



## QM13344

### 4xSPST (Single-Pole-Single-Throw Switch)

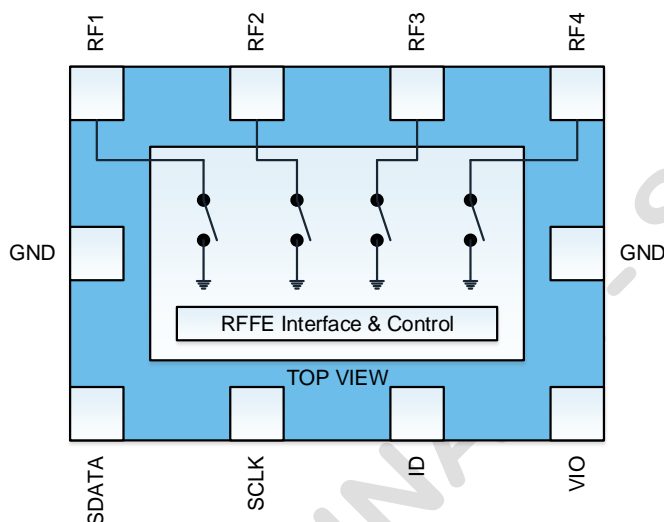
#### Product Overview

QM13344 is the smallest 4xSPST with VRF >80Vp and very low COFF. Excellent performance in a small solution size enables creation of antenna tuning solutions optimum for 5G applications.



10 Pin 1.1 x 1.5 x 0.4 mm Module Package

#### Functional Block Diagram



#### Key Features

- Very low COFF: <95fF
- Low On-Resistance, 2.15  $\Omega$
- Very high RF voltage handling capability: >80Vp
- 3 unique selectable USID using external pin, ID
- Small size 1.1mm x 1.5mm, module package
- > 2kV HBM ESD Protection on all pins
- RFFE 2.1 capable
- Suitable for all mobile applications including 5G & WiFi with broadband performance up to 10GHz

#### Applications

- Antenna Tuning
- Band Switching
- Impedance Tuning

#### Ordering Information

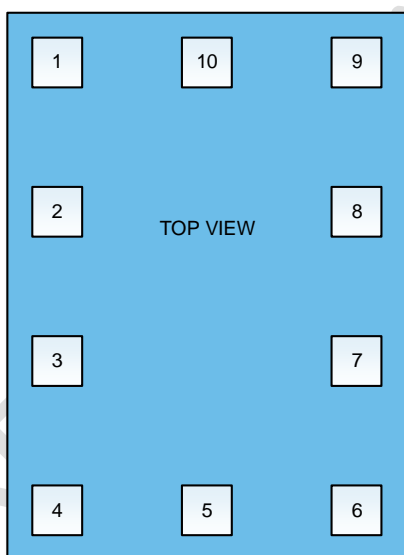
Part Number	Description
QM13344SB	5-pc Sample Bag
QM13344SR	100-pc, 7" Reel
QM13344TR13	10000-pc, 13" Reel
QM13344DK	Design Kit with EVB and 5-pc Sample Bag

## Electrical Specifications

Nominal conditions unless specified otherwise.  $V_{IO}=1.8V$ , Temp=25C, 50 $\Omega$

