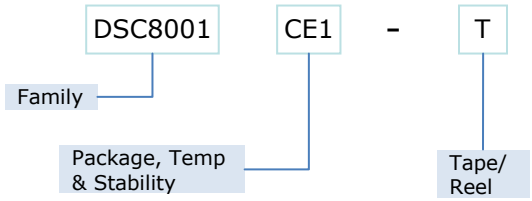
Absolute Maximum Ratings[1]

Item	Min.	Max	Unit	Condition
Supply Voltage	-0.3	+4.0	V	
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

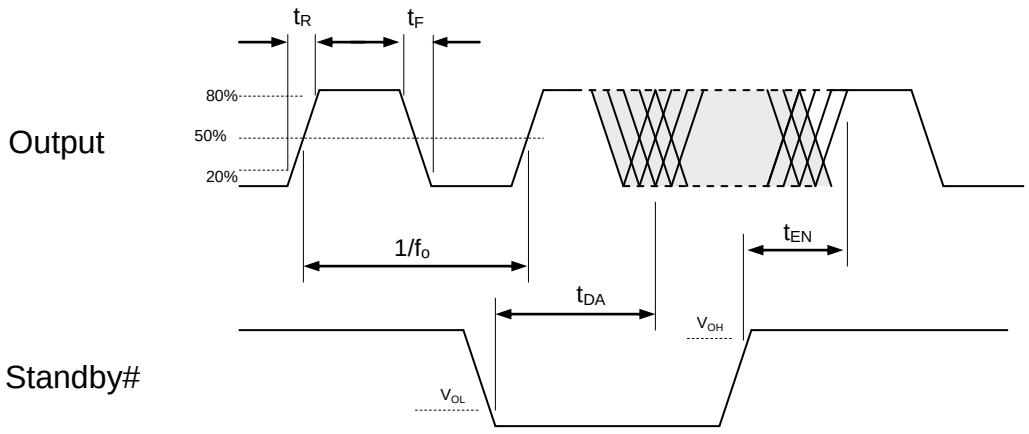
Parameter	Symbol	Range
Supply Voltage	V_{DD}	1.7 – 3.6V
Output Load	Z_L	R>10KΩ, C≤15pF
Operating Temperature **Option 1** **Option 2** **Option 3** **Option 4**	T	 -40 to +105 °C -40 to +85 °C -20 to +70 °C 0 to +70 °C

Specifications

Parameter	Symbol	Condition		Min.	Typ.	Max.	Unit
Frequency	f_0	Single Frequency		1		150	MHz
Frequency Tolerance **Ext. Industrial** **Industrial** **Extended Commercial** **Commercial**	Δf	Includes frequency variations due to initial tolerance, temperature and power supply voltage				 ±25,±50 ±10,±25,±50 ±10,±25,±50 ±10,±25,±50	ppm
Aging	Δf	1 year @25°C				±5	ppm
Supply Current, no load	I_{DD}	C_L=0p R_L=∞ T=25°C V=1.8V	1 to 40MHz 40 to 80MHz 80 to 125MHz 125 to 150MHz		5 6 7 8	 12	mA
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 Transition time **Rise Time** **Fall Time**	 t_R t_F	 C_L=15pF; T=25°C 20%/80%*V_{DD}			 1.0 1.0	 3 3	ns
Output Startup Time[2]	t_{SU}	T=25°C			3	8	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
Jitter, Cycle to Cycle	J_{CC}	F = 100MHz			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. Output frequency to within 100ppm of final stable output frequency...

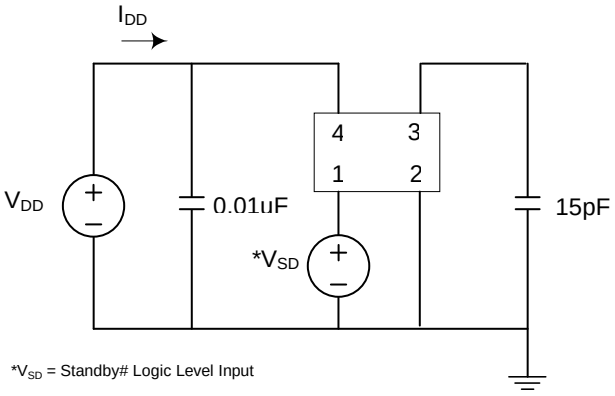
Output Waveform



Standby Function

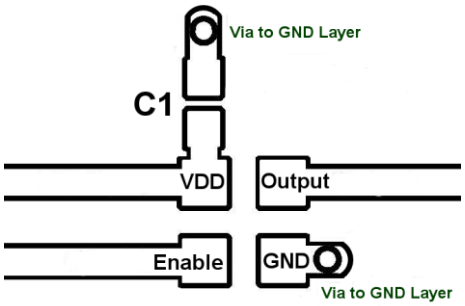
Standby# (pin 1)	Output (pin 3)
Hi Level	Output ON
Open (no connect)	Output ON
Low Level	High Impedance

