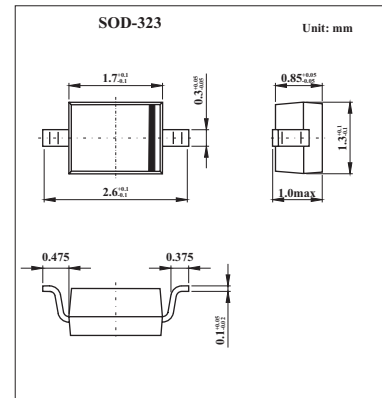


General Purpose PIN Diode

KAP50-03(BAP50-03)

■ Features

- Low diode capacitance.
- Low diode forward resistance.



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Rating | Unit |
|---|---------------|-------------|------------------|
| Continuous reverse voltage | V_R | 50 | V |
| Continuous forward current | I_F | 50 | mA |
| Total power dissipation $T_s = 90^\circ\text{C}$ | P_{tot} | 500 | mW |
| Storage temperature | T_{stg} | -65 to +150 | $^\circ\text{C}$ |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Thermal resistance from junction to soldering point | $R_{th\ j-s}$ | 85 | K/W |

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------|--------|---|-----|------|------|----------|
| Forward voltage | V_F | $I_F = 50\text{ mA}$ | | 0.95 | 1.1 | V |
| Reverse voltage | V_R | $I_R = 10\ \mu\text{A}$ | 50 | | | V |
| Reverse current | I_R | $V_R = 50\text{ V}$ | | | 100 | nA |
| Diode capacitance | C_d | $V_R = 0; f = 1\text{ MHz}$ | | 0.4 | | pF |
| | | $V_R = 1\text{ V}; f = 1\text{ MHz}$ | | 0.3 | 0.55 | pF |
| | | $V_R = 5\text{ V}; f = 1\text{ MHz}$ | | 0.2 | 0.35 | pF |
| Diode forward resistance | r_D | $I_F = 0.5\text{ mA}; f = 100\text{ MHz}$ | | 25 | 40 | Ω |
| | | $I_F = 1\text{ mA}; f = 100\text{ MHz}$ | | 14 | 25 | Ω |
| | | $I_F = 10\text{ mA}; f = 100\text{ MHz}$ | | 3 | 5 | Ω |

■ Marking

| | |
|---------|----|
| Marking | A5 |
|---------|----|

KAP50-03(BAP50-03)

■ Typical Characteristics

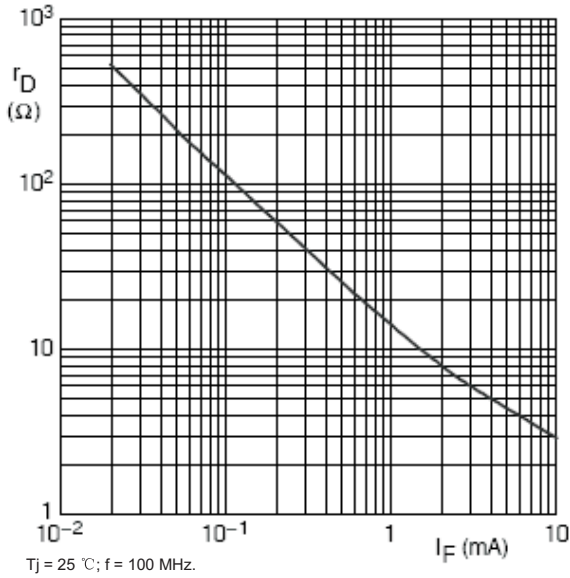


Fig.1 Forward resistance as a function of forward current; typical values.

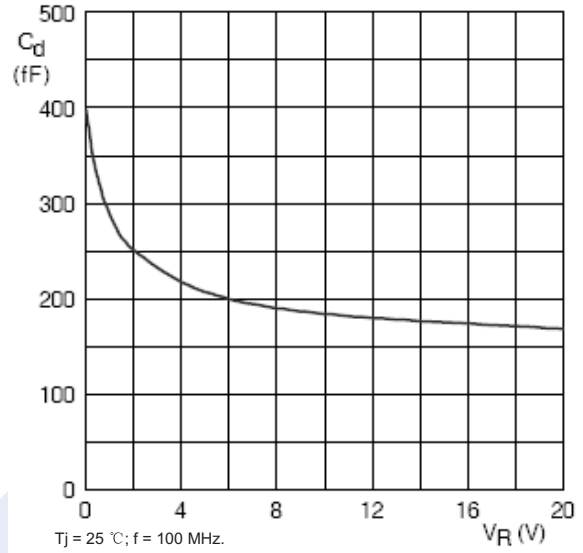
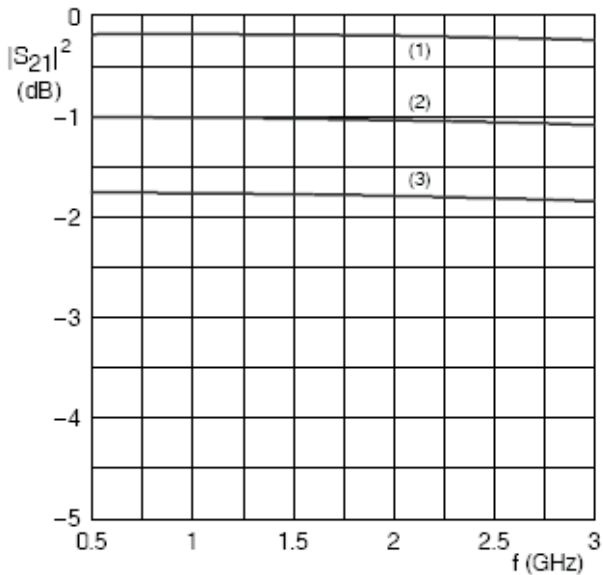
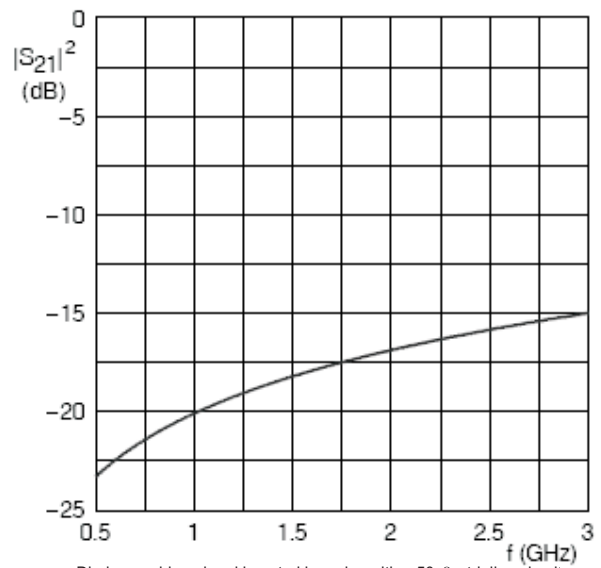


Fig.2 Diode capacitance as a function of reverse voltage; typical values.



(1) $I_F = 10\text{ mA}$. (2) $I_F = 1\text{ mA}$. (3) $I_F = 0.5\text{ mA}$.
Diode inserted in series with a $50\ \Omega$ stripline circuit and biased via a analyzer Tee network.
 $T_{amb} = 25^\circ\text{C}$.

Fig.3 Insertion loss ($|S_{21}|^2$) of the diode as a function of frequency; typical values.



Diode zero biased and inserted in series with a $50\ \Omega$ stripline circuit
 $T_{amb} = 25^\circ\text{C}$.

Fig.4 Isolation ($|S_{21}|^2$) of the diode as a function of frequency; typical values.