

# PIN diode

## RN739F / RN739D

### ●Applications

VHF / UHF band variable attenuators and AGC

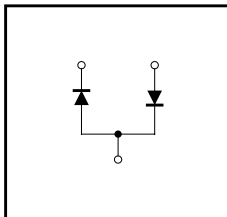
### ●Features

- 1) Multiple diodes in one small surface mount package.  
(UMD3, SMD3)
- 2) Low high-frequency forward resistance ( $r_F$ ) / low capacitance ( $C_T$ ).
- 3) High reliability.

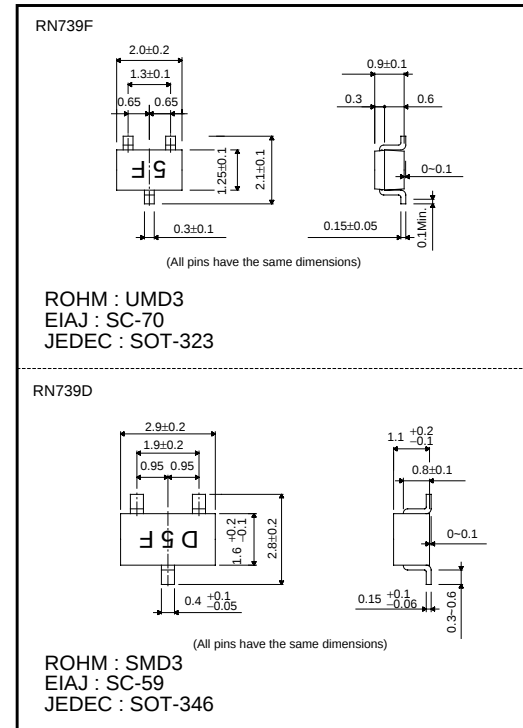
### ●Construction

Silicon diffusion junction

### ●Circuit



### ●External dimensions (Units : mm)



### ●Absolute maximum ratings ( $T_a = 25^\circ\text{C}$ )

| Parameter            | Symbol    | Limits          | Unit             |
|----------------------|-----------|-----------------|------------------|
| DC reverse voltage   | $V_R$     | 50              | V                |
| DC forward current   | $I_F$     | 50              | mA               |
| Power dissipation    | $P_d$     | 100             | mW               |
| Junction temperature | $T_j$     | 125             | $^\circ\text{C}$ |
| Storage temperature  | $T_{stg}$ | $-55 \sim +125$ | $^\circ\text{C}$ |

### ●Electrical characteristics ( $T_a = 25^\circ\text{C}$ )

| Parameter                     | Symbol | Min. | Typ. | Max. | Unit     | Conditions                            |
|-------------------------------|--------|------|------|------|----------|---------------------------------------|
| Forward voltage               | $V_F$  | —    | —    | 1.0  | V        | $I_F=50\text{mA}$                     |
| Reverse current               | $I_R$  | —    | —    | 100  | nA       | $V_R=50\text{V}$                      |
| Capacitance between terminals | $C_T$  | —    | —    | 0.4  | pF       | $V_R=35\text{V}$ , $f=1\text{MHz}$    |
| Forward operating resistance  | $r_F$  | —    | —    | 7    | $\Omega$ | $I_F=10\text{mA}$ , $f=100\text{MHz}$ |

# Diodes

## ●Electrical characteristic curves (Ta = 25°C)

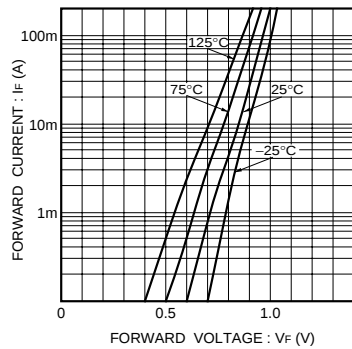


Fig.1 Forward characteristics

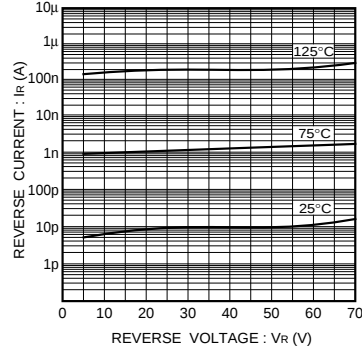


Fig.2 Reverse characteristics

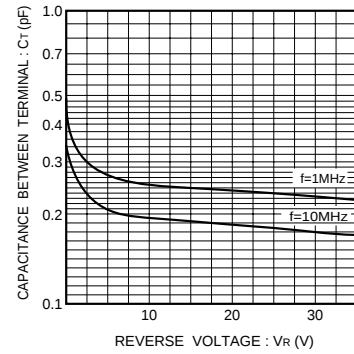


Fig.3 Capacitance between terminals characteristics 1

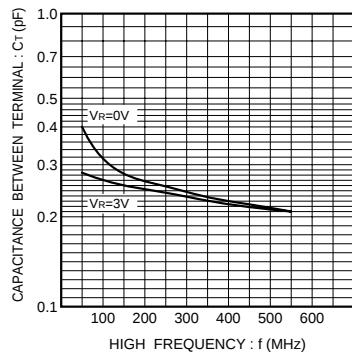


Fig.4 Capacitance between terminals characteristics 2

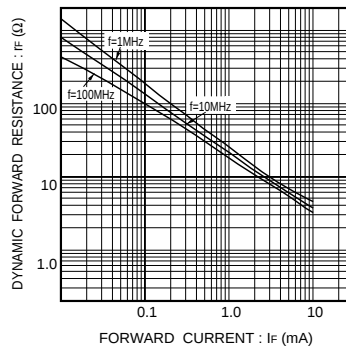


Fig.5 High frequency characteristics

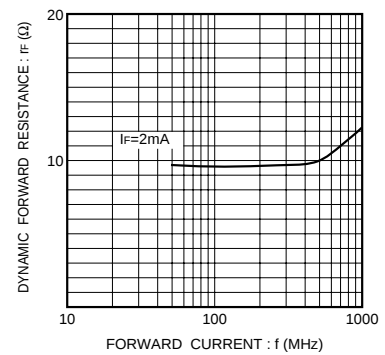


Fig.6 Forward operating resistance characteristics

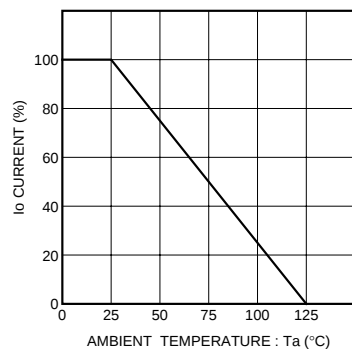


Fig.7 Derating curve  
(mounting on glass epoxy PCBs)