



## DP2994C

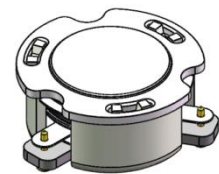
### ENG PART:DP-15.5CM-3800T4200-CCW

3800MHz to 4200MHz Single-Junction Surface Mount Circulator

| REV. | DESCRIPTION   | REVISOR | DATE      | APPROVED |
|------|---------------|---------|-----------|----------|
| A    | SAME AS REV.1 | ZZ.Zhu  | 2024/1/19 | Nick     |

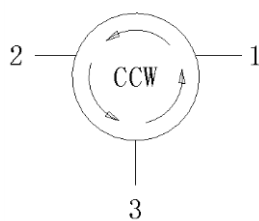
#### Applications:

- Wireless Infrastructure
- Power Amplifier



#### Features:

- Operating frequency range: 3800MHz to 4200MHz
- Operating temperature range: -40°C to +125°C
- Storage temperature range: -55°C to +150°C
- Small surface-mount package delivered on T&R
- BeO free & RoHS compliant



Block Diagram

**Electrical Specifications:**

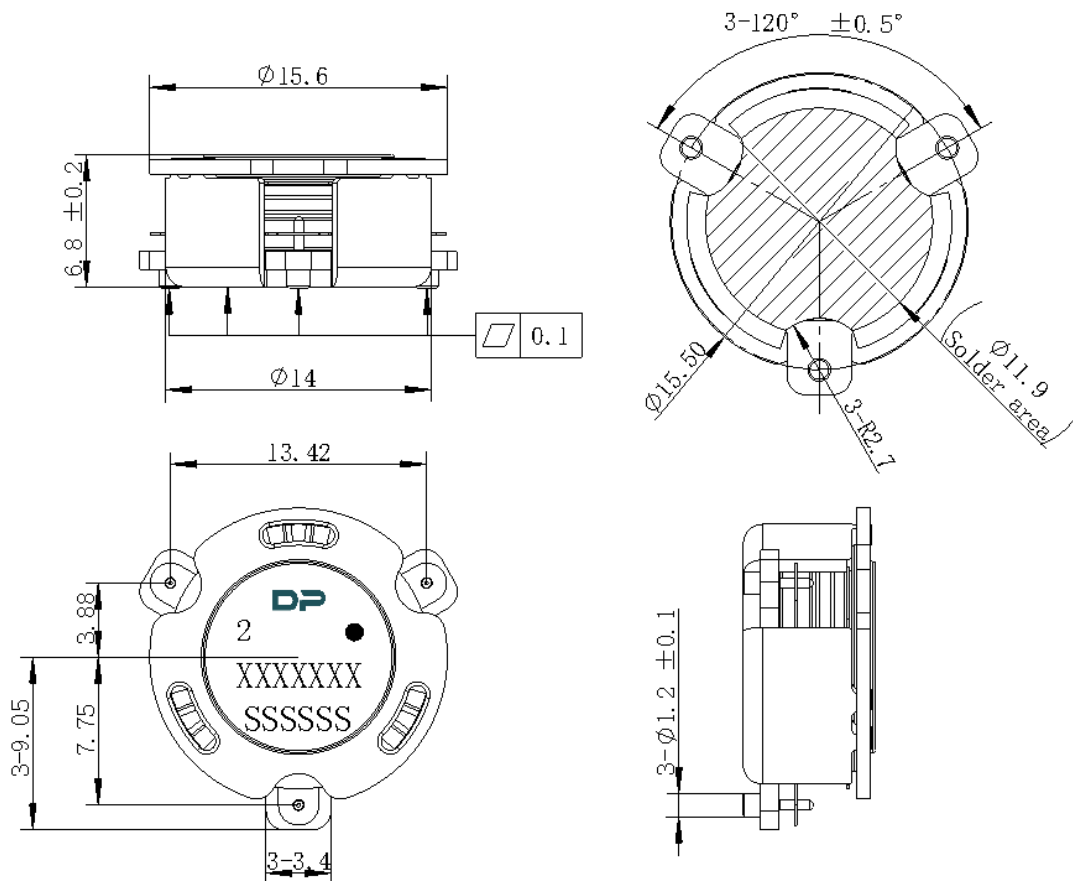
| ITEM                                      | SPECIFICATION   |          |
|---|---|----------|
| Frequency                                 | 3800~4200   | MHz      |
| Extend frequency                          | 3650-4350   | MHz      |
| Direction                                 | CCW   |          |
| Impedance                                 | Typ: 50   | $\Omega$ |
| Insertion Loss (Max.)                     | 0.30@25±5°C<br>0.35@-40~+125°C  | dB       |
| Isolation (Min.)                          | Typ: 25<br>22<br>14@3650MHz~4350 MHz  | dB       |
| Return Loss (Min.)                        | 22  | dB       |
| 3rd IMD (Max.)                            | -60(Typ -65)  | dBc      |
| Group delay                               | 2.0   | ns       |
| Ripple of group delay in extend frequency | 2   | ns       |
| 2nd harmonic suppression                  | 10  | dBc      |
| 3rd harmonic suppression                  | 5   | dBc      |
| Power FWD/REV/PEAK                        | 100/-/1000  | W        |
| Termination/Attenuator                    | -   | W/dB     |
| Input Impedance ,real                     | +45~+53 (Typ. 49) @3800MHz<br>+46~+54 (Typ. 50) @4000MHz<br>+47~+55 (Typ. 51) @4200MHz    | $\Omega$ |
| Input Impedance ,imaginary                | -7j~+1j (Typ. -3j) @3800MHz<br>-1j~+7j (Typ. +3j) @4000MHz<br>-3j~+5j (Typ. +1j) @4200MHz | $\Omega$ |
| Output Impedance ,real                    | 50±6  | $\Omega$ |
| Output Impedance ,imaginary               | ±7j   | $\Omega$ |
| Resonance point of out-of-band            | 3450~4550MHz  |          |

## Notes:

1. Exposure to maximum rating conditions for extended periods may reduce device reliability. There is no damage to device with only one parameter set at the limit and all other parameters set at or below their nominal value. Exceeding any of the limits listed here may result in permanent damage to the device.
2. Performance is guaranteed under the conditions listed in this table and over the operating temperature range.
3. Performance will not degrade by > 10% (Insertion loss > 20%) with an operating temperature of up to 130 °C.



### Mechanical Specifications:



Unit: Millimeters

#### Notes:

1. The housing and pins are silver-plated.
2. Tolerance  $\pm 0.2$ mm unless otherwise specified.
3. Co-planarity Specification: 0.1mm maximum.
4. Part Number, Lot Code, and Port Designation are printed on the top side of device.
5. The XXXXXXX on the label represents the part number
6. The SSSSSS on the label represents the serial number
7. The black dot on the label represents the input port



Packaging Style:

| ITEM | W    | A0   | B0    | K0   | D    | E    | F     | F2   | P    | P0   | P2   | T     |
|------|------|------|-------|------|------|------|-------|------|------|------|------|-------|
| DIM  | 32   | 17.8 | Φ15.6 | 7.2  | Φ1.5 | 1.75 | 14.2  | 28.5 | 24   | 4    | 2    | 0.5   |
| TOL  | ±0.3 | ±0.2 | ±0.2  | ±0.2 | +0.1 | ±0.1 | ±0.15 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.05 |

