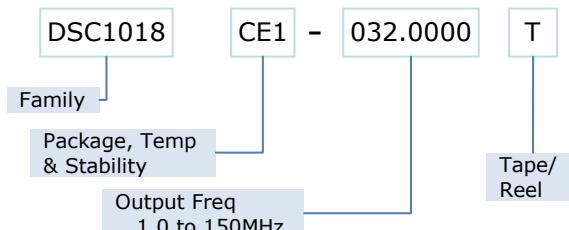


**Absolute Maximum Ratings<sup>1</sup>**

Item	Min.	Max	Unit	Condition
<b>Input Voltage</b>	-0.3	VDD+0.3	V	
<b>Junction Temp</b>	-	+150	°C	
<b>Storage Temp</b>	-55	+150	°C	
<b>Soldering Temp</b>	-	+260	°C	40 sec max.
<b>ESD</b>	-		V	
<b>HBM</b>		2000		
<b>MM</b>		200		
<b>CDM</b>		500		



\* See Ordering Information for details

**Ordering Code****Recommended Operating Conditions**

Parameter	Symbol	Range
<b>Supply Voltage</b>	V <sub>DD</sub>	1.65 – 1.95V
<b>Output Load</b>	Z <sub>L</sub>	R>10KΩ, C≤15pF
<b>Operating Temperature</b>	T	
<b>Option 1</b>		-40 – +85 °C
<b>Option 2</b>		-20 – +70 °C
<b>Option 3</b>		0 – +70 °C

