Ordering number : EN3057

SANYO No.3057

# SPD Series

Package Type GaAs Schottky Barrier Diode

## C to Ku Band Mixer, Detector, Modulator Applications

### Features

- Very small-sized ceramic package
- Less parasitic components, conversion loss
- Many types : 5 single types, 10 integrated types

### Applications

- SPD-121 : C to X band use, DBS, measuring instruments
- SPD-121M : C to X band use, TVRO, DBS
- SPD-221 : X to Ku band use, communications equipment
- SPD-121P, 122P : C to X band use, mixer, modulator

### Absolute Maximum Ratings at Ta = 25°C

| | | | SPD-121 | 121M | 221 | 121P | 122P | unit |
|---|---|---|---|---|---|---|---|---|
| Reverse Voltage | $V_R$ | | → | → | → | → | −4 | V |
| Peak Reverse Voltage | $V_{RM}$ | | → | → | → | → | −4.5 | V |
| Average Rectified Current | $I_O$ | | → | → | → | → | 50 | mA |
| Peak Forward Current | $I_{FM}$ | | → | → | → | → | 150 | mA |
| Storage Temperature | Tstg | | → | → | → | −65 to +150 | | °C |
| Junction Temperature | Tj | | → | → | → | → | 150 | °C |
| Mounting Condition | Tm | 10 s | → | → | → | → | 230 | °C |

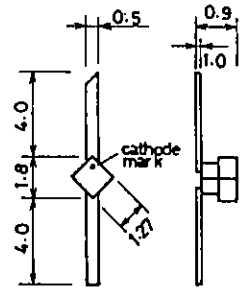
### Electrical Characteristics at Ta = 25°C

| | | | SPD-121 | 121M | 221 | 121P | 122P | unit | |
|---|---|---|---|---|---|---|---|---|---|
| Reverse Voltage | $V_R$ | $I_R = -10\mu A$ | → | → | → | → | −4 | V | min |
| Forward Voltage | $V_F$ | $I_F = 20mA$ | 0.9 | 0.9 | 1.0 | 0.9 | 0.9 | V | max |
| Total Capacitance | Ct | $V = 0V, f = 1MHz$ | 0.3 | 0.35 | 0.25 | 0.4 | 0.4 | pF | max |
| Series Resistance | Rs | $I_F = 20mA$ | 1.5 | 1.5 | 2.5 | 1.5 | 1.5 | Ω | |
| Conversion Loss | $L_C$ | $f = 10.678GHz, P_{LO} = 10mW$ | 3.7 | 3.8 | 3.6 | 4.0 | 4.0 | dB | |

### Electrical Connection

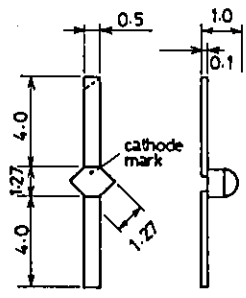


### Package Dimensions 1218 (unit: mm)



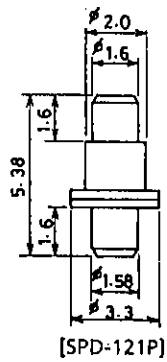

[SPD-121,221]

### Package Dimensions 1219 (unit: mm)



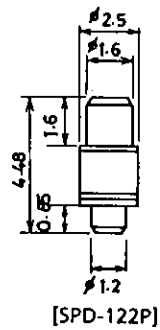

[SPD-121M]

### Package Dimensions 1221 (unit: mm)

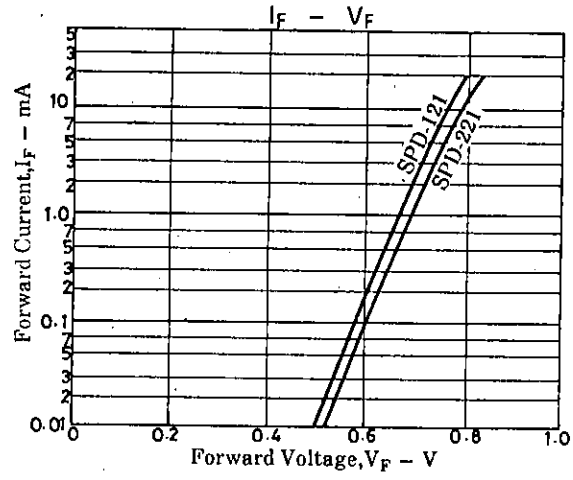


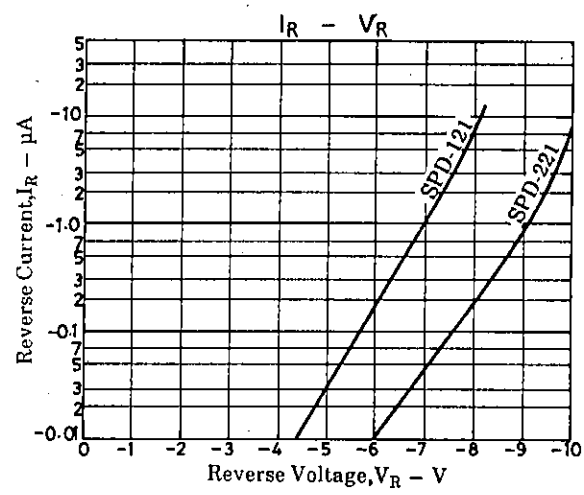

[SPD-121P]

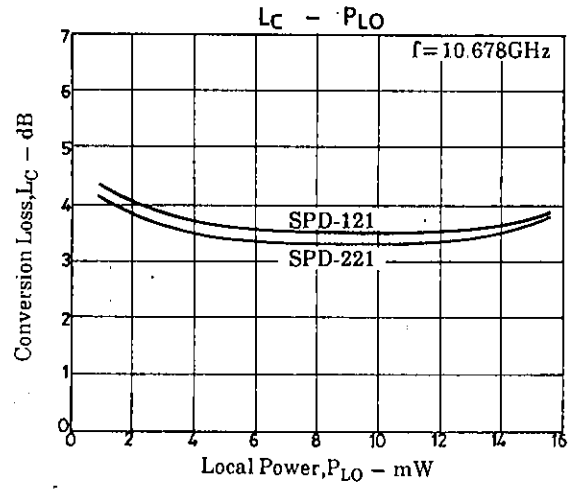
### Package Dimensions 1220 (unit: mm)




[SPD-122P]

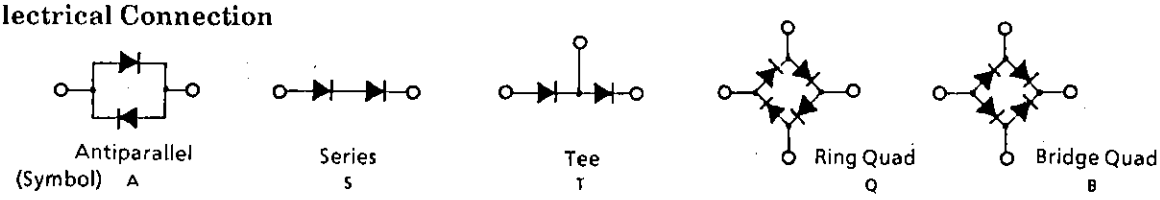



Note : In addition to the single types shown above, the integrated types shown below are available. For details, contact our sales offices.

## Electrical Connection





- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
  ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use:
  ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.