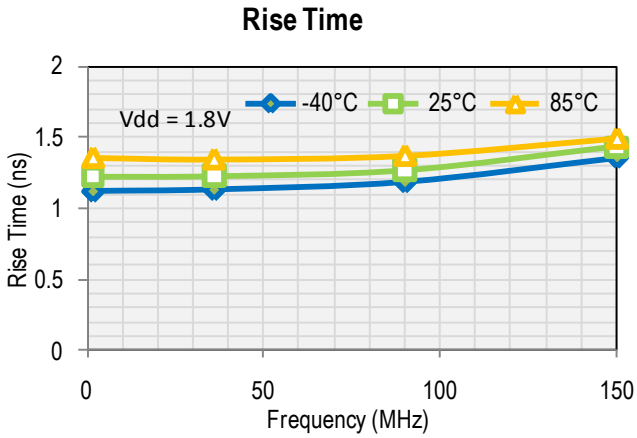
Nominal Performance Characteristics

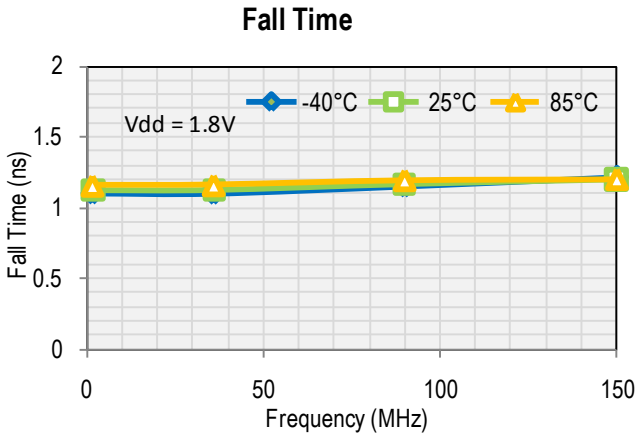












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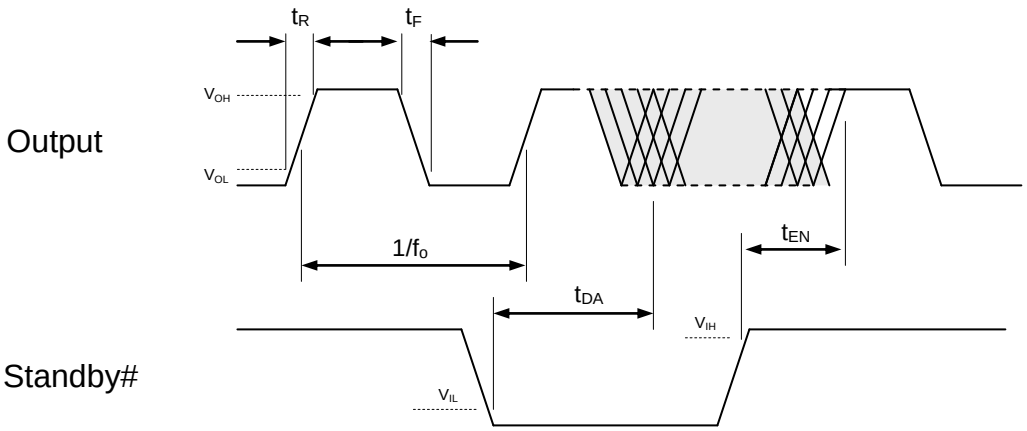
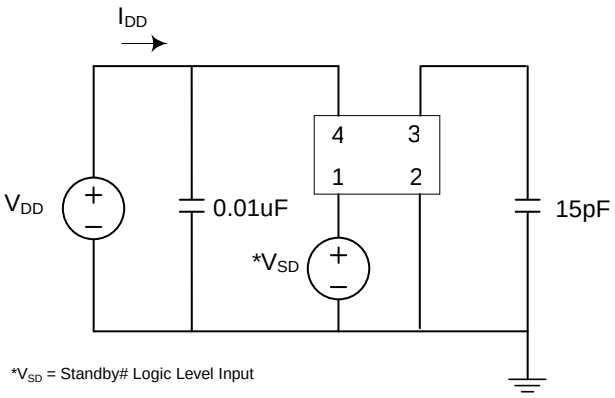
Output Waveform