**Specifications**

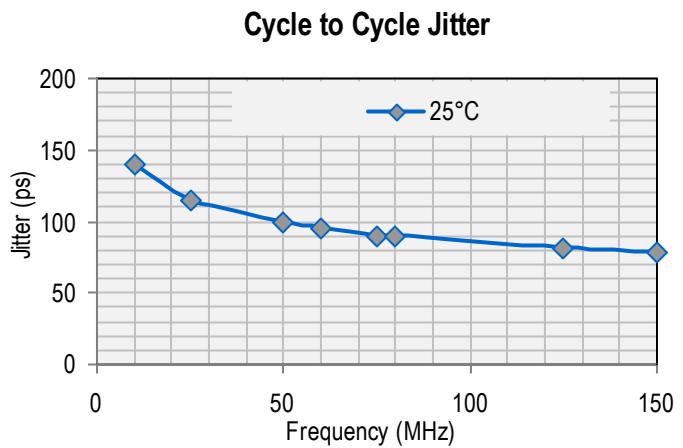
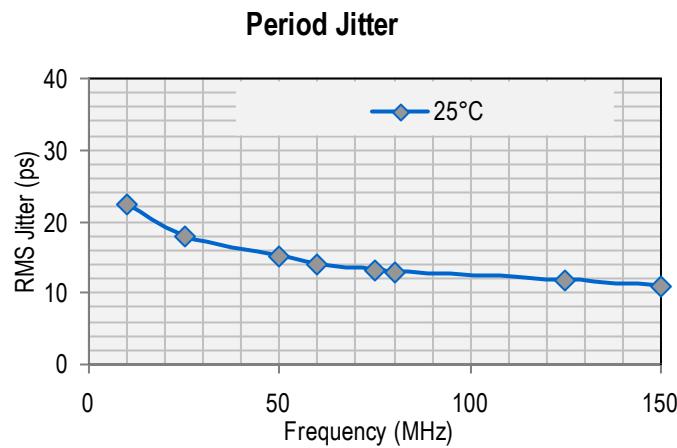
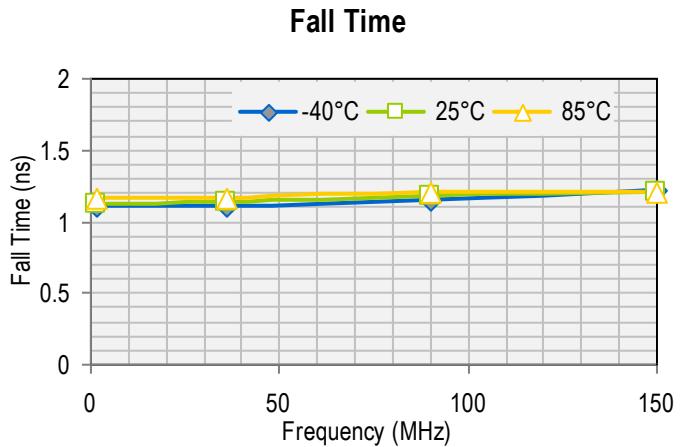
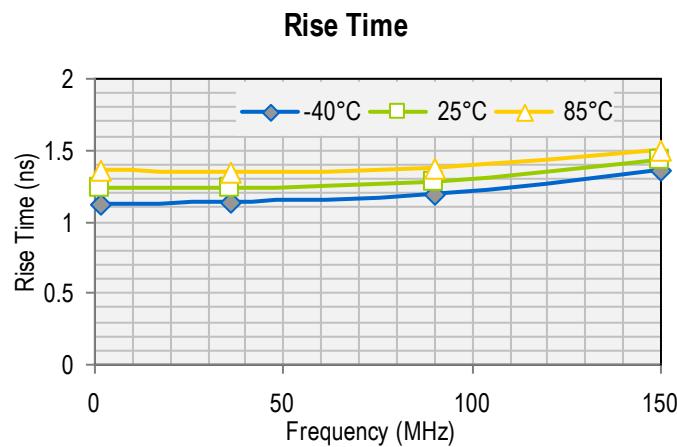
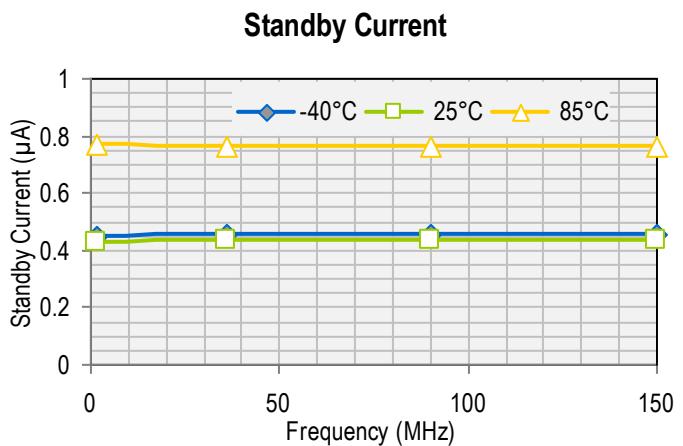
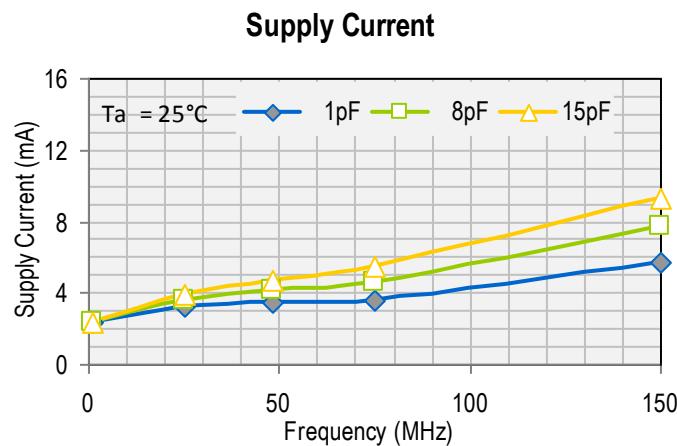
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit	
<b>Frequency</b>	f <sub>0</sub>	Single Frequency	1		150	MHz	
<b>Frequency Tolerance</b>							
<b>Option 1</b>		-40°C to +85°C			±25,±50	ppm	
<b>Option 2</b>		-20°C to +70°C			±25,±50		
<b>Option 3</b>	Δf	0°C to +70°C			±25,±50		
<b>Supply Current, no load</b>	I <sub>DD</sub>	C <sub>L</sub> =0p R <sub>L</sub> =∞ T=25° C	1 to 40MHz 40 to 80MHz 80 to 125MHz 125 to 150MHz	3 4 5 6	10	mA	
<b>Supply Current, standby</b>	I <sub>DD</sub>		T=25°C		1.0	uA	
<b>Output Logic Levels</b>	V <sub>OH</sub> V <sub>OL</sub>		C <sub>L</sub> =15pF	0.8*V <sub>DD</sub> -	- 0.2*V <sub>DD</sub>	Volts	
<b>Output Transition time</b>							
<b>Rise Time</b>	t <sub>R</sub>	C <sub>L</sub> =15pF; T=25°C		1.3	2	ns	
<b>Fall Time</b>	t <sub>F</sub>	20%/80%*V <sub>DD</sub>		1.3	2	ns	
<b>Output Startup Time<sup>2</sup></b>	t <sub>SU</sub>		T=25°C		1.5	3	ms
<b>Output Disable Time</b>	t <sub>DA</sub>				20	100	ns
<b>Output Duty Cycle</b>	SYM			45		55	%
<b>Input Logic Levels</b>							
<b>Input logic high</b>	V <sub>IH</sub>		0.75*V <sub>DD</sub>		-		
<b>Input logic low</b>	V <sub>IL</sub>		-		0.25* V <sub>DD</sub>	Volts	
<b>Jitter, Cycle to Cycle</b>	J <sub>CC</sub>		F = 100MHz <sup>3</sup>		95		ps

