

**SONY****1T411****Variable Capacitance Diode****Description**

The 1T411 is a variable capacitance diode designed for analog cellular phone and it has a super miniature package.

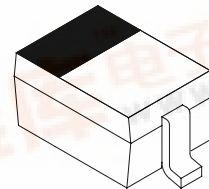
**Features**

- Super miniature package
- Small series resistance 0.40  $\Omega$  Max. (f=470 MHz)
- Large capacitance ratio 6.5 Typ. ( $C_2/C_{25}$ )
- Capacitance deviation in a matching group 3 % (max.)

**Structure**

Silicon epitaxial planar-type diode

M-235

**Absolute Maximum Ratings** (Ta=25 °C)

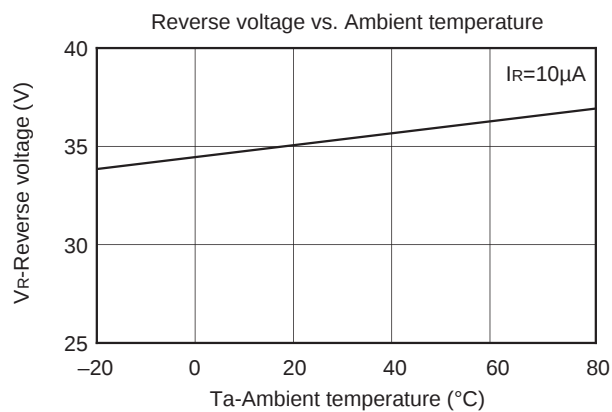
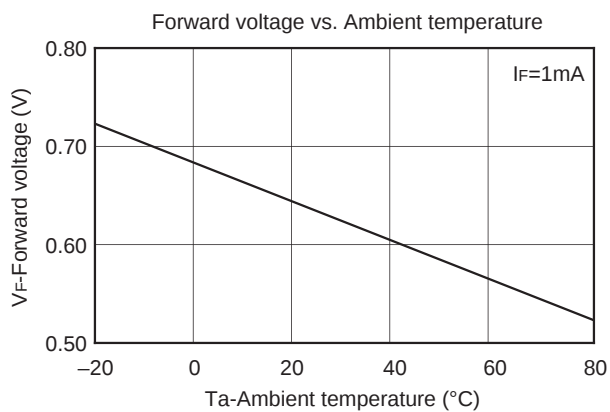
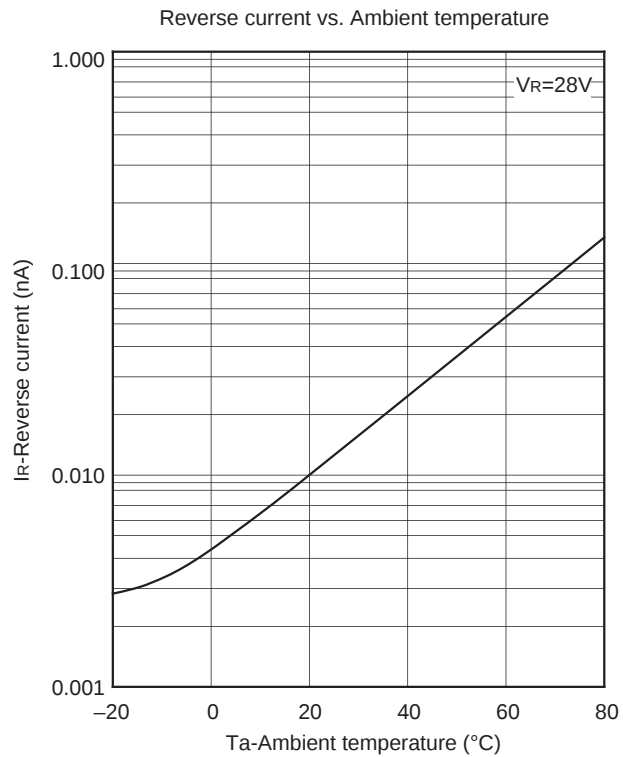
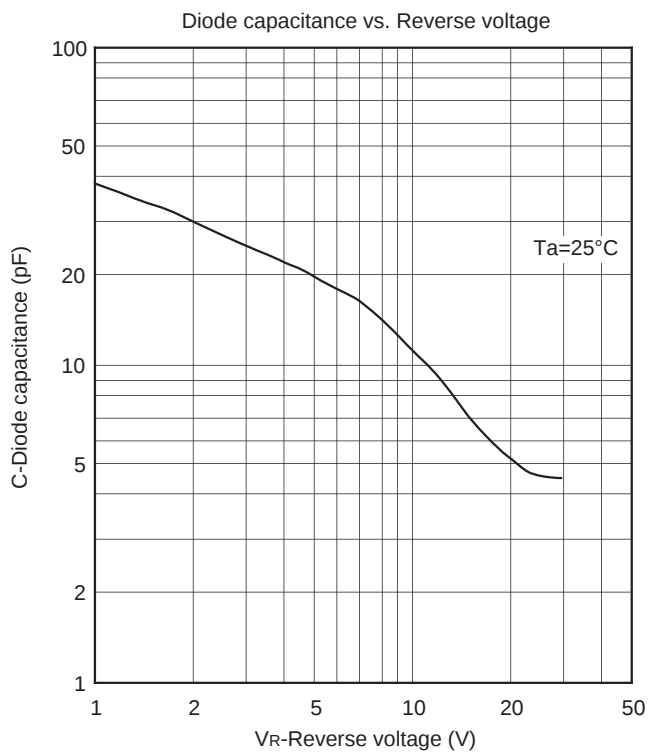
- |                         |           |                                   |    |
|-------------------------|-----------|-----------------------------------|----|
| • Reverse voltage       | $V_R$     | 30                                | V  |
| • Peak reverse voltage  | $V_{RM}$  | 35                                | V  |
|                         |           | ( $R_L \geq 10 \text{ k}\Omega$ ) |    |
| • Operating temperature | $T_{opr}$ | -20 to +75                        | °C |
| • Storage temperature   | $T_{stg}$ | -65 to +150                       | °C |

