

## 1. General Description

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The EMS4567 is a high performance, quad, Single Pole Double Throw (SPDT) analog switch that features ultra-low  $R_{ON}$  of  $1.9\ \Omega$  (typical) at  $5.5V\ V_{CC}$ . The EMS4567 operates over a wide  $V_{CC}$  range of  $1.5V$  to  $5.5V$  and is designed for break-before-make operation. The select input is TTL-level compatible.

EMS4567 is also featured with smart circuitry to minimize  $V_{CC}$  leakage current even when the control voltage is lower than  $V_{CC}$  supply voltage. This feature suits mobile handset applications by allowing direct interface with baseband processor general-purpose IO with minimal battery consumption. In other word, there is no need of additional device to shift control level to be the same as that of  $V_{CC}$  in real application.

The EMS4567 is available in QFN1.8x2.6-16L package. Standard Products are Pb-free and halogen-free.

## 2. Features and Benefits

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- Wide supply voltage range from  $1.5\ V$  to  $5.5\ V$
- Low On-resistance,  $R_{ON} = 1.9\ \Omega$  when  $V_{CC} = 5.5\ V$
- High Bandwidth:  $-3\ dB$  @  $700\ MHz$
- Rail-to-Rail Signal Range
- Break-Before-Make Switching
- Low quiescent current over an Expanded Control Input Range
- ESD protection: HBM ESDA/JEDEC JS-001 Class 2 exceeds  $2000\ V$

## 3. Applications

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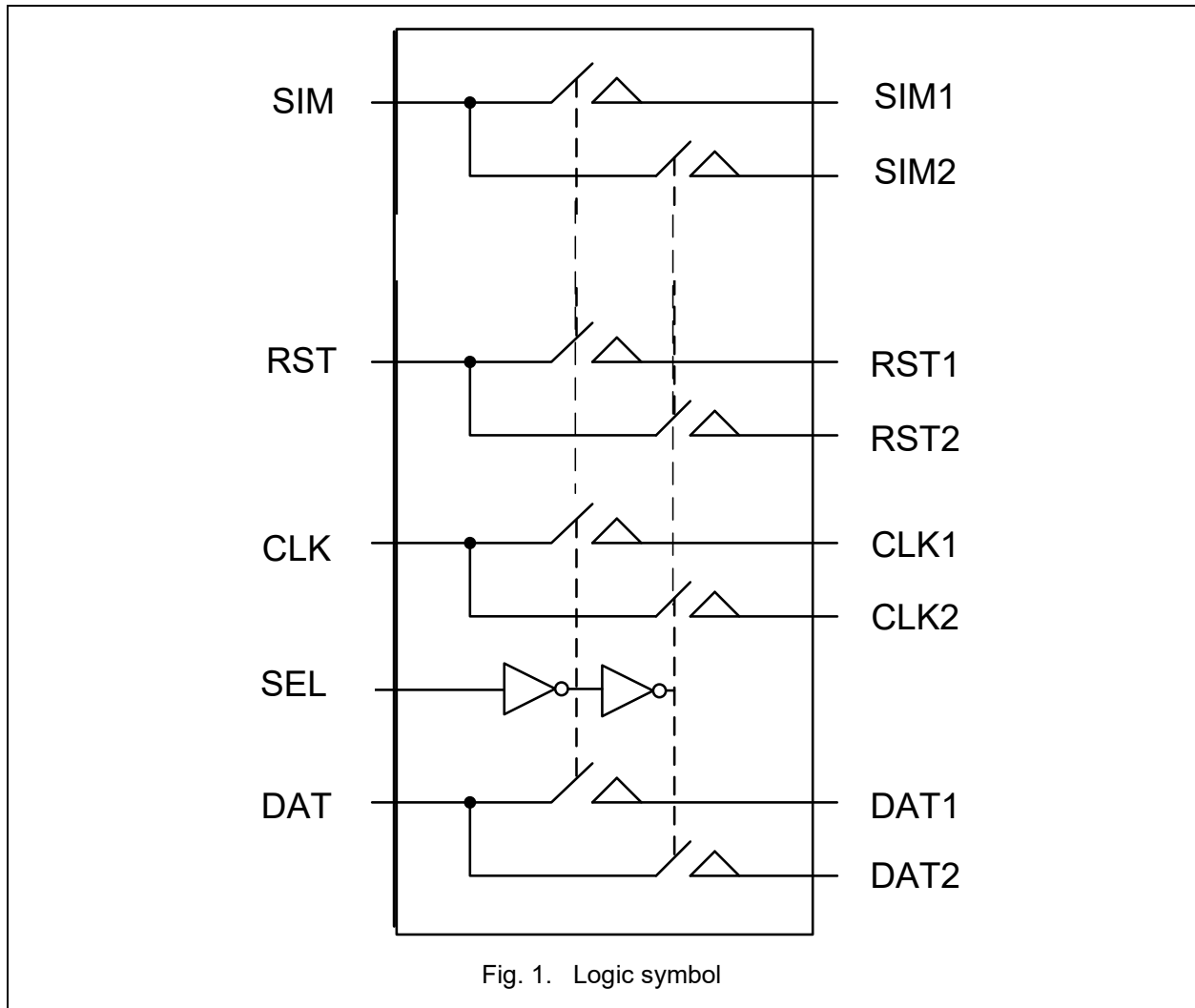
- Cell phones, PDA, Digital Camera and Notebook
- LCD Monitor, TV and Set-Top Box
- Audio and Video Signal Routing
- Other electronic equipment

