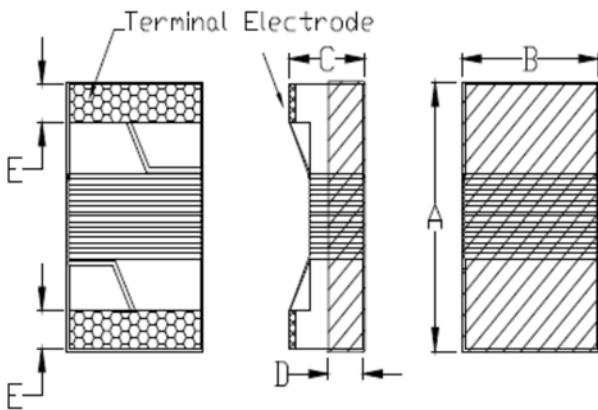


FEATRLRES

- Monolithic inorganic material construction.
- Closed magnetic circuit avoids crosstalk.
- S.M.T. type.
- Suitable for reflow soldering.
- Shapes and dimensions follow E.I.A. spec.
- Available in various sizes.
- Excellent solder ability and heat resistance.
- High reliability.
- 100% Lead(Pb) & Halogen-Free and RoHS compliant.

CONFIGLRATIONS & DIMENSIONS (unit in mm)



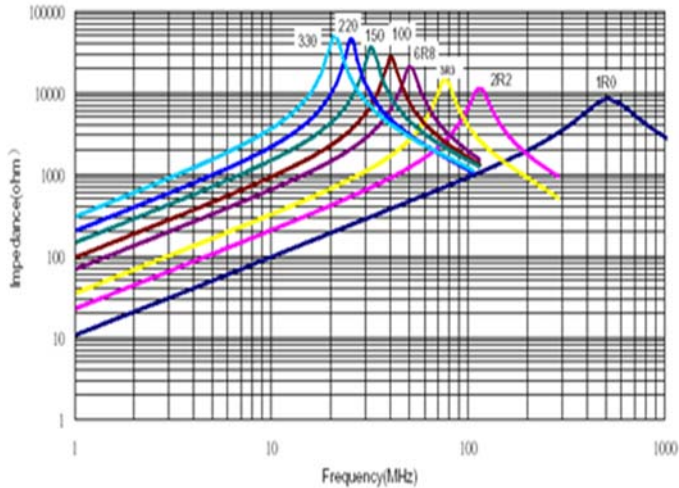
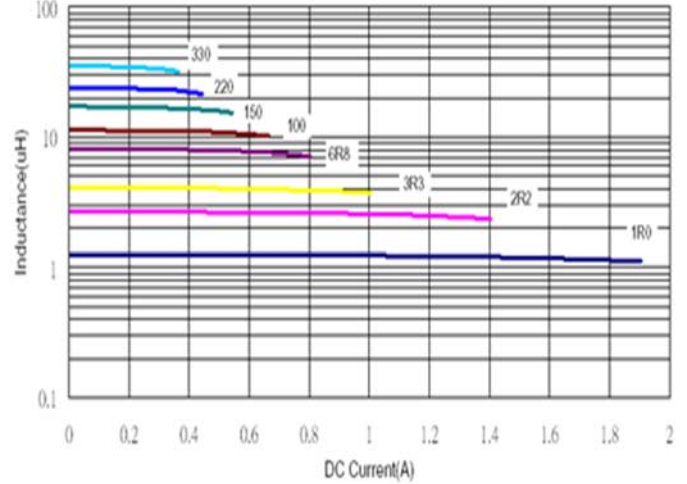
| Size | A | B | C | D | E |
|---------|--------|--------|--------|---------|----------|
| SWF2520 | 2.9max | 2.5max | 2.1max | 1.2ref. | 0.55±0.1 |