Test Circuit

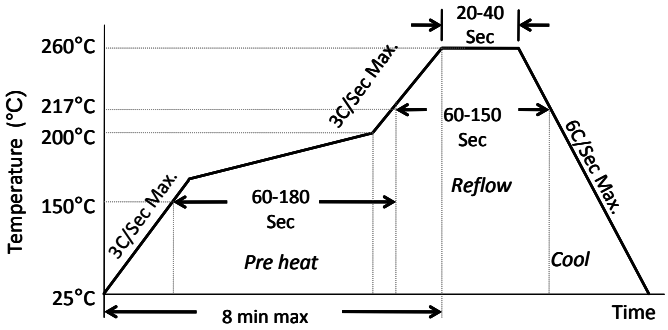


*V_{SD} = Standby# Logic Level Input

Board Layout (recommended)



Solder Reflow Profile

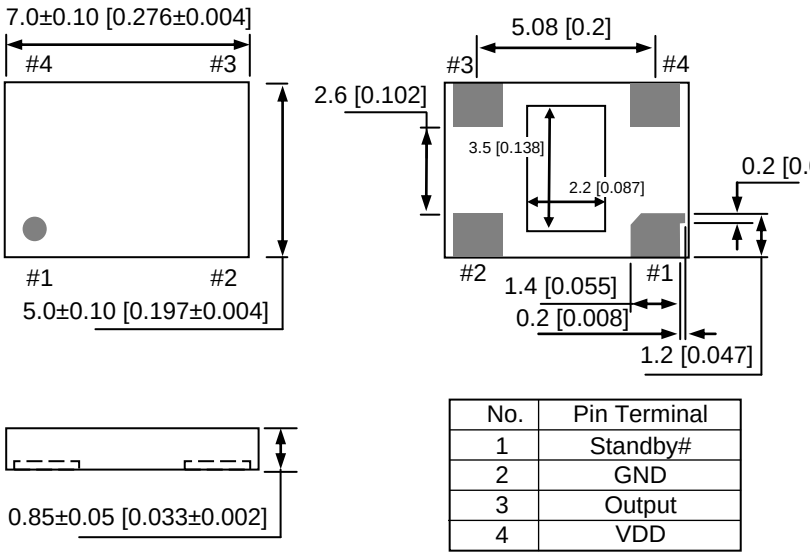


MSL 1 @ 260°C refer to JSTD-020C	
Ramp-Up Rate (200°C to Peak Temp)	3°C/Sec Max.
Preheat Time 150°C to 200°C	60-180 Sec
Time maintained above 217°C	60-150 Sec
Peak Temperature	255-260°C
Time within 5°C of actual Peak	20-40 Sec
Ramp-Down Rate	6°C/Sec Max.
Time 25°C to Peak Temperature	8 min Max.

Package Dimensions

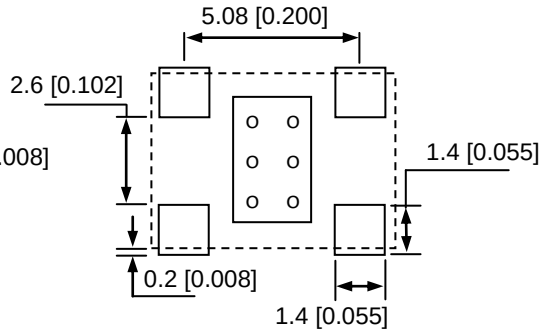
7.0 x 5.0 mm Plastic Package

External Dimensions



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

Recommended Land Pattern*

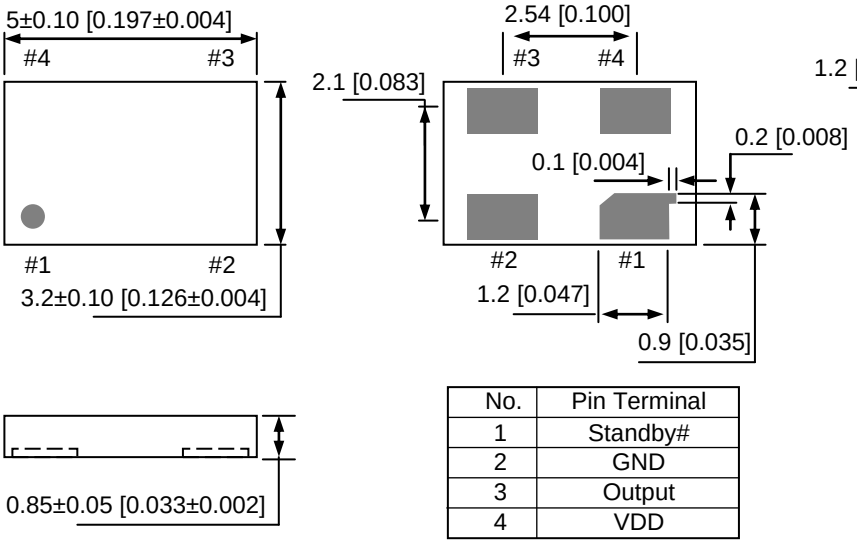


*Note: The center pad is not connected internally and should be left un-connected or tied to GND.

