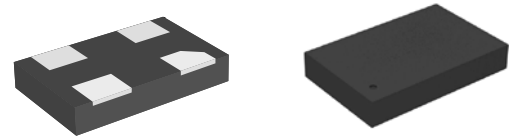




### Features

- Frequency Range: 4 to 133 MHz
- Output Type: CMOS
- Frequency Tolerance: ± 100 ppm
- Supply Voltage: 1.8 to 3.3 V
- Power Consumption: 1.9 mA (1.8 V)
- Standby Current: < 1 uA
- Standard Package: 5.0 x 3.2 x 0.85 mm  
2.5 x 2.0 x 0.85 mm
- Operating Temperature: 0 to 70 °C, -20 to 70 °C



This product is rated "Green", please contact factory for environmental compliancy information

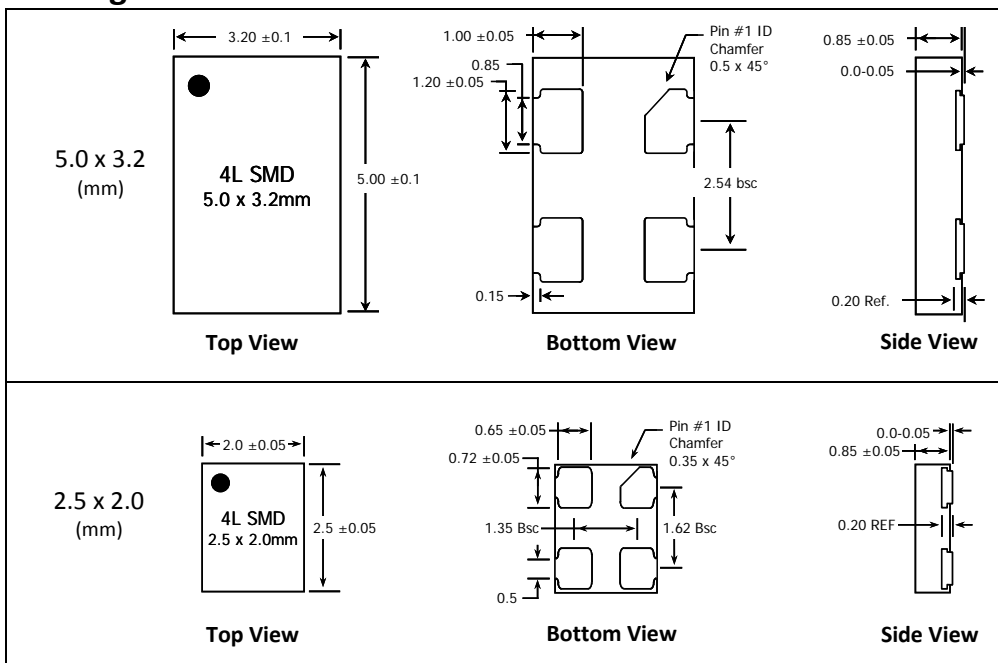
### Specification

Parameter	Symbol	Specifications			Conditions								
Supply Voltage	VDD	1.8 V± 10%	2.5 V±10%	3.3 V±10%	Nominal ± tolerance								
Frequency Stability	F <sub>STB</sub>	± 100 ppm			Total Frequency Stability*								
Supply Current	IDD	1.9 mA	2.0 mA	2.2 mA	Typical; No load condition; 75 MHz								
Quiescent Current	I <sub>STBY</sub>	1 uA			Maximum; STBY# = GND								
Input LOW/HIGH level	V <sub>IL</sub> /V <sub>IH</sub>	0.3 VDD (max) / 0.7 VDD (min)			At STBY# pin								
Output LOW/HIGH level	V <sub>OL</sub>	0.1 VDD (max) / 0.9 VDD (min)			I <sub>OL</sub> = - 1 mA / I <sub>OH</sub> = 1 mA								
Rise/Fall Time	T <sub>R</sub> / T <sub>F</sub>	1.6 ns	1.2 ns	1.0 ns	Maximum; 20% to 80% x VDD; Output load (CL) = 4 pF								
Symmetry	SYM	45% / 55%			Worst case; output frequencies ≤ 100 MHz								
		40% / 60%			Worst case; output frequencies > 100 MHz								
Start-up time	T <sub>ST</sub>	400 us (max)			Output valid time after VDD meets the specified range & STBY# transition								
Period Jitter	PJ <sub>RMS</sub>	17 ps	6 ps	5 ps	Output load (CL) = 4 pF; 75 MHz								
Cycle to Cycle Jitter	CCJ <sub>MAX</sub>	120 ps	50 ps	40 ps	Output load (CL) = 4 pF; 75 MHz; measured over 12 K cycles								
Output Frequency	F <sub>OUT</sub>	4	4.096	5	6	6.144	7.3728	8	10	12	12.5	12.288	14.31818
		15	16	18.432	19.44	20	22.5972	24	24.576	25	30	33	33.333
		36	37.5	40	48	49.152	50	60	62.5	66	66.66	72	74.25
		75	80	98.304	100	125	133						
		Contact IDT for additional frequencies											