## Notes:

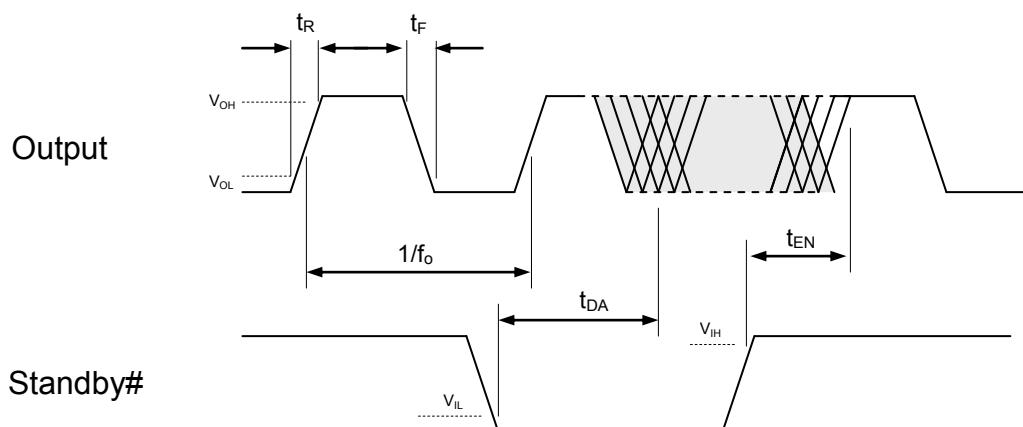
1. Absolute maximum ratings are those values beyond which the safety of the device cannot be guaranteed. The device should not be operated beyond these limits.
2. t<sub>SU</sub> is time to stable output frequency after V<sub>DD</sub> is applied. t<sub>SU</sub> and t<sub>EN</sub> (after EN is asserted) are identical values.
3. See typical cycle to cycle jitter graph for frequency dependence.