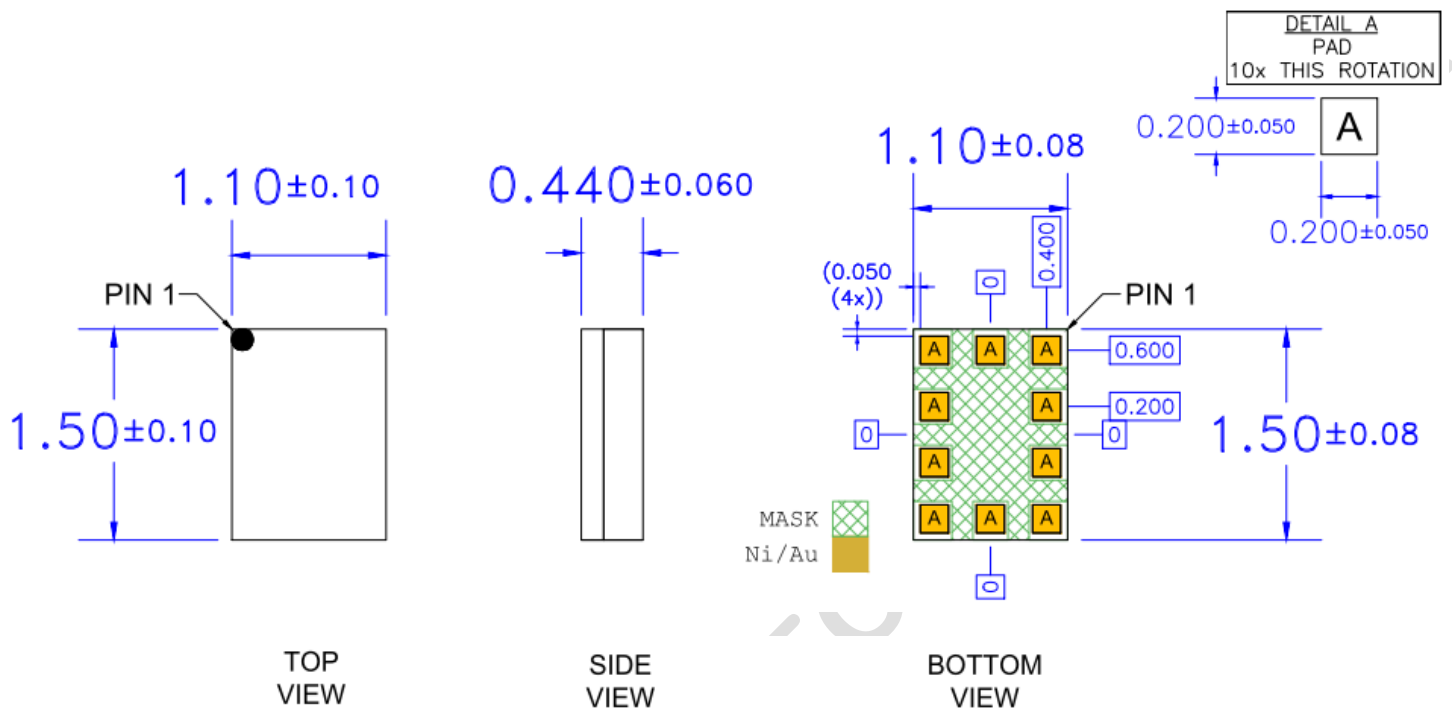
PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Isolation: RF1 – RF3 & RF2 – RF4 OFF-STATE	700 – 915 MHz		58		dB
	915 – 1910 MHz		53		dB
	1910 – 2700 MHz		49		dB
	3300 – 4200 MHz		44		dB
	4200 – 5000 MHz		41		dB
Isolation: RF1 – RF2 & RF3 – RF4 OFF-STATE	700 – 915 MHz		35		dB
	915 – 1910 MHz		31		dB
	1910 – 2700 MHz		26		dB
	3300 – 4200 MHz		22		dB
	4200 – 5000 MHz		20		dB
Second Harmonic	$f_o = 700MHz$ ; Pin = 23dBm		-115		dBm
Third Harmonic			-120		dBm
Second Harmonic	$f_o = 915MHz$ ; Pin = 35dBm		-100		dBm
Third Harmonic			-85		dBm
Second Harmonic	$f_o = 1910MHz$ ; Pin = 33dBm		-100		dBm
Third Harmonic			-90		dBm
Second Harmonic	$f_o = 2570MHz$ ; Pin = 23dBm		-110		dBm
Third Harmonic			-115		dBm

## Pin Configuration and Description

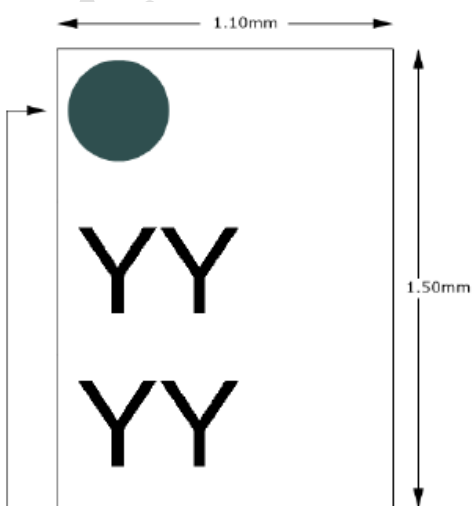


Pin Number	Label	Description
1	SDATA	RFFE DATA Line
2	SCLK	RFFE CLOCK Line
3	ID	USID Select
4	VIO	VIO Supply
5	GND	Ground
6	RF4	RF Port 4
7	RF3	RF Port 3
8	RF2	RF Port 2
9	RF1	RF Port 1
10	GND	Ground

