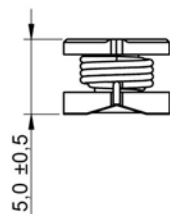
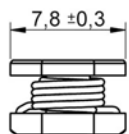
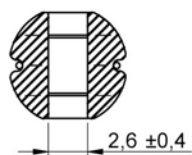


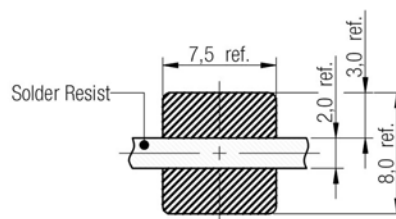
## A Dimensions: [mm]



Scale - 2:1

| Reference on drawing | Description           |
|----------------------|-----------------------|
| •                    | Start of winding      |
| Marking              | 330 (Inductance Code) |

## B Recommended land pattern: [mm]



no vias and traces in restricted area

Scale - 2:1

## C Schematic:



## D Electrical Properties:

| Properties          | Test conditions |                  | Value | Unit            | Tol. |
|---------------------|-----------------|------------------|-------|-----------------|------|
| Inductance          | 10 KHz/ 100 mV  | L                | 33    | μH              | ±10% |
| Rated Current       | ΔT = 40 K       | I <sub>R</sub>   | 1.35  | A               | max. |
| Saturation Current  | IΔL/LI < 10%    | I <sub>sat</sub> | 1.47  | A               | typ. |
| DC Resistance       | @ 20°C          | R <sub>DC</sub>  | 0.130 | Ω               | max. |
| DC Resistance       | @ 20°C          | R <sub>DC</sub>  | 0.088 | Ω               | typ. |
| Self Resonant Freq. | @ 20°C          | f <sub>res</sub> | 13    | MHz             | typ. |
| Rated Voltage       | @ 20°C          | U <sub>R</sub>   | 80    | V <sub>DC</sub> | max. |

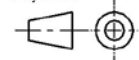
## E General information:

It is recommended that the temperature of the part does not exceed 125°C under worst case operating conditions.

- Ambient temperature: -40°C to +85°C (referring to I<sub>R</sub>)
- Operating temperature: -40°C to +125°C
- Storage temperature (on tape & reel): -20°C to +40°C; 75% RH max.
- Coplanarity of the terminal pads: 120μm
- Test conditions of Electrical Properties: 20°C, 33% RH
- AEC-Q 200 qualified

FKS  
Electronics

Projection



2015-01-07

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FKS(Xi'an) Electronic Technology Co.,Ltd.  
Address: B1 Building,Western Cloud Valley,Fengxi New Town  
Xixian New Area,Xi'an City, Shaanxi Province,China.  
Tel: +86-29-8868 5333  
Fax: +86-29-8868 0913