ELECTRICAL CHARACTERISTICS

| Part Number | Inductance (uH) | Tolerance | Test Frequency (Hz) | Q min. | Test Frequency (MHz) | Rated Current(mA) | DCR(Ω) max. | SRF (MHz)min. |
|----------------|--------------------|-----------|------------------------|-----------|-------------------------|----------------------|----------------|------------------|
| SWF2520CF-1R0K | 1.00±10% | K,M | 0.5V/7.96M | 12 | 7.96 | 1000 | 0.13 | 345 |
| SWF2520CF-1R5K | 1.50±10% | K,M | 0.5V/7.96M | 12 | 7.96 | 850 | 0.17 | 100 |
| SWF2520CF-2R2K | 2.20±10% | K,M | 0.5V/7.96M | 12 | 7.96 | 775 | 0.21 | 78 |
| SWF2520CF-3R3K | 3.30±10% | K,M | 0.5V/7.96M | 12 | 7.96 | 715 | 0.26 | 48 |
| SWF2520CF-4R7K | 4.70±10% | K,M | 0.5V/7.96M | 12 | 7.96 | 505 | 0.52 | 46 |
| SWF2520CF-6R8K | 6.80±10% | K,M | 0.5V/7.96M | 12 | 7.96 | 432 | 0.72 | 33 |
| SWF2520CF-8R2K | 8.20±10% | J,K | 0.5V/2.52M | 12 | 2.52 | 410 | 0.76 | 30 |
| SWF2520CF-100K | 10.0±10% | K,M | 0.5V/2.52M | 12 | 2.52 | 392 | 0.86 | 28 |
| SWF2520CF-150K | 15.0±10% | K,M | 0.5V/2.52M | 12 | 2.52 | 342 | 1.09 | 21 |
| SWF2520CF-220K | 22.0±10% | K,M | 0.5V/2.52M | 12 | 2.52 | 260 | 1.96 | 18 |
| SWF2520CF-330K | 33.0±10% | K,M | 0.5V/2.52M | 12 | 2.52 | 236 | 2.47 | 15 |

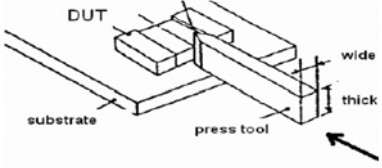
- NOTE: K=±10%,L=±15%,M=±20%
- Rated current: based on temperature rise test
- In compliance with EIA 595

Impedance vs Frequency,DC Bias Characteristics(Typical)

Impedance vs Freq.

L vs IDC


Reliability and Test Condition

| Item | Performance | Test Condition |
|------------------------------------|---|--|
| Operating temperature | -40~+125°C (Including self - temperature rise) | |
| Storage temperature | 1. -10~+40°C ,50~60%RH (Product with taping) 2. -40~+125°C (on board) | |
| Electrical Performance Test | | |
| Inductance | Refer to standard electrical characteristics list. | HP4284A,CH11025,CH3302,CH1320,CH1320S LCR Meter. |
| DCR | | CH16502,Agilent33420A Micro-Ohm Meter. |
| Saturation Current (Isat) | Approximately ΔL 30% | Saturation DC Current (Isat) will cause L0 to drop ΔL (%) |
| Heat Rated Current (Irms) | Approximately ΔT 40°C | Heat Rated Current (Irms) will cause the coil temperature rise ΔT (°C). 1.Applied the allowed DC current 2.Temperature measured by digital surface thermometer |
| Reliability Test | | |
| Life Test | Appearance : No damage. | Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles) Temperature : 125 \pm 2°C (Inductor) Applied current : rated current Duration : 1000 \pm 12hrs Measured at room temperature after placing for 24 \pm 2 hrs |
| Load Humidity | Inductance : within \pm 10% of initial value Q : Shall not exceed the specification value. RDC : within \pm 15% of initial value and shall not exceed the specification value | Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles) Humidity : 85 \pm 2 * R.H, Temperature : 85°C \pm 2°C Duration : 1000hrs Min. with 100% rated current Measured at room temperature after placing for 24 \pm 2 hrs |

