

## ACT9213 LVPECL OSCILLATOR

The ACT9213 LVPECL Oscillator is a miniature low profile device allowing for frequencies up to 350.0MHz to be available in a 7X5 mm SMD package. The metal lid is grounded through the ceramic package and the pads are gold plated. This device is particularly suited to Communications / Networking applications and also to many other applications where a low voltage LVPECL output is required. Only 7x5mm this device is particularly popular where board space dictates small size and / or automatic assembly is a requirement. The devices are available loose or taped and reeled to suit both low and higher volume requirements.



## Specification

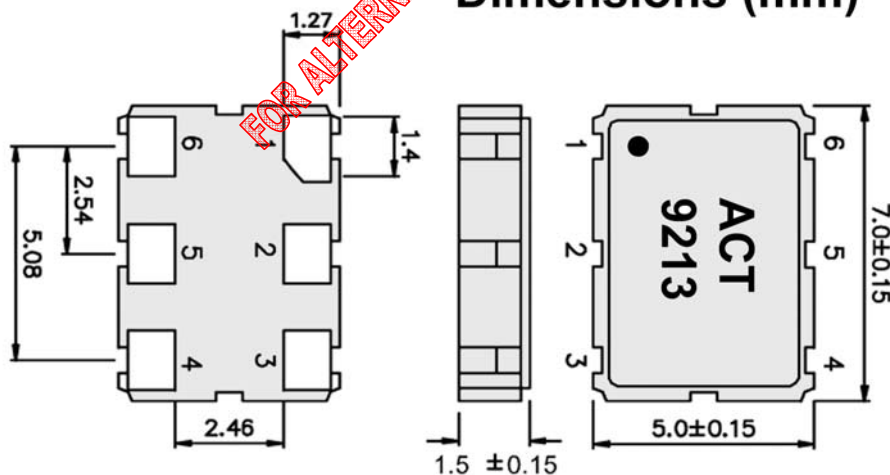
| Parameter              | Symbol        | Specification                                  | Condition   |
|------------------------|---------------|--|---|
| Frequency Range        | fo            | 40 ~ 350MHz                                    | Please specify  |
| Frequency Stability    | $\Delta f/fo$ | $\pm 20 \sim \pm 100$ ppm max *                | Please specify  |
| Temp Operating Range   | Top           | -40 ~ +85°C standard                           | Others available please enquire                           |
| Temp Storage Range     | Tstg          | -55 ~ +125°C                                   |   |
| Supply Voltage         | Vdd           | 3.3V (3.17V Min, 3.47V max)                    |   |
| Supply Current (max)   | Iop           | 99mA   |   |
| Duty Cycle             | Tw/t          | 50% $\pm$ 10%                                  |   |
| Output Level '0'       | VOL           | fo<160MHz Vdd-1.62Vmax fo>160MHz Vdd-1.7V max  |   |
| Output Level '1'       | VOH           | fo>160MHz Vdd-1.025Vmin fo>160MHz Vdd-1.4V min |   |
| Rise & Fall Time (max) | Tr/Tf         | 0.5ns typical 1.0ns max                        | 20-80% output Voltage                                     |
| Output Load            | N/CL          | RL 50 $\Omega$ to Vdd - 2V                     |   |
| Start-up Time          | Tosc          | 5ms max  | Within $\pm 0.5$ ppm of fo & power to 90% final amplitude |
| Aging                  | Fa            | $\pm 3.0$ ppm/yr max                           |   |
| Output Enable Function |               | Pin 1  |   |
| Enable Voltage high    | Venh          | 2.4V min Vdd max                               |   |
| Enable Voltage low     | Venl          | Ground min 0.8V max                            |   |
| Standby Current        | Isb           | 10 $\mu$ A max                                 | OE low  |
| Phase Jitter           | Tj            | 1.0ps  | 12kHz to 20MHz  |

\* Inclusive of 25°C Tolerance, Operating temperature stability, Vdd, Output load, first year aging, shock and vibration

Standard frequencies MHz :

77.76      156.25  
 106.52    187.50  
 125.00    212.50  
 155.52

## Dimensions (mm)



Lead free - RoHS comp.

Pad surface plating Au 0.7-1.2 $\mu$ m

Pin Functions:

- 1: OE
- 2: No Connection
- 3: Ground
- 4: Output
- 5: Complementary output
- 6: Vdd

Please note that all parameters can not necessarily be specified in the same device  
 Customer to specify :Frequency, Frequency Stability, Operating Temperature Range

In line with our ongoing policy of product evolution and improvement, the above specification may subject to change without notice

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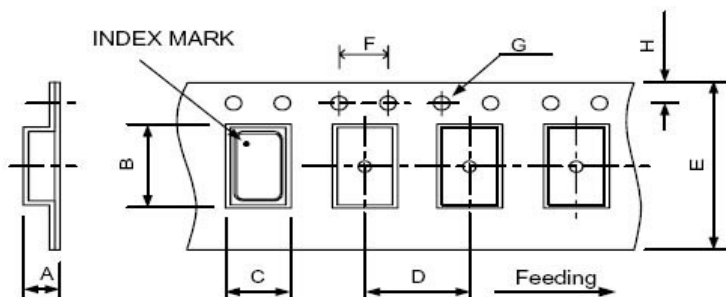
For quotations or further information please contact us at:

3 The Business Centre, Molly Millars Lane, Wokingham, Berks, RG41 2EY, UK

<http://www.actcrystals.com>

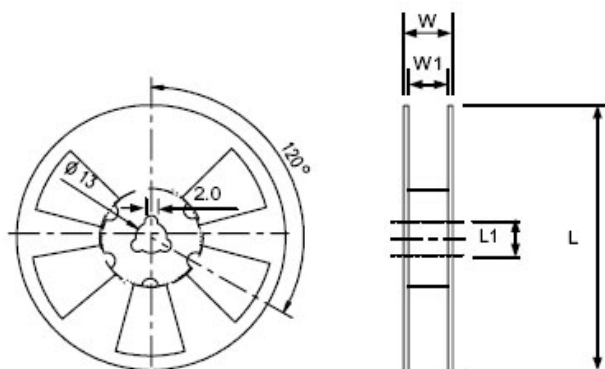
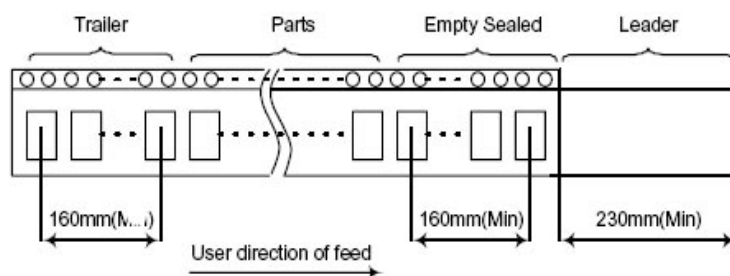
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## ACT9213 TAPE AND REEL DIMENSIONS (mm)



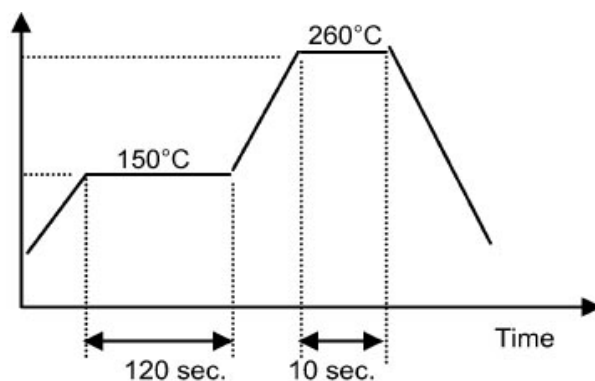
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| DIMENSIONS | A    | B    | C    | D    | E     | F    | G    | H    | (UNIT : mm) |
|------------|------|------|------|------|-------|------|------|------|-------------|
|            | 2.00 | 7.90 | 5.45 | 8.00 | 16.00 | 4.00 | 1.50 | 1.75 |             |



| DIMENSIONS | L   | L1 | W    | W1 | pcs / Reel (UNIT : mm)                       |
|------------|-----|----|------|----|--|
|            | 180 | 13 | 20.5 | 16 | Standard Reel Quantity is 1,000 pcs per reel |

### Maximum Re-flow Conditions



Total time : 200 sec. Max.

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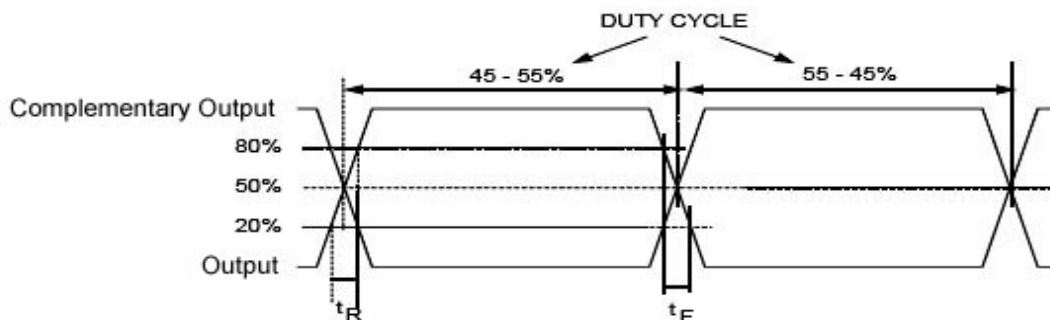
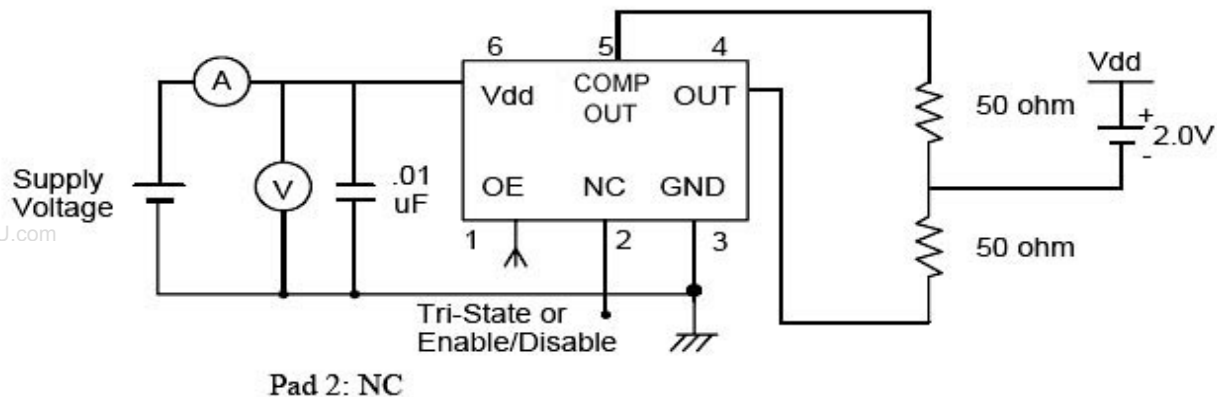
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## ACT9213 Test Circuit and Waveform



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