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DESCRIPTION

## SMD Power Inductor

Order.- No.  
FKS784775133

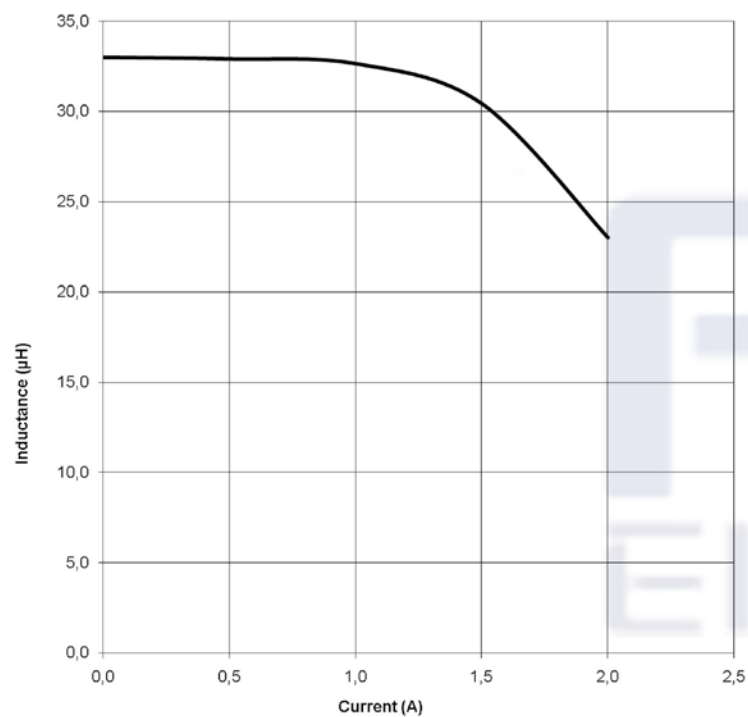
SIZE

A4

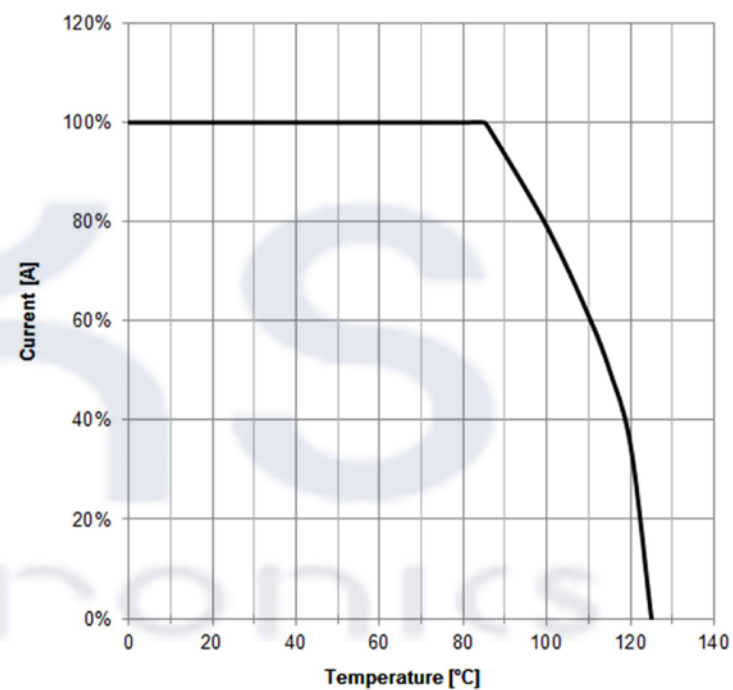
Size: 7850

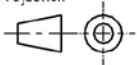


F1 Typical Inductance vs. Current Characteristics:



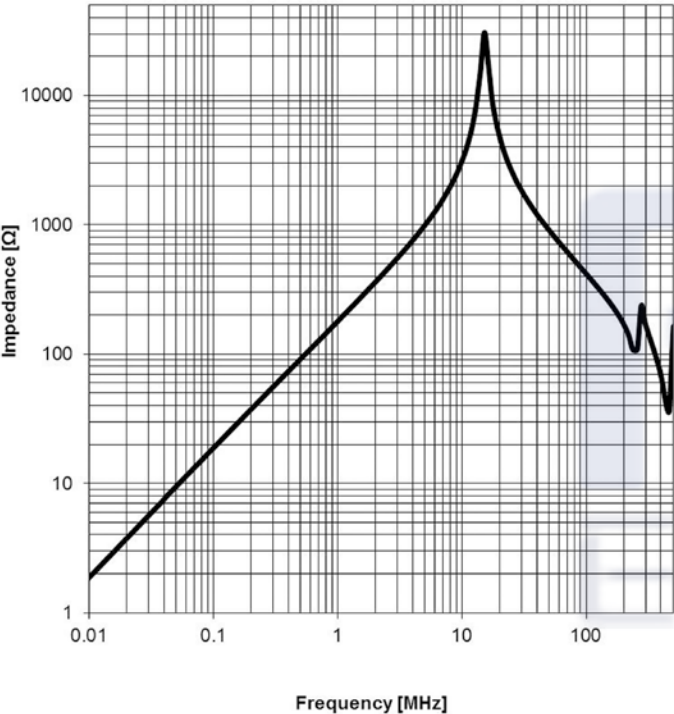
F2 Derating Curve:

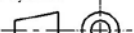


|  |            |  |  |                                                                                                                                                                                                                                                                        |  |                    |                                                                                                               |      |
|--|------------|--|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------|---------------------------------------------------------------------------------------------------------------|------|
|  |            |  |  | Projection                                                                                                                                                                                                                                                             |  | DESCRIPTION        |                                                                                                               |      |
|  | 2015-01-07 |  |  |                                                                                                                                                                                   |  | SMD Power Inductor |                                                                                                               |      |
|  |            |  |  | Shaanxi FKS Electronic Parts Import&Export Co.,Ltd.<br>FKS(Xi'an) Electronic Technology Co.,Ltd.<br>Address: B1 Building,Western Cloud Valley,Fengxi New Town<br>Xixian New Area,Xi'an City, Shaanxi Province,China.<br>Tel: +86-29-8868 5333<br>Fax: +86-29-8868 0913 |  | Order.- No.        |  COMPLIANT<br>RoHS&REACH | SIZE |
|  |            |  |  |                                                                                              |  | FKS784775133       |                                                                                                               | A4   |
|  |            |  |  |                                                                                                                                                                                                                                                                        |  | Size: 7850         |                                                                                                               |      |
|  | DATE       |  |  |                                                                                                                                                                                                                                                                        |  |                    |                                                                                                               |      |

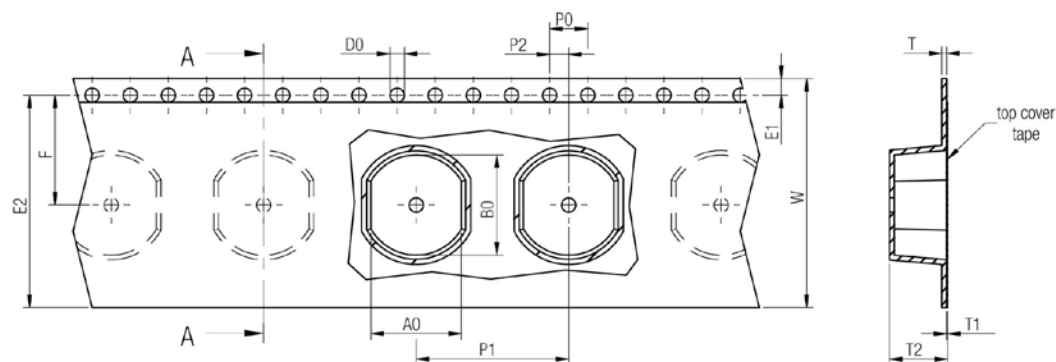


F3 Typical Impedance Characteristics:

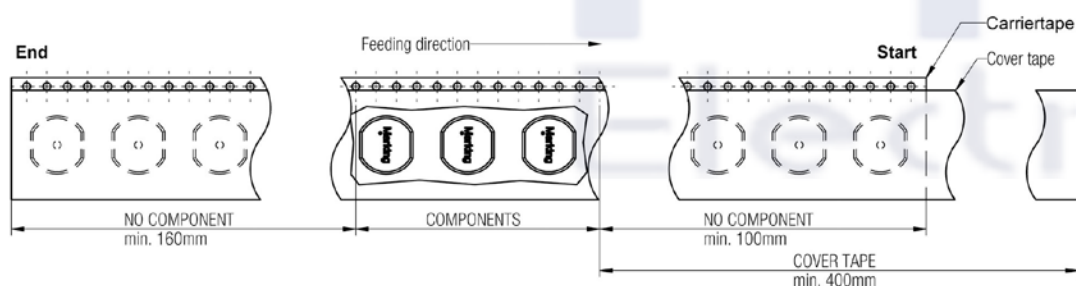


|     |            |     |         |                                                                                       |             |  |
|-----|------------|-----|---------|---------------------------------------------------------------------------------------|-------------|--|
|     |            |     |         | Projection                                                                            | DESCRIPTION |  |
| 2.3 | 2015-01-07 | SSt | BMoe    |  |             |  |
|     |            |     |         | SMD Power Inductor                                                                    |             |  |
|     |            |     |         |                                                                                       |             |  |
|     |            |     |         | Order.- No.                                                                           |             |  |
|     |            |     |         | FKS784775133                                                                          |             |  |
|     |            |     |         | Size: 7850                                                                            |             |  |
|     |            |     |         |                                                                                       |             |  |
| REV | DATE       | BY  | CHECKED |                                                                                       |             |  |

|                                                                                                                                                                                                                                                                        |  |                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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|                                                                                                                                                                                   |  | SIZE<br>A4                                                                                                                                                                  |

