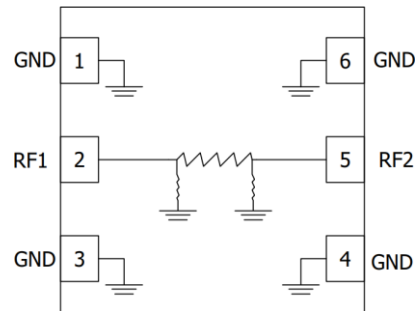


**Performance Features**

- Operating frequency band: DC~25GHz
- 8 kinds of attenuation amount: 1, 2, 3, 4, 5, 6, 7 & 10dB
- Power capacity: 2.5W
- Chip size: 6 Lead 2x2mm SMT Package

**Typical Applications**

- Mobile Infrastructure
- Satellite Communications
- Microwave
- Instrumentation

**Functional Block Diagram**

**Overview**

The CWAT153SP2 series are broadband fixed 50 ohm matched SMT package attenuator chips that provide 1, 2, 3, 4, 5, 6, 7 and 10 dB of extremely flat attenuation with excellent VSWR performance in the frequency band.

and can withstand inputs of up to 2.5W power<sup>[1]</sup>.

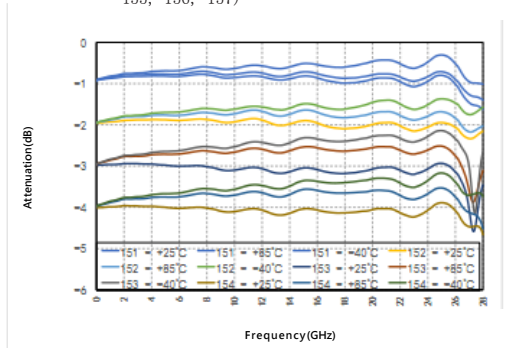
**Electrical performance table (TA=+ 25 ° C, 50 Ω ohm system)**

Device Model	Attenuation	Return loss	Attenuation tolerance	Unit
		DC~20		GHz
CWAT151SP2	1	18	±0.25	dB
CWAT152SP2	2	18	±0.25	dB
CWAT153SP2	3	18	±0.25	dB
CWAT154SP2	4	18	±0.30	dB
CWAT155SP2	5	18	±0.30	dB
CWAT156SP2	6	18	±0.35	dB
CWAT157SP2	7	18	±0.35	dB
CWAT150SP2	10	18	±0.35	dB

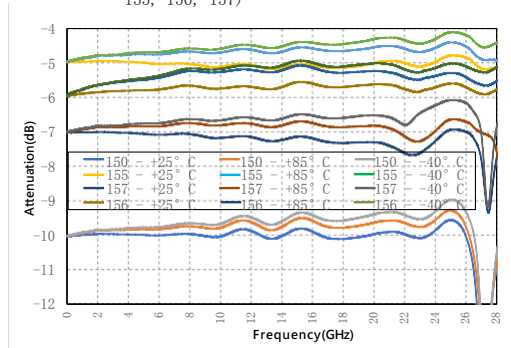
Note [1]: When tested with 4W input power, the chip worked stably for 24H without abnormalities.

### Test Curve

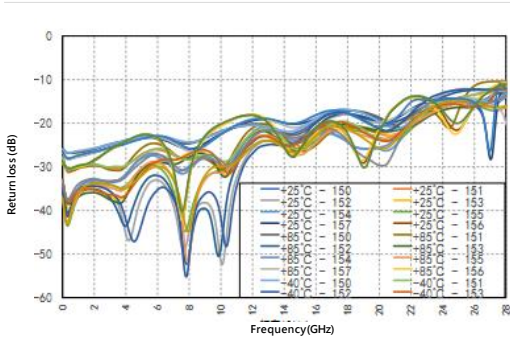
Attenuation vs. frequency (150, 155, 156, 157)



Attenuation vs. frequency (150, 155, 156, 157)



Return loss vs. frequency



### Absolute maximum rating

Device Model	CWAT151	CWAT152	CWAT153	CWAT154	CWAT155	CWAT156	CWAT157	CWAT150	Unit
Input power	40	40	40	40	40	40	40	40	dBm
Storage temperature	-65~+150								°C
Operating temperature	-40~+85								°C
ESD Sensitivity (HBM)	Class 1C	Class 1B	Class 1B	Class 2	Class 1B	Class 1B	Class 1B	Class 2	V

