

Antenna Switching Diode Array (4 in 1)

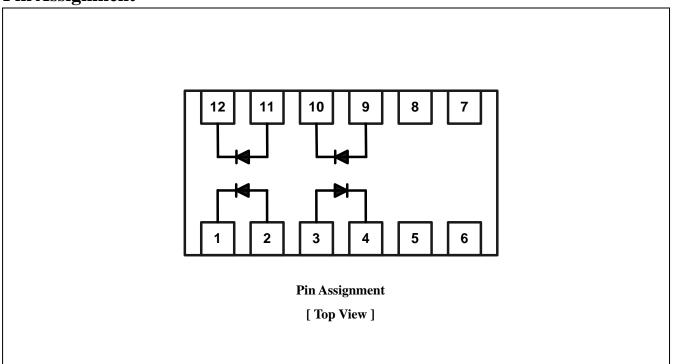
#### **Features**

- 4 channel 1 package type Antenna Switching Diode Array
- Low capacitance : Max.0.35pF
- Low series resistance : rs=  $1.1\Omega(Typ.)@I_F=10mA$
- GSM Mobile ASM/FEM Module RF Switch Applications [ Dual-Band Switching Diode ]

### **Ordering Information**

| Type No.  | Marking | Package Code |
|-----------|---------|--------------|
| ND102M4AL | P6      | 12PDFN       |

### **Pin Assignment**



**Absolute Maximum Ratings** 

(**Ta=25**°C)

| Characteristic             | Symbol           | Rating    | Unit |  |
|----------------------------|------------------|-----------|------|--|
| Continuous reverse voltage | $V_R$            | 30        | V    |  |
| Forward current            | $I_{\mathrm{F}}$ | 50        | mA   |  |
| Junction temperature       | $T_{\rm j}$      | 150       | °C   |  |
| Storage temperature range  | $T_{ m stg}$     | -55 ~ 150 | °C   |  |

### **Electrical Characteristics**

(Ta=25°C)

| Characteristic            | Symbol                             | Test Condition   | Min. | Typ.  | Max. | Unit |
|---------------------------|------------------------------------|--|------|-------|------|------|
| Reverse voltage           | $V_R$                              | $I_R = 10 \mu A$   | 30   | -     | -    | V    |
| Reverse current           | $I_R$                              | $V_R = 30V$  | -    | -     | 0.1  | μΑ   |
| Forward voltage           | $V_{\rm F}$                        | $I_F = 50 \text{mA}$   | -    | 0.90  | -    | V    |
| Total capacitance         | $C_{T}$                            | $V_R = 1V$ , $f = 1MHz$  | -    | 0.3   | 0.35 | pF   |
| Series resistance         | $r_{\rm S}$                        | I <sub>F</sub> = 10mA, f= 100MHz   | -    | 1.1   | 1.5  | Ω    |
| Insertion Loss            |                                    | $I_{F} = 1 \text{mA}, f = 1.8 \text{GHz}$ $I_{F} = 5 \text{mA}, f = 1.8 \text{GHz}$ $I_{F} = 10 \text{mA}, f = 1.8 \text{GHz}$ | -    | -0.23 | -    | dB   |
|                           | $ \mathbf{S}_{21} ^2$              |  | -    | -0.1  | -    | dB   |
|                           |                                    |  | -    | -0.08 | -    | dB   |
| Isolation [ Return Loss ] |                                    | $V_R = 0V, f = 0.9GHz$<br>$V_R = 0V, f = 1.8GHz$<br>$V_R = 0V, f = 2.4GHz$   | -    | -19   | -    | dB   |
|                           | $\left \mathbf{S}_{12}\right ^{2}$ |  | -    | -14   | -    | dB   |
|                           |                                    |  | -    | -11   | -    | dB   |

### **Electrical Characteristic Curves**

Fig. 1  $r_s$  -  $I_F$ 

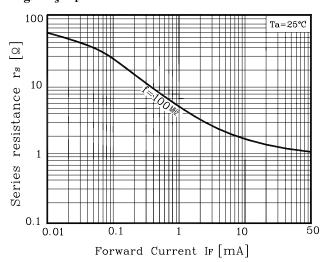


Fig. 2  $C_T$  -  $V_R$ 

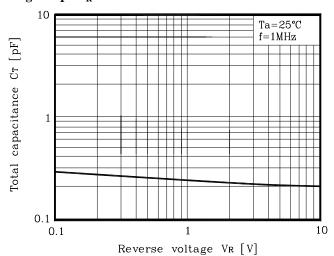


Fig. 3  $I_F - V_F$ 

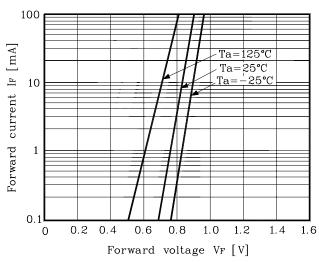


Fig. 4 Insertion Loss  $|S_{21}|^2 = f(f)$ 

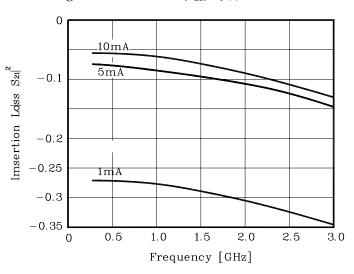
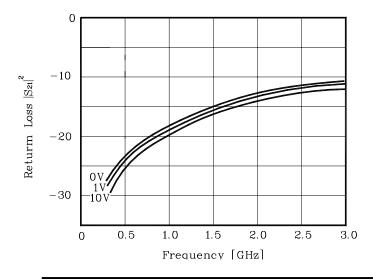
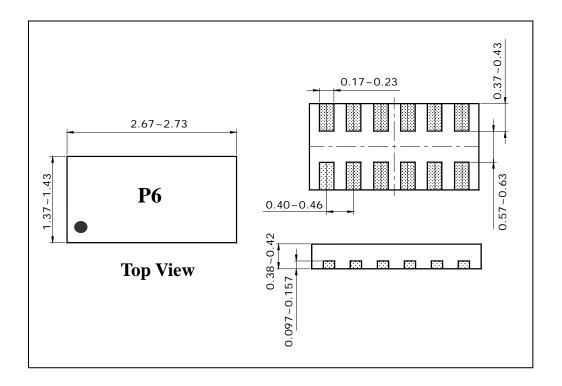


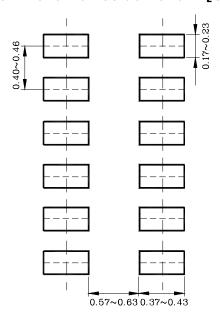
Fig. 5 Return Loss  $|S_{12}|^2 = f(f)$ 



### Outline Dimensions [unit:mm]



### \* Recommend PCB solder land [Unit : mm]



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