| Moisture Resistance | | Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles 1. Baked at 50°C for 25hrs, measured at room temperature after placing for 4 hrs. 2. Raise temperature to 65±2°C 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25°C in 2.5hrs. 3. Raise temperature to 65±2°C 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25°C in 2.5hrs,keep at 25°C for 2 hrs then keep at -10°C for 3 hrs 4. Keep at 25°C 80-100%RH for 15min and vibrate at the frequency of 10 to 55 Hz to 10 Hz, measure at room temperature after placing for 1~2 hrs. | | | | | | | | | | | | | | | |
|------------------------------|--|---|-----------------------|----------------------------|--|-----------------------|----------------------------|-------|----------------|----|-----------|------|------|----|----|-----------|------|
| Thermal shock | | Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles Condition for 1 cycle Step1 : -40±2°C 30±5min Step2 : 25±2°C ≤0.5min Step3 : 125±2°C 30±5min Number of cycles : 500 Measured at room temperature after placing for 24±2 hrs | | | | | | | | | | | | | | | |
| Vibration | | Oscillation Frequency: 10 ~ 2K ~ 10Hz for 20 minutes Equipment : Vibration checker Total Amplitude:1.52mm±10% Testing Time : 12 hours(20 minutes, 12 cycles each of 3 orientations). | | | | | | | | | | | | | | | |
| Bending | | Shall be mounted on a FR4 substrate of the following dimensions: >=0805 inch(2012mm):40x100x1.2mm <0805 inch(2012mm):40x100x0.8mm Bending depth: >=0805 inch(2012mm):1.2mm <0805 inch(2012mm):0.8mm duration of 10 sec. | | | | | | | | | | | | | | | |
| Shock | Appearance : No damage. Impedance : within±15% of initial value Inductance : within±10% of initial value Q : Shall not exceed the specification value. RDC : within ±15% of initial value and shall not exceed the specification value | <table border="1"> <thead> <tr> <th>Type</th> <th>Peak value (g's)</th> <th>Normal duration (D) (ms)</th> <th>Wave form</th> <th>Velocity change (Vi)ft/sec</th> </tr> </thead> <tbody> <tr> <td>SMD</td> <td>50</td> <td>11</td> <td>Half-sine</td> <td>11.3</td> </tr> <tr> <td>Lead</td> <td>50</td> <td>11</td> <td>Half-sine</td> <td>11.3</td> </tr> </tbody> </table> | Type | Peak value (g's) | Normal duration (D) (ms) | Wave form | Velocity change (Vi)ft/sec | SMD | 50 | 11 | Half-sine | 11.3 | Lead | 50 | 11 | Half-sine | 11.3 |
| Type | Peak value (g's) | Normal duration (D) (ms) | Wave form | Velocity change (Vi)ft/sec | | | | | | | | | | | | | |
| SMD | 50 | 11 | Half-sine | 11.3 | | | | | | | | | | | | | |
| Lead | 50 | 11 | Half-sine | 11.3 | | | | | | | | | | | | | |
| Solder ability | More than 95% of the terminal electrode should be covered with solder. | Preheat: 150°C,60sec.. Solder: Sn96.5% Ag3% Cu0.5% Temperature: 245±5°C ◦ Flux for lead free: Rosin. 9.5% ◦ Dip time: 4±1sec ◦ Depth: completely cover the termination | | | | | | | | | | | | | | | |
| Resistance to Soldering Heat | | Depth: completely cover the termination <table border="1"> <thead> <tr> <th>Temperature(°C)</th> <th>Time(s)</th> <th>Temperature ramp/immersion and emersion rate</th> <th>Number of heat cycles</th> </tr> </thead> <tbody> <tr> <td>260 ±5 (solder temp)</td> <td>10 ±1</td> <td>25mm/s ±6 mm/s</td> <td>1</td> </tr> </tbody> </table> | Temperature(°C) | Time(s) | Temperature ramp/immersion and emersion rate | Number of heat cycles | 260 ±5 (solder temp) | 10 ±1 | 25mm/s ±6 mm/s | 1 | | | | | | | |
| Temperature(°C) | Time(s) | Temperature ramp/immersion and emersion rate | Number of heat cycles | | | | | | | | | | | | | | |
| 260 ±5 (solder temp) | 10 ±1 | 25mm/s ±6 mm/s | 1 | | | | | | | | | | | | | | |
| Terminal Strength | Appearance : No damage. Impedance : within±15% of initial value Inductance : within±10% of initial value Q : Shall not exceed the specification value. RDC : within ±15% of initial value and shall not exceed the specification value e | Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles With the component mounted on a PCB with the device to be tested, apply a force(>0805:1kg , <=0805:0.5kg)to the side of a device being tested. This force shall be applied for 60 ±1 seconds. Also the force shall be applied gradually as not to apply a shock to the component being tested.  | | | | | | | | | | | | | | | |

Note : When there are questions concerning measurement result : measurement shall be made after 48 ± 2 hours of recovery under the standard condition.