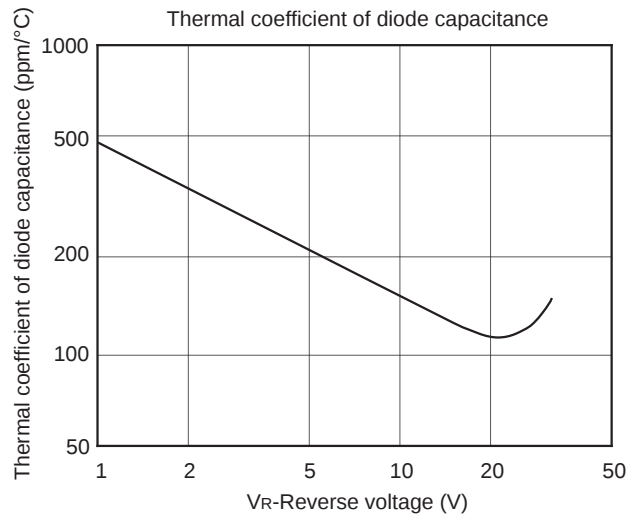
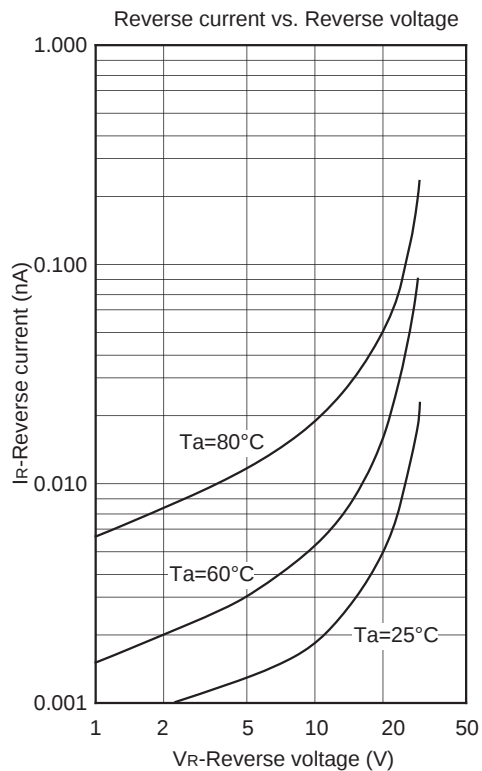
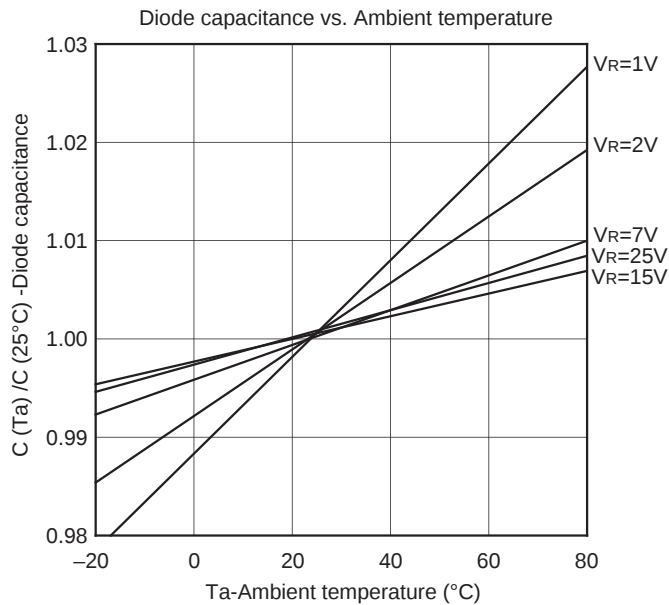
**Electrical Characteristics**