## Nominal Performance Characteristics

### 1.8V Characteristics



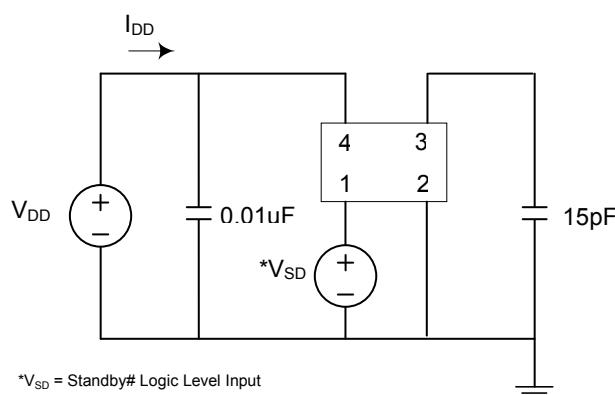
## Output Waveform



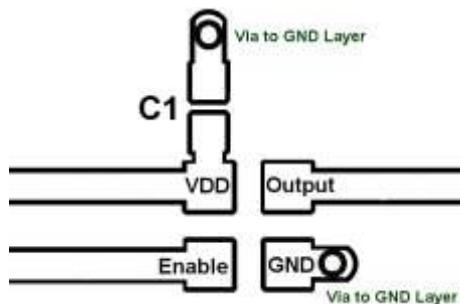
## Standby Function

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

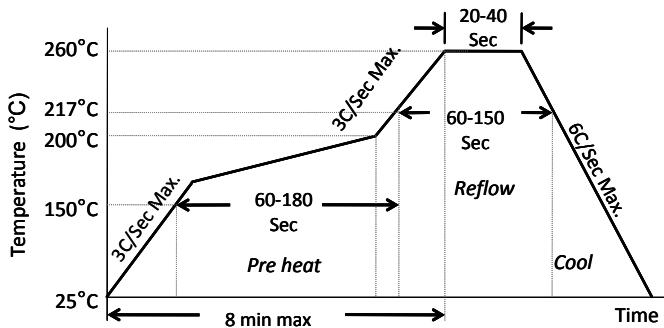
## Test Circuit



## Board Layout (recommended)



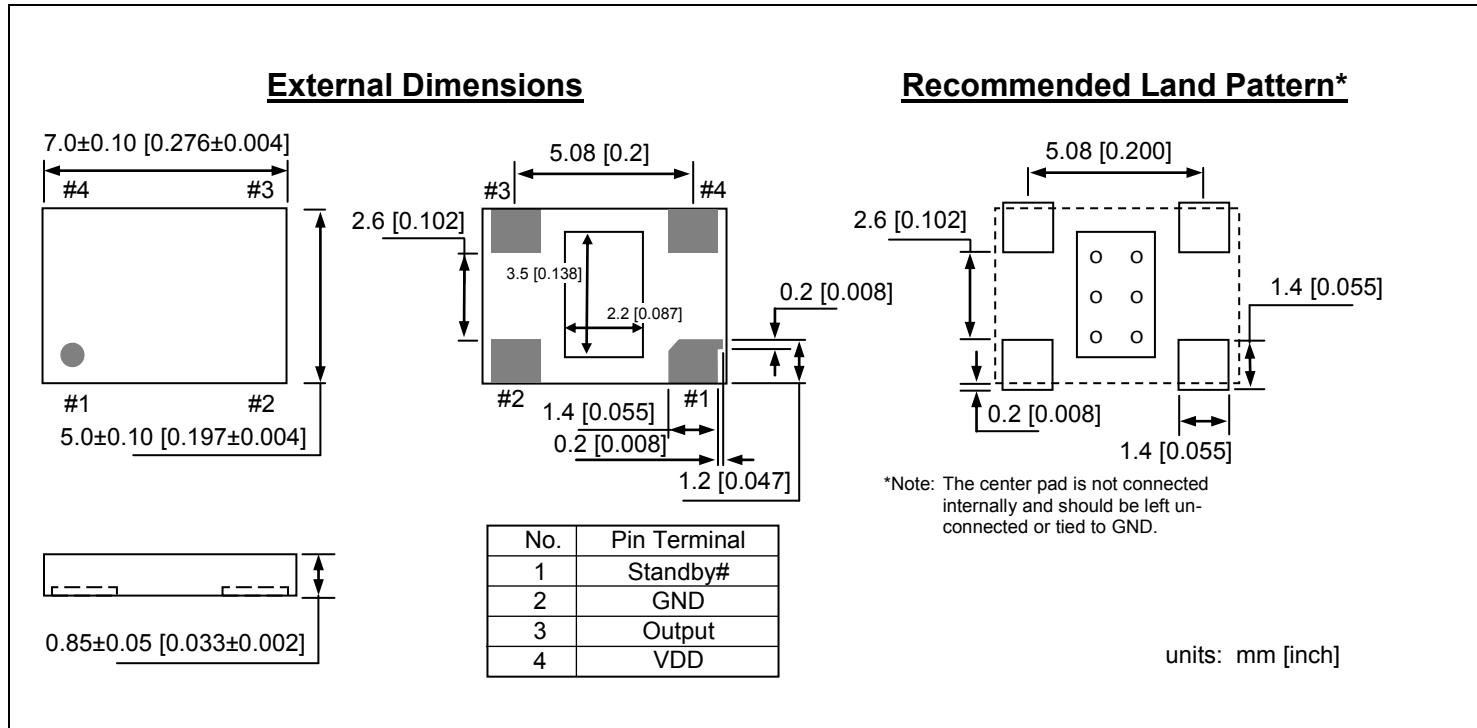
## Solder Reflow Profile

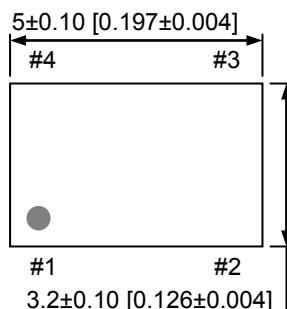


MSL 1 @ 260°C refer to JSTD-020C	
Ramp-Up Rate (200°C to Peak Temp)	3°C/Sec Max.
Preheat Time 150°C to 200°C	60-180 Sec
Time maintained above 217°C	60-150 Sec
Peak Temperature	255-260°C
Time within 5°C of actual Peak	20-40 Sec
Ramp-Down Rate	6°C/Sec Max.
Time 25°C to Peak Temperature	8 min Max.

