

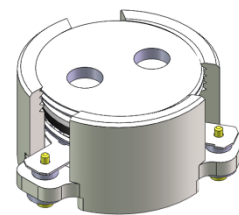


## DP0727C

### ENG PART:DP-12.5CM-1805T2170-CW

1805MHz to 2170MHz Single-Junction Surface Mount Circulator

REV.	DESCRIPTION	REVISOR	DATE	APPROVED
A	Creating datasheet	ZC.Wu	2021/11/1	Nick

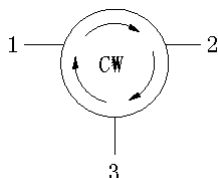


#### Applications:

- Wireless Infrastructure
- Power Amplifier

#### Features:

- Operating frequency range: 1805MHz to 2170MHz
- Operating temperature range: -40°C to +110°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:

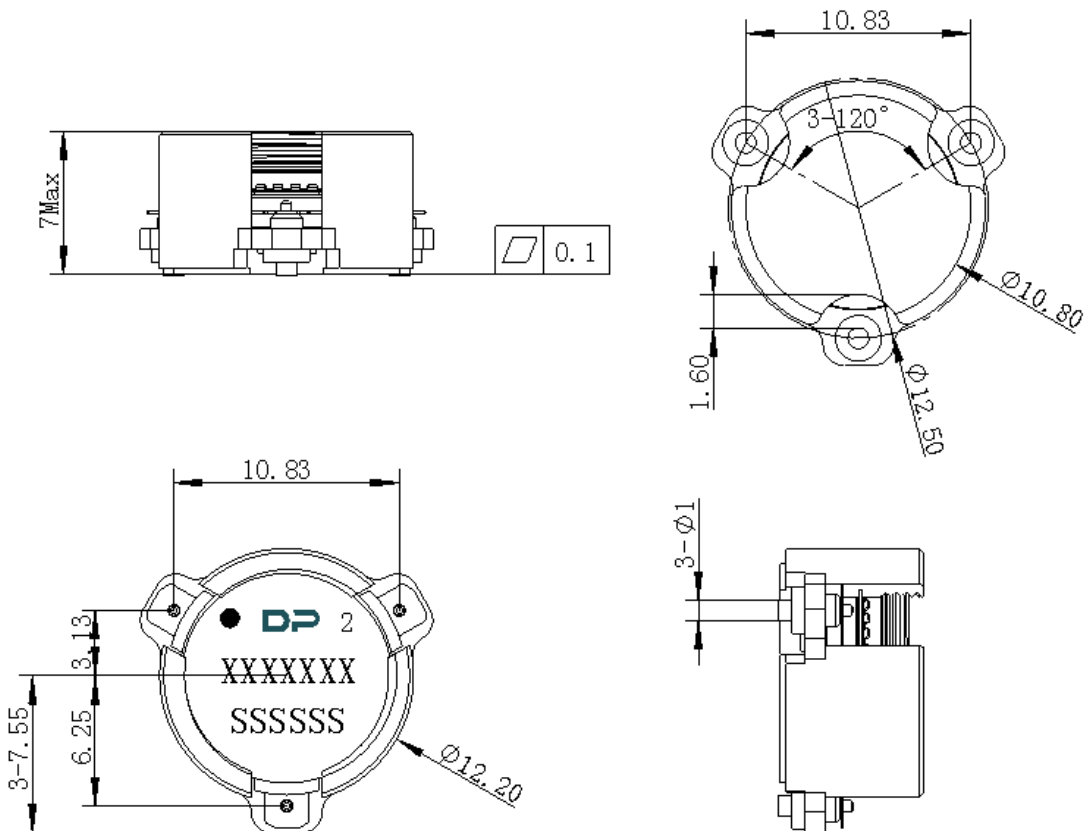
ITEM	SPECIFICATION	
Frequency	1805~2170	MHz
Extend frequency	1655~2320	MHz
Direction	CW	
Impedance	Typ: 50	$\Omega$
Insertion Loss (Max.)	0.40@25°C $\pm$ 5°C 0.45@-40~+110°C	dB
Isolation (Min.)	18.0 @1805~1990MHz & 2030~2170MHz 17.0@1990~2030MHz 10.0@1655~2320MHz	dB
Return Loss (Min.)	17.7@1805~1990MHz & 2030~2170MHz 16.5@1990~2030MHz	dB
FWD 3rd IMD (Max.)	-55@2x10W, Spacing 1MHz (-40~+90°C)	dBc
Group delay	2	ns
Ripple of group delay in extend frequency	2	ns
2nd harmonic suppression	10	dBc
3rd harmonic suppression	5	dBc
Power FWD/REV/PEAK	50/50/400	W
Termination/Attenuator	/	W/dB
Input Impedance ,real	44~63 (52.5 Typ.) @1805~1880 40~61 (47.5 Typ.) @2110~2170	$\Omega$
Input Impedance ,imaginary	-8.5j~+8j @1805~1880 -3.5j~+9j @2110~2170	$\Omega$
Output Impedance ,real	41~61.5 (50 Typ.)	$\Omega$
Output Impedance , imaginary	-8j~+8j	$\Omega$
Resonance point Out-of-band	1605 MHz to 2370 MHz	

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  $\pm 0.2\text{mm}$  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	14.7	12.4	7.4	Φ1.5	1.75	14.2	28.5	24	4	2	0.5
TOLE	±0.3	±0.2	±0.2	±0.2	+0.1	±0.1	±0.15	±0.1	±0.1	±0.1	±0.1	±0.05