## Package Outline and Drawing



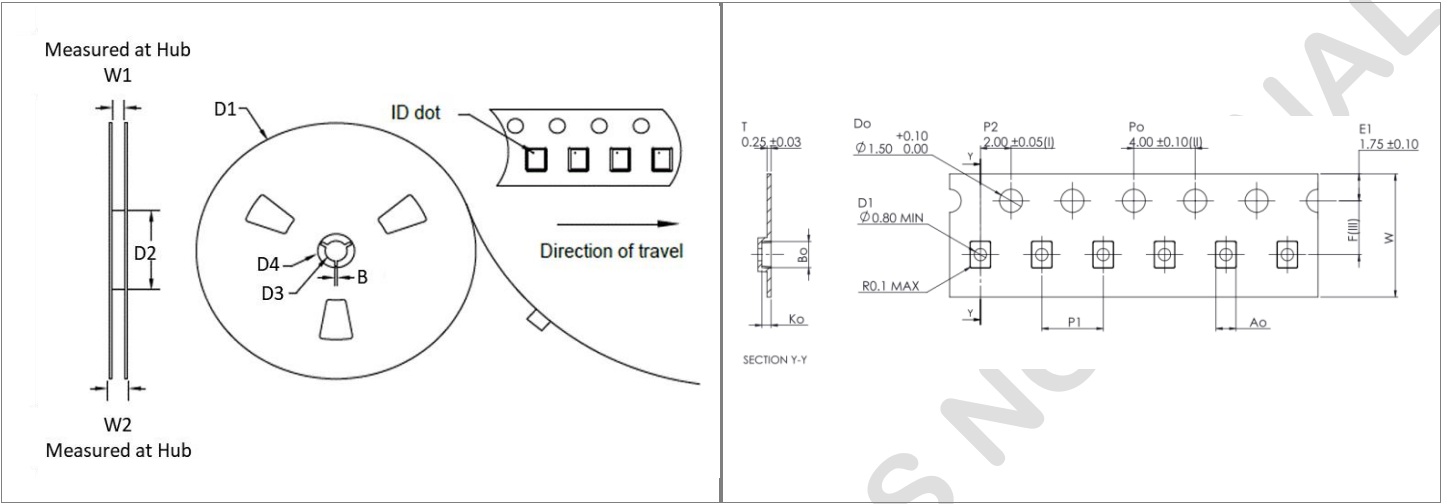
## Branding Diagram



Pin 1 Indicator

Trace Code to be assigned by SubCon  
(where YYYY indicates the Trace Code)

Tape and Reel Information



Feature	Measure	Symbol	Size (mm)	Feature	Measure	Symbol	Size (mm)
Flange	Diameter	D1	330.0	Cavity	Length	Ao	1.3
	Thickness	W2	14.2		Width	Bo	1.7
	Space Between Flange	W1	8.8		Depth	Ko	0.6
Hub	Outer Diameter	D2	102.0		Pitch	P1	4.0
	Arbor Hole Diameter	D3	13.0	Centerline Distance	Cavity to Perforation (Length)	P2	2.0
	Key Slit Width	B	2.0		Cavity to Perforation (Width)	P3	3.5
	Key Slit Diameter	D4	20.2	Carrier Tape	Width	W	8.0

(Unless otherwise specified, all dimension tolerances per EIA-481)

#### Handling Precautions

Parameter	VALUE	Standard
ESD – Human Body Model (HBM)	Class 2	ESDA/JEDEC JS-001



Caution!

ESD sensitive device

#### Solderability

Compatible with both lead-free (260 °C max. reflow temperature) and tin/lead (245 °C max. reflow temperature) soldering processes.

Package lead plating: Electrolytic plated Au over Ni

#### RoHS Compliance

This part is compliant with the 2011/65/EU RoHS directive (Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment), as amended by Directive 2015/863/EU.

This product also has the following attributes:

- Lead free
- Halogen Free (Chlorine, Bromine)
- Antimony Free
- TBBP-A (C<sub>15</sub>H<sub>12</sub>Br<sub>4</sub>O<sub>2</sub>) Free
- SVHC Free



#### Contact Information

For the latest specifications, additional product information, worldwide sales and distribution locations:

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