Standby Function

Standby# (pin 1)	Output (pin 3)
Hi Level	Output ON
Open (no connect)	Output ON
Low Level	High Impedance

Test Circuit



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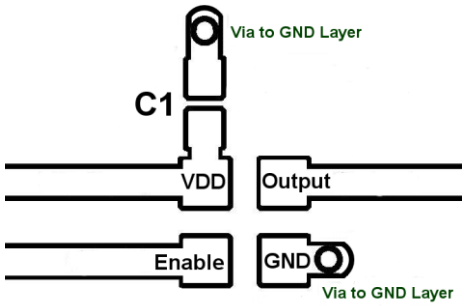
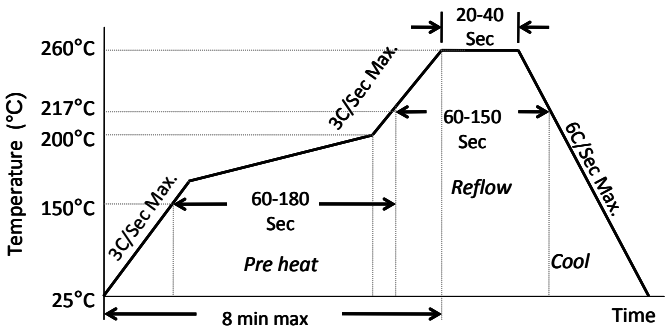
Board Layout (recommended)



Solder Reflow Profile



MSL 1 @ 260°C refer to JSTD-020C	
Ramp-Up Rate (200°C to Peak Temp)	3°C/Sec Max.
Preheat Time 150°C to 200°C	60-180 Sec
Time maintained above 217°C	60-150 Sec
Peak Temperature	255-260°C
Time within 5°C of actual Peak	20-40 Sec
Ramp-Down Rate	6°C/Sec Max.
Time 25°C to Peak Temperature	8 min Max.

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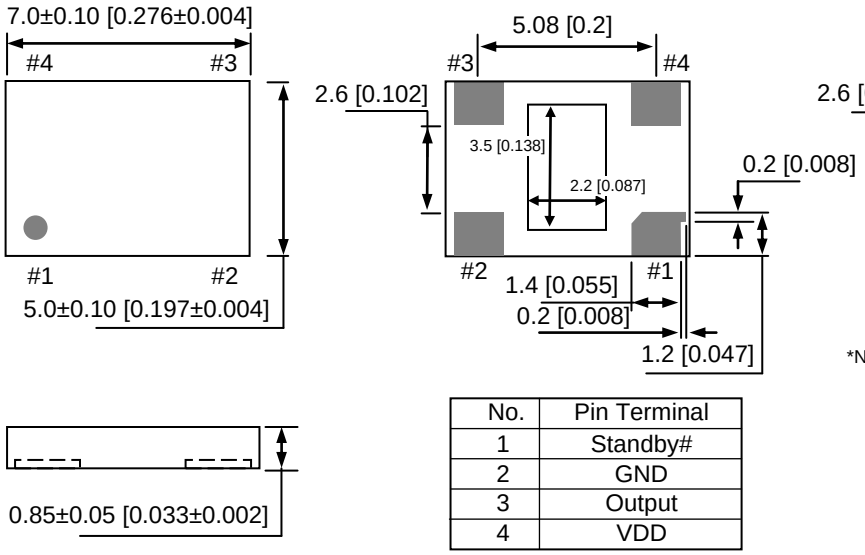
Package Dimensions

