

Specifications

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

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

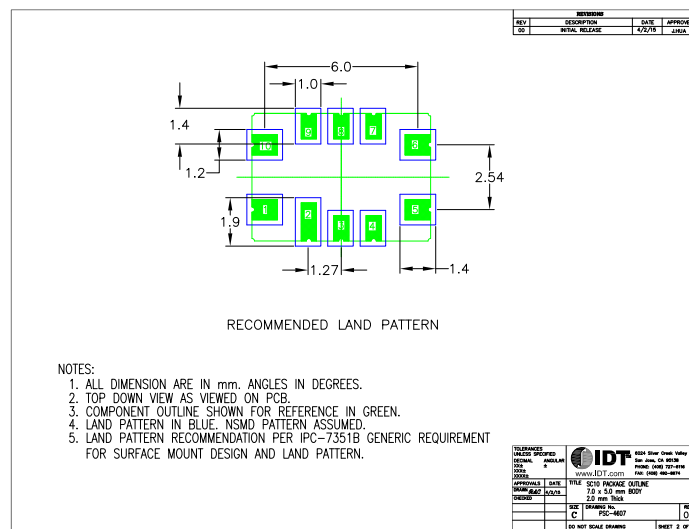
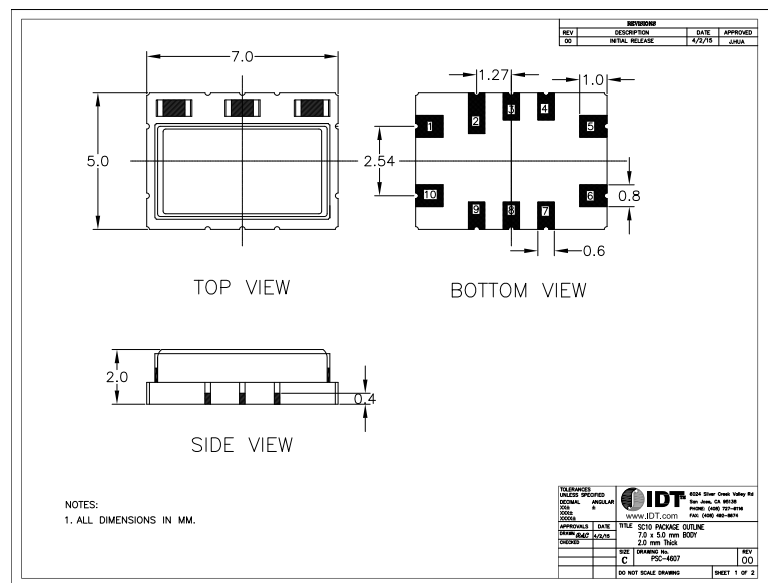
Enable/Disable Function ²	
Pin 9	Output (Pin 6)
Open	Active
'1' Level VIH ≥ 70%VDD	Active
'0' Level VIH ≤ 30%VDD	High Z

² 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°

IMPORTANT NOTICE AND DISCLAIMER

RENESAS ELECTRONICS CORPORATION AND ITS SUBSIDIARIES ("RENESAS") PROVIDES TECHNICAL SPECIFICATIONS AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NON-INFRINGEMENT OF THIRD-PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for developers who are designing with Renesas products. You are solely responsible for (1) selecting the appropriate products for your application, (2) designing, validating, and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. Renesas grants you permission to use these resources only to develop an application that uses Renesas products. Other reproduction or use of these resources is strictly prohibited. No license is granted to any other Renesas intellectual property or to any third-party intellectual property. Renesas disclaims responsibility for, and you will fully indemnify Renesas and its representatives against, any claims, damages, costs, losses, or liabilities arising from your use of these resources. Renesas' products are provided only subject to Renesas' Terms and Conditions of Sale or other applicable terms agreed to in writing. No use of any Renesas resources expands or otherwise alters any applicable warranties or warranty disclaimers for these products.

(Disclaimer Rev.1.01)

Corporate Headquarters

TOYOSU FORESIA, 3-2-24 Toyosu,
Koto-ku, Tokyo 135-0061, Japan
www.renesas.com

Contact Information

For further information on a product, technology, the most up-to-date version of a document, or your nearest sales office, please visit www.renesas.com/contact-us/.

Trademarks

Renesas and the Renesas logo are trademarks of Renesas Electronics Corporation. All trademarks and registered trademarks are the property of their respective owners.