## 4. Ordering Information

Table 1. Ordering information

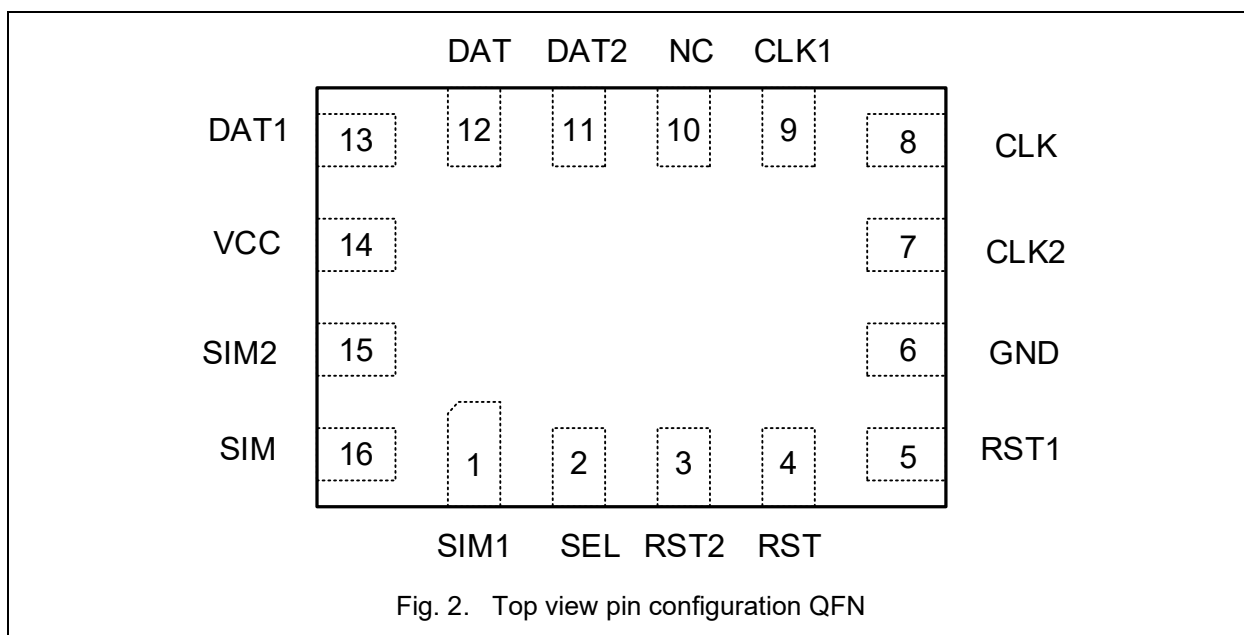
| Type number | Topside marking | Package        |                                                              |          |
|-------------|-----------------|----------------|--------------------------------------------------------------|----------|
|             |                 | Name           | Description                                                  | Quantity |
| EMS4567Q    | A4567           | QFN1.8x2.6-16L | QFN package, 16 pins<br>1.8 mm × 2.6 mm; 0.6 mm (Max) height | 3000     |

## 5. Function Diagram



## 6. Pinning Information

### 6.1. Pinning



### 6.2. Pin description

Table 2. Pin description

| Symbol                 | Pin       | Description                 |
|------------------------|-----------|-----------------------------|
| SIM, DAT, CLK, RST     | 4,8,12,16 | Common Port                 |
| SIM1, DAT1, CLK1, RST1 | 1,5,9,13  | Data Port (Normally closed) |
| SIM2, DAT2, CLK2, RST2 | 3,7,11,15 | Data Port (Normally open)   |
| SEL                    | 2         | Logic Input Control         |
| VCC                    | 14        | Positive Power Supply       |
| GND                    | 6         | Ground                      |

## 7.Functional Description

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**Table 3. Function table**

H = HIGH voltage level; L = LOW voltage level.

| SEL | Function                                                                                     |
|-----|----------------------------------------------------------------------------------------------|
| L   | SIM1 Connected to SIM, DAT1 Connected to DAT<br>CLK1 Connected to CLK, RST1 Connected to RST |
| H   | SIM2 Connected to SIM, DAT2 Connected to DAT<br>CLK2 Connected to CLK, RST2 Connected to RST |

## 8.Package Outline

**QFN1.8x2.6-16L**