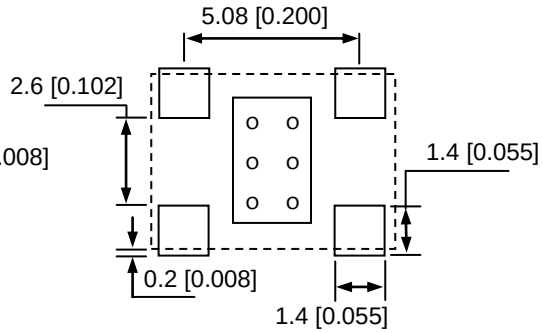
7.0 x 5.0 mm Plastic Package

External Dimensions



No.	Pin Terminal
1	Standby#
2	GND
3	Output
4	VDD

Recommended Land Pattern*

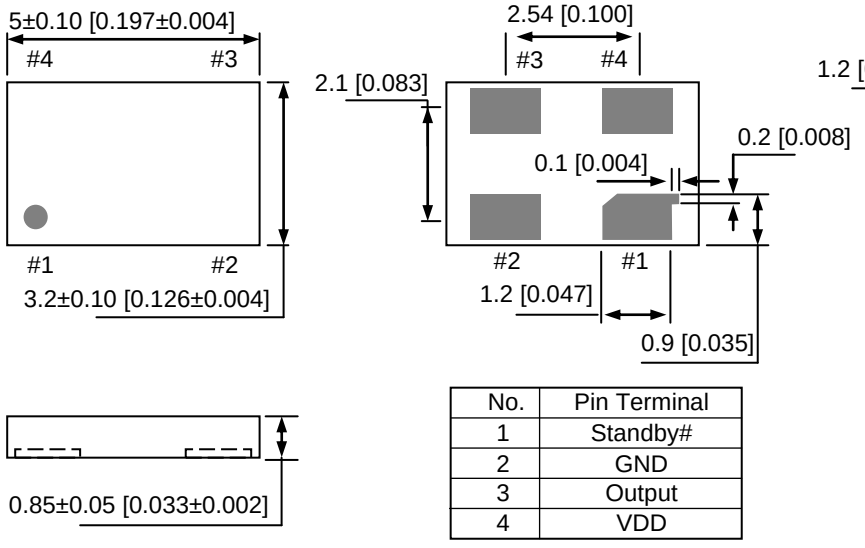


*Note: The center pad is not connected internally and should be left un-connected or tied to GND.

units: mm [inch]

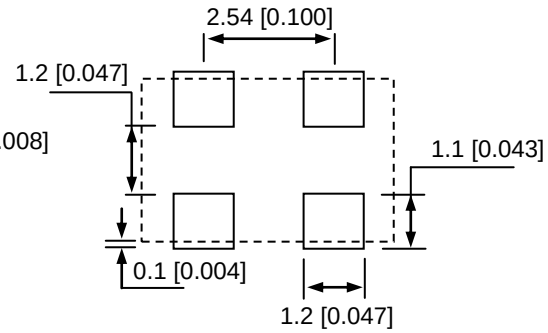
5.0 x 3.2 mm Plastic Package

External Dimensions



No.	Pin Terminal
1	Standby#
2	GND
3	Output
4	VDD

Recommended Land Pattern



units: mm [inch]

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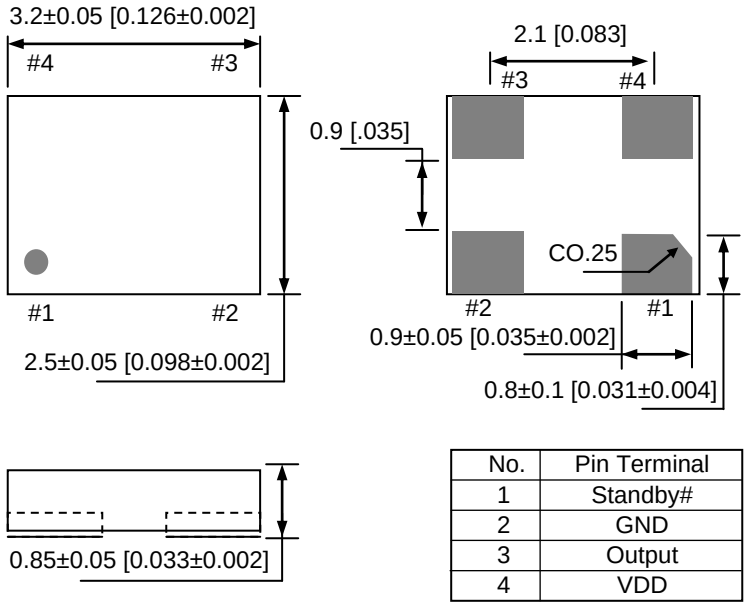
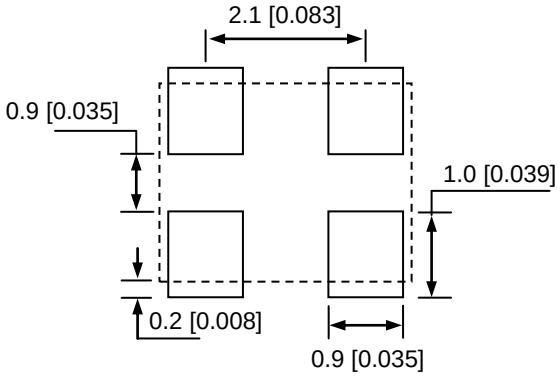
3.2 x 2.5 mm Plastic Package