units: mm [inch]

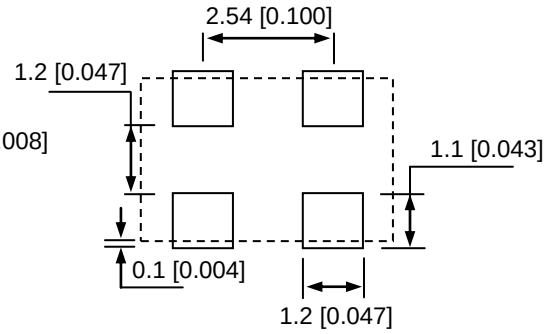
5.0 x 3.2 mm Plastic Package

External Dimensions



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

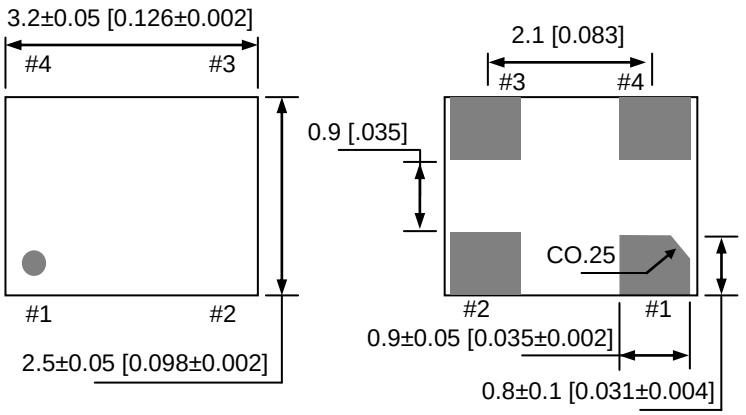
Recommended Land Pattern



units: mm [inch]

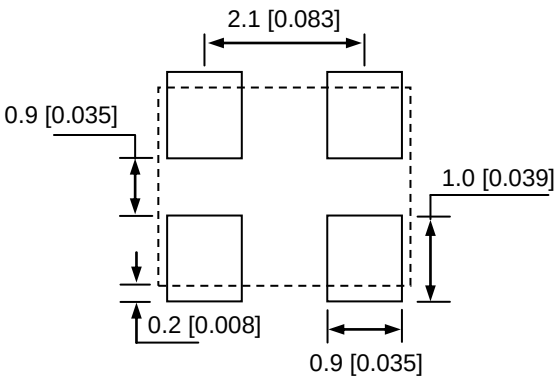
3.2 x 2.5 mm Plastic Package

External Dimensions



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

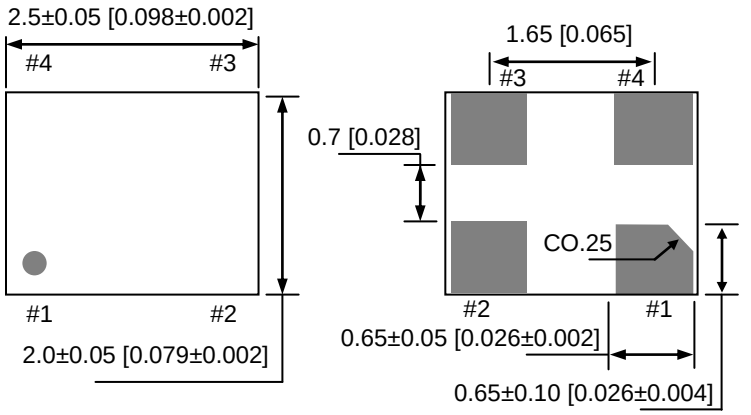
Recommended Land Pattern



units: mm [inch]

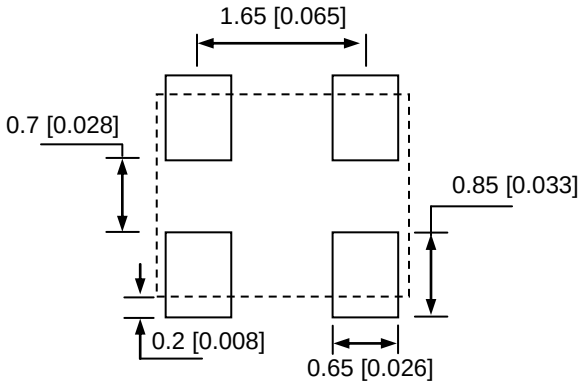
2.5 x 2.0 mm Plastic Package

External Dimensions



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

Recommended Land Pattern



units: mm [inch]

Ordering Information

DSC8001 PTS - T

PART NUMBERING GUIDE			
Package (Plastic QFN)	**Temperature**	**Stability**	**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	**Blank:** Tubes **T:** Tape & Reel

Example: DSC8001CE1–T

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

DISCERA, Inc. • **1961 Concourse Drive, San Jose, California 95131** • **USA**
Phone: +1 (408) 432-8600 • **Fax: +1 (408) 432-8609** • **Email: sales@discera.com** • **www.discera.com**