(Ta=25 °C)

| Item                                      | Symbol       | Conditions                                        | Min.  | Typ.  | Max.  | Unit     |
|-------------------------------------------|--------------|---------------------------------------------------|-------|-------|-------|----------|
| Reverse current                           | $I_R$        | $V_R=28 \text{ V}$                                |       |       | 20    | nA       |
| Diode capacitance                         | $C_2$        | $V_R=2 \text{ V}, f=1 \text{ MHz}$                | 26.37 | 29.50 | 33.05 | pF       |
|                                           | $C_{25}$     | $V_R=25 \text{ V}, f=1 \text{ MHz}$               | 4.030 | 4.400 | 4.807 | pF       |
| Capacitance ratio                         | $C_2/C_{25}$ | $f=1 \text{ MHz}$                                 |       | 6.5   |       |          |
| Series resistance                         | $r_s$        | $C_D=14 \text{ pF}, f=470 \text{ MHz}$            |       | 0.35  | 0.40  | $\Omega$ |
| Capacitance deviation in a matching group | $\Delta C$   | $V_R=2 \text{ to } 25 \text{ V}, f=1 \text{ MHz}$ |       |       | 3     | %        |

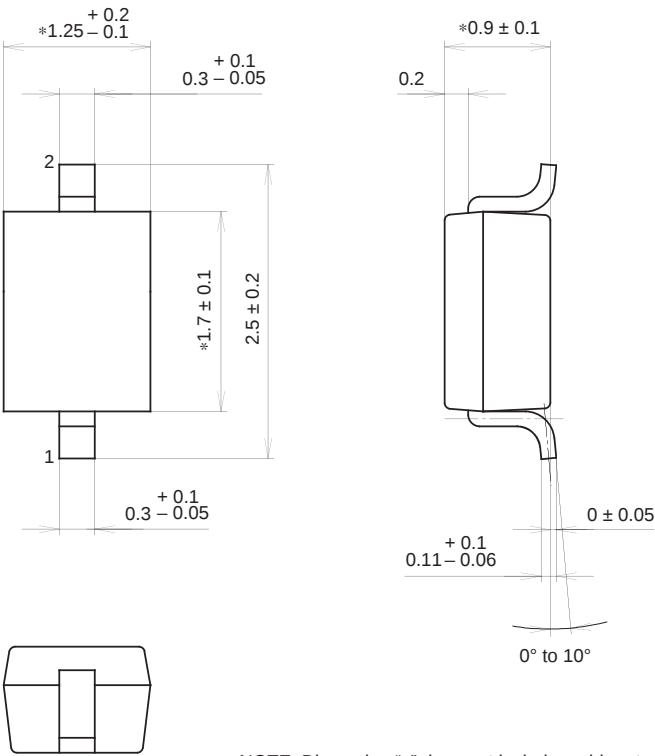
Sony reserves the right to change products and specifications without prior notice. This information does not convey any license by any implication or otherwise under any patents or other right. Application circuits shown, if any, are typical examples illustrating the operation of the devices. Sony cannot assume responsibility for any problems arising out of the use of these circuits.





Package Outline    Unit : mm

M-235

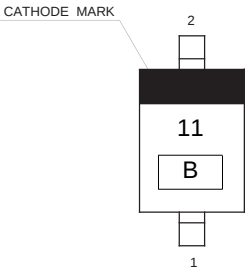


NOTE: Dimension "\*" does not include mold protrusion.

|            |       |
|------------|-------|
| SONY CODE  | M-235 |
| EIAJ CODE  | _____ |
| JEDEC CODE | _____ |

|                |      |
|----------------|------|
| PACKAGE WEIGHT | 0.1g |
|----------------|------|

Marking



Notes  
1) B:Lot No.(Year and Month of manufacture)  
Year;Last one digit  
Month;A,B,C(for Oct. to Dec.)  
1 to 9(for Jan.to Sept.)