External Dimensions



No.	Pin Terminal
1	Standby#
2	GND
3	Output
4	VDD

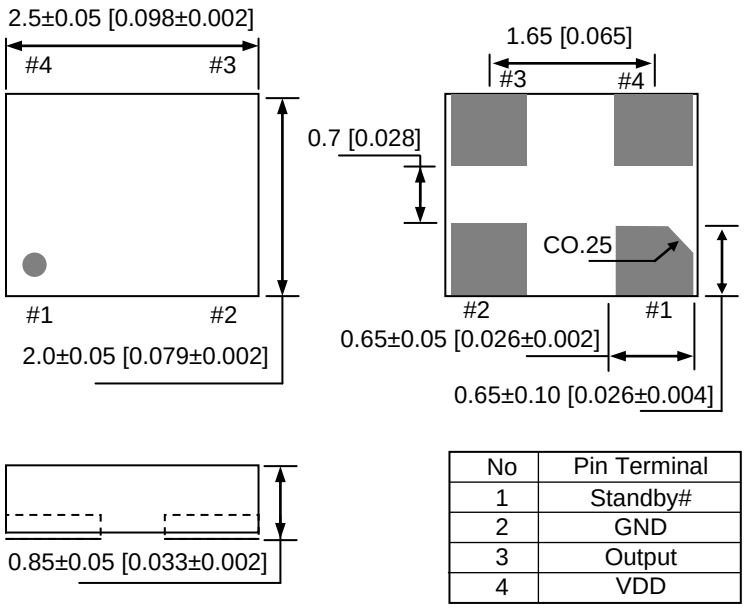
Recommended Land Pattern



units: mm [inch]

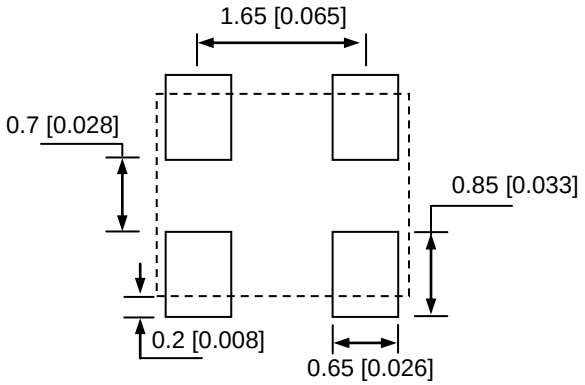
2.5 x 2.0 mm Plastic Package

External Dimensions



No	Pin Terminal
1	Standby#
2	GND
3	Output
4	VDD

Recommended Land Pattern



units: mm [inch]

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Ordering Information

DSC1001 PTS – xxx.xxxx T

PART NUMBERING GUIDE				
Package (Plastic QFN)	**Temperature**	**Stability**	**Frequency**	**Packing Option**
P=A: 7.0x5.0mm **P=B:** 5.0x3.2mm **P=C:** 3.2x2.5mm **P=D:** 2.5x2.0mm	**T=C:** 0° ~ +70° C **T=E:** -20° ~ +70° C **T=I:** -40° ~ +85° C **T=L:** -40° ~ +105° C	**S=1:** ±50ppm **S=2:** ±25ppm **S=5:** ±10ppm	**XXX.XXXX**	**Blank:** Tubes **T:** Tape & Reel

Example: DSC1001CE1–123.0000T

The example part number above is a 123.0000MHz oscillator in Plastic 3.2x2.5mm package, with ±50ppm stability over an operating temperature of -20 to +70°C, shipped in Tape and Reel.

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