

## Specifications

| Parameters  | Ratings/Units   |
|---|---|
| <b>Frequency</b>  | 12.8 MHz  |
| <b>Frequency Stability:</b><br>Over-ALL Effects (Including 20 years Aging <sup>1</sup> )<br>Over Temperature Range (TOPR) | ±4.6 PPM Max<br>±0.28 PPM Max                               |
| <b>Temperature Range:</b><br>Operating (TOPR)<br>Storage (TSTG)   | -40°C ~ +85°C<br>-55°C ~ +125°C                             |
| <b>Supply Voltage (VDD)</b>   | 3.3 V ±5%   |
| <b>Input Current (IDD)</b>  | 6 mA Max  |
| <b>Output Load (HCMOS)</b> (VOL)  | 15 pF Max   |
| <b>Rise Time (10% ~ 90% VDD)</b> (TR)   | 5 nS  |
| <b>Fall Time (90% ~ 10% VDD)</b> (TF)   | 5 nS  |
| <b>Symmetry (@ 50% VDD)</b>   | 45% / 55%   |
| <b>Output Voltage (HCMOS)</b> (VOL)<br>(VOH)  | 10% VDD Max<br>90% VDD Max                                  |
| <b>Output Current (HCMOS)</b> (IOL)<br>(IOH)  | 6 mA Min<br>-6 mA Min                                       |
| <b>Phase Noise:</b><br>@ 100 Hz offset<br>@ 1 kHz offset<br>@ 10 kHz offset   | -120 dBc/Hz (TYP)<br>-140 dBc/Hz (TYP)<br>-148 dBc/Hz (TYP) |
| <b>Startup Time (Ts)</b>  | 2 mS Max  |
| <b>Aging per year @ 25°C</b>  | ±1 PPM Max  |
| <b>Maximum Soldering Temperature / Time</b>   | 260°C / 10 seconds  |
| <b>Moisture Sensitivity Level (MSL)</b>   | 1   |
| <b>Termination Finish</b>   | Au  |

<sup>1</sup> Inclusive of initial frequency tolerance, operating temperature range, 20 years Aging, input voltage change, load change, shock and vibration.

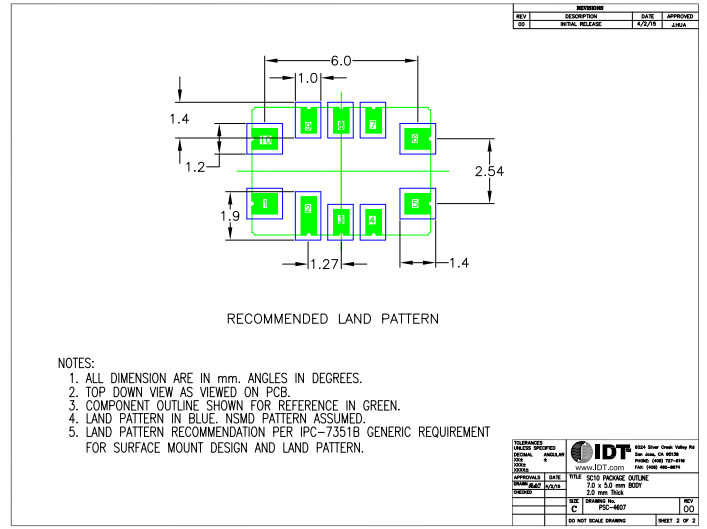
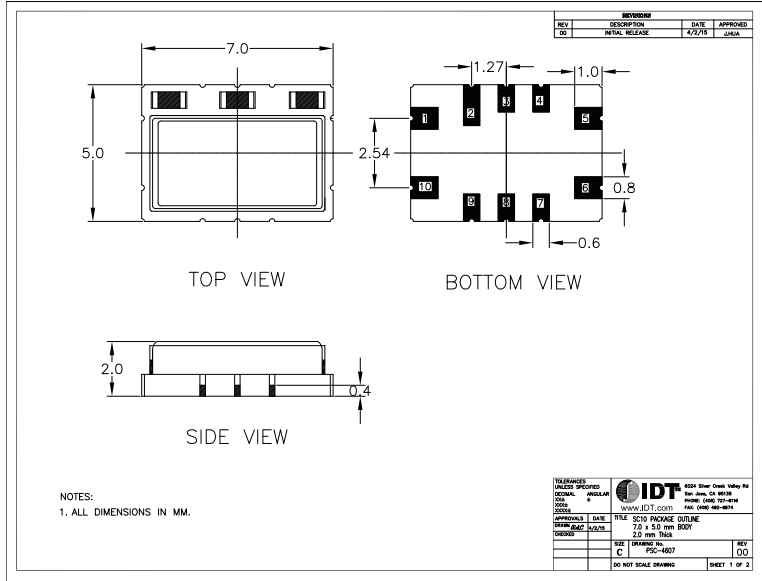
| Enable/Disable Function <sup>2</sup> |                |
|--------------------------------------|----------------|
| Pin 9                                | Output (Pin 6) |
| Open                                 | Active         |
| '1' Level VIH ≥ 70%VDD               | Active         |
| '0' Level VIH ≤ 30%VDD               | High Z         |

<sup>2</sup> An internal pullup resistance from pin 9 to pin 10 allows active output if pin 9 is left open.

**Note:** 0.01µF bypass capacitor should be placed between VDD (Pin 10) and GND (Pin 5) to minimize power supply line noise.

**Note:** The above specifications, having been carefully prepared and checked, is believed to be accurate at the time of publication; however, no responsibility is assumed by IDT for inaccuracies. Dimensional drawing below is for reference to critical specifications defined by size measurements. Certain non-critical visual attributes, such as side castellations, etc. may vary.

# Package Outline and Dimensions (SC10)



## Pin Assignments

| Pin Number | Description | Pin Number | Description |
|------------|-------------|------------|-------------|
| 1          | N.C.        | 6          | RFOUT       |
| 2          | N.C.        | 7          | N.C.        |
| 3          | N.C.        | 8          | N.C.        |
| 4          | N.C.        | 9          | E/D         |
| 5          | GND         | 10         | VDD         |

## Ordering Information

| Part / Order Number | Shipping Packaging | Package                 | Temperature  |
|---------------------|--------------------|-------------------------|--------------|
| 822AR-12.8-2SC10I   | Cut-Tape           | 7.0 x 5.0 x 2.0 mm SC10 | -40° to +85° |
| 822AR-12.8-2SC10I8  | Tape and Reel      | 7.0 x 5.0 x 2.0 mm SC10 | -40° to +85° |

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## Corporate Headquarters

TOYOSU FORESIA, 3-2-24 Toyosu,  
Koto-ku, Tokyo 135-0061, Japan  
[www.renesas.com](http://www.renesas.com)

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