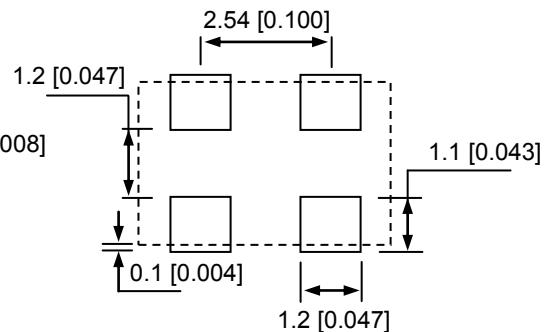
## Package Dimensions

### 7.0 x 5.0 mm Plastic Package

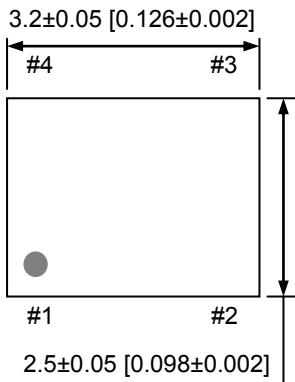


**5.0 x 3.2 mm Plastic Package****External Dimensions**

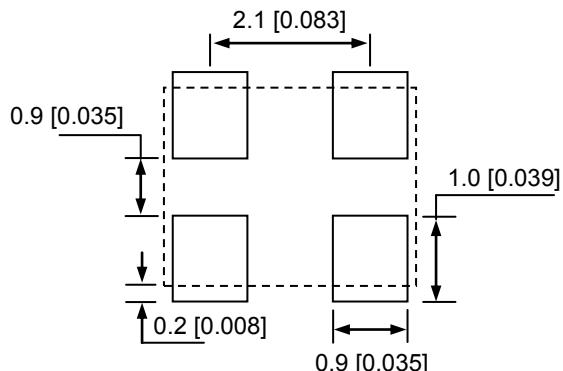
No.	Pin Terminal
1	Standby#
2	GND
3	Output
4	VDD

**Recommended Land Pattern**

units: mm [inch]

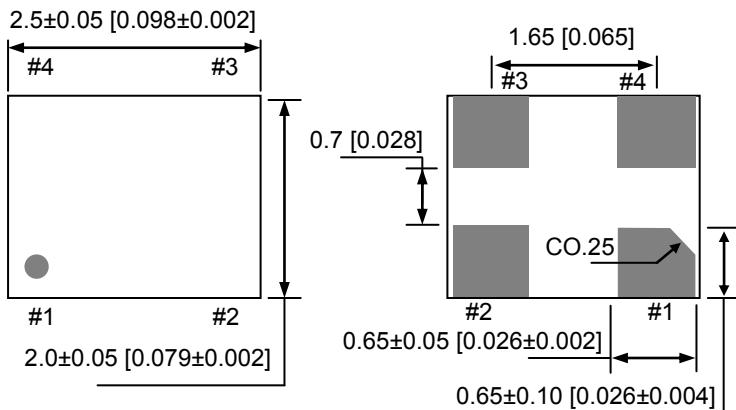
**3.2 x 2.5 mm Plastic Package****External Dimensions**

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

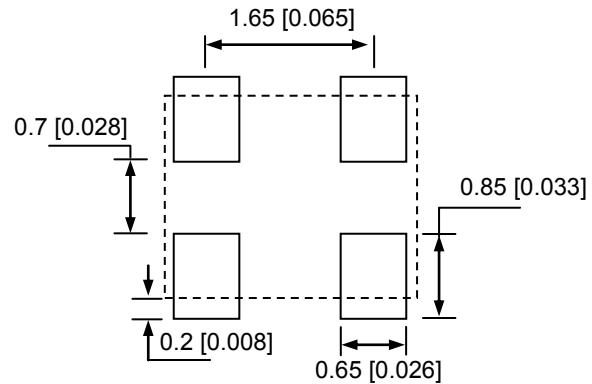
**Recommended Land Pattern**

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]

**Ordering Information****DSC1018 PTS – xxx.xxxx T****PART NUMBERING GUIDE**

Package (Plastic QFN)	Temperature	Stability	Frequency	Packing Option
<b>P=A:</b> 7.0x5.0mm	<b>T=C:</b> 0° ~ +70° C	<b>S=1:</b> ±50ppm	<b>xxx.xxxx</b>	<b>Blank:</b> Tubes <b>T:</b> Tape & Reel
<b>P=B:</b> 5.0x3.2mm	<b>T=E:</b> -20° ~ +70° C	<b>S=2:</b> ±25ppm		
<b>P=C:</b> 3.2x2.5mm	<b>T=I:</b> -40° ~ +85° C			
<b>P=D:</b> 2.5x2.0mm				

Example: DSC1018CE1-123.0000T

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. The reel size (7" or 13" diameter) will be determined by the factory based on quantity.

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