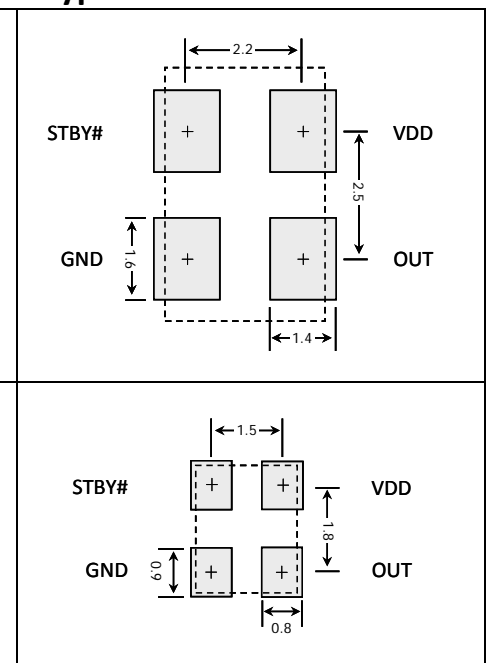
Note: Above specifications are typical at room temperature (25°C) unless otherwise specified.

\* Inclusive of initial frequency accuracy, operating temperature range, supply variation, load variation, 3 times solder reflow, shock, vibration and 5 years aging at 25°C.

### Package Outline and Dimensions



### Typical PCB Land Pattern



### Absolute Maximum Ratings

Stresses beyond those listed under *Absolute Maximum Ratings* may cause permanent damage to the device. These ratings are stress specifications only. Functional operation of product at these or under any condition beyond those listed in the operating specifications is not implied. Exposure to absolute maximum rated conditions may affect product reliability.

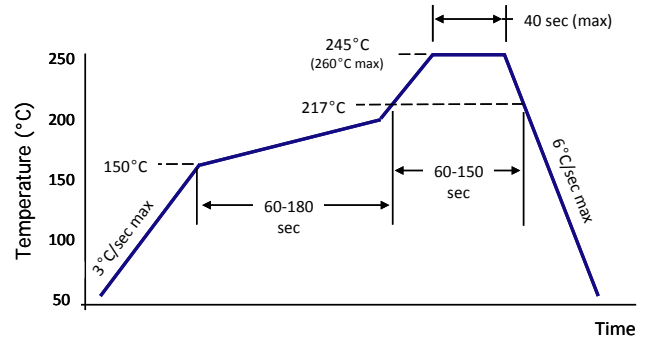
Item	Maximum Absolute Rating
VDD	4.6 V
STBY#	-0.5 V to VDD + 0.5 V
OUT	-0.5 V to VDD + 0.5 V
Storage Temperature	-65°C to 150°C

### Pin Descriptions

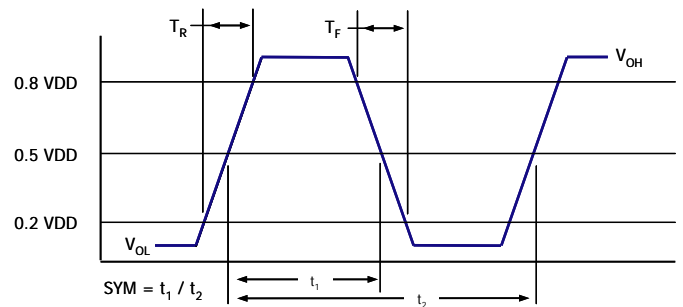
Pin #	Name	Description
1	STBY#	Standby Mode <sup>1</sup> (0 = Output Disabled)
2	GND	Ground
3	OUT <sup>2</sup>	CMOS Output
4	VDD	Power

1. Pulled high internally  
 2. Weak pull down to GND during STBY# enable and startup

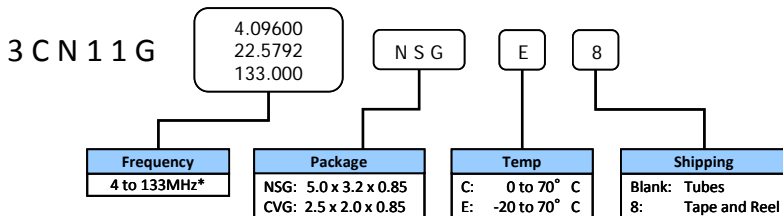
### Solder Reflow Profile



### Output Waveform



### Ordering Information



\* See frequency table or contact IDT

Package Suffix	Minimum Order Quantity (MOQ)		Factory Order Increment (FOI)	
	T & R	Bulk	T & R	Bulk
NSG	2500	1260 (18 Tubes)	2500	1260 (18 Tubes)
CVG	3000	1250 (Canister)	3000	1250 (Canister)



www.IDT.com

6024 Silver Creek Valley Road  
San Jose, California 95138

#### Sales

800-345-7015 (inside USA)  
+1 408-284-8200 (outside USA)  
Fax: 408-284-2775

#### Technical Support

crystalfreetechsupport@idt.com  
+1 408-360-5656

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