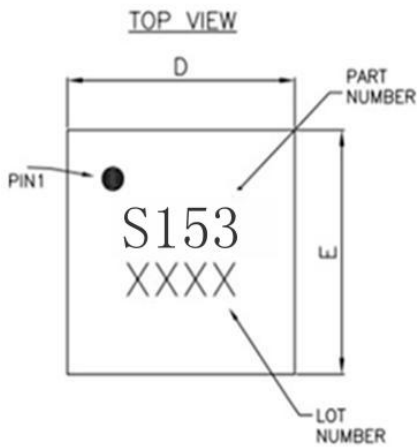
### Package Information

Model	Packaging materials	Solder plate plating	MSL level (1)	Package identification (2)	Environmental requirements
CWAT153SP2	Green resin compounds	NiPdAu	MSL 1	S153 XXXX	RoHS compliant

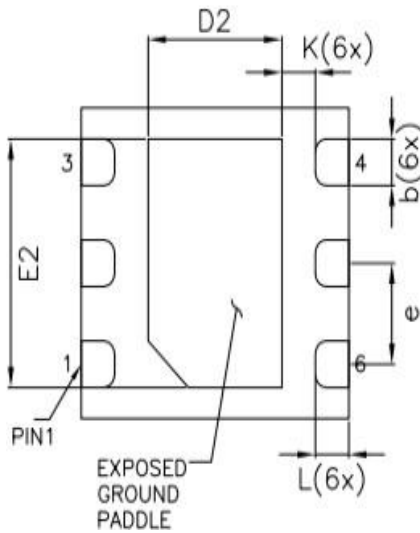
(1) Max. reflow temperature 260° C

(2) XXXX is the lot number

Dimension



BOTTOM VIEW



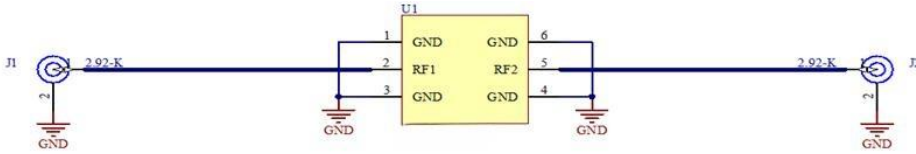
Dimension Table (unit:mm)			
Symbol	MIN	NOM	MAX
A	0.70	0.75	0.80
A1	0.00	0.02	0.05
A2	0.20Ref		
b	0.25	0.30	0.35
D	1.95	2.00	2.05
D2	0.85	1.00	1.10
e	0.65BSC		
E	1.95	2.00	2.05
E2	1.45	1.60	1.70
K	0.20	---	---
L	0.20	0.25	0.30
aaa	0.08		

Pin Definition	Function	Description
1,3,4,6	GND	The bottom of the package must be connected to RF/DC ground.
2,5	RF1, RF2	This pin is DC coupled and matched to 50 ohms. If the input/output signal contains a DC signal, a capacitor is required to isolate it.

CWAT

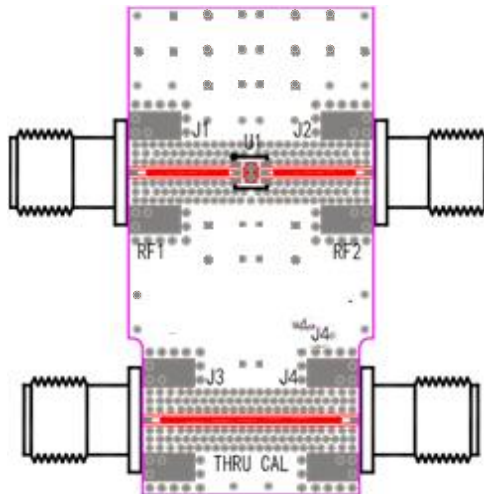
Fixed Attenuator Series

Evaluation Boards



CWAT

Fixed Attenuator Series



Circuit board material: Rogers 4350B

The circuit board of the device application should be designed according to the RF circuit design method, the signal line should be designed according to 50 ohm impedance, and the ground pin of the package shell should be grounded nearby (similar to the figure), and there should be enough ground holes to connect the top and bottom ground.

Designator	Description
J1, J2, J3, J4	2.92-K
U1	CWAT153SP2
J1, J2, J3, J4 recommended to use Nanjing Aowen D360B12E01-023 type SMA connector	