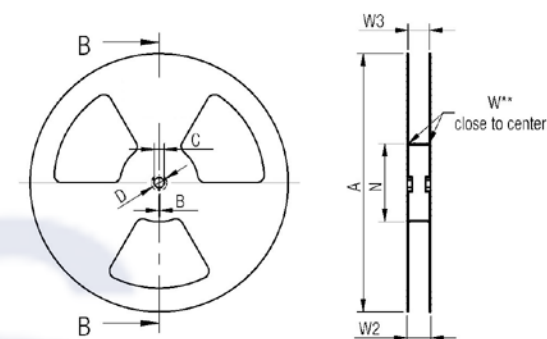


|           |      | A0   | B0    | W            | P1    | T     | T1   | T2   | D0           | E1    | E2    | F      | P0    | P2     | VPE /<br>packaging unit |
|-----------|------|------|-------|--------------|-------|-------|------|------|--------------|-------|-------|--------|-------|--------|-------------------------|
| tolerance |      | typ. | typ.  | +0,3<br>-0,1 | ± 0,1 | ± 0,1 | max. | typ. | +0,3<br>-0,1 | ± 0,1 | min.  | ± 0,05 | ± 0,1 | ± 0,05 |                         |
| size      | 4532 | 4.50 | 5.50  | 16.00        | 8.00  | 0.25  | 0.10 | 4.00 | 1.50         | 1.75  | 14.25 | 7.50   | 4.00  | 2.00   | 1500                    |
|           | 5848 | 5.50 | 6.50  | 16.00        | 8.00  | 0.25  | 0.10 | 5.50 | 1.50         | 1.75  | 14.25 | 7.50   | 4.00  | 2.00   | 1500                    |
|           | 7850 | 7.50 | 8.50  | 16.00        | 12.00 | 0.25  | 0.10 | 6.00 | 1.50         | 1.75  | 14.25 | 7.50   | 4.00  | 2.00   | 500                     |
|           | 1054 | 9.50 | 10.50 | 24.00        | 16.00 | 0.50  | 0.10 | 7.00 | 1.50         | 1.75  | 22.25 | 11.50  | 4.00  | 2.00   | 500                     |

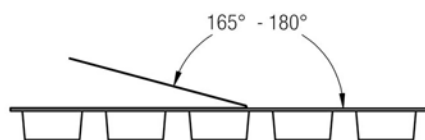
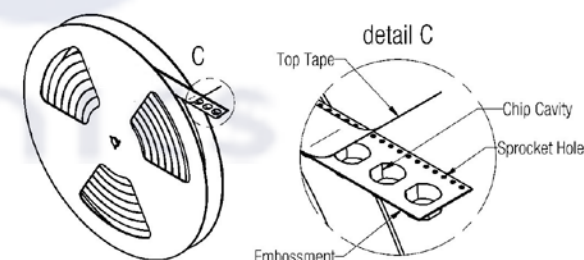


Packaging is referred to the international standard IEC 60286 -3:2007

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|            | A     | B      | C     | D     | N     | W1     | W2    | W3    | W3    |       |
|------------|-------|--------|-------|-------|-------|--------|-------|-------|-------|-------|
| tolerance  |       | min.   | ± 0,8 | min.  | min.  | + 1,5  | max.  | min.  | max.  |       |
| Tape width | 16 mm | 330,00 | 1.50  | 13,00 | 20,20 | 100,00 | 16,40 | 22,40 | 15,90 | 19,40 |
|            | 24 mm | 330,00 | 1.50  | 13,00 | 20,20 | 100,00 | 24,40 | 30,40 | 23,90 | 27,40 |



|            | Pull-of force |
|------------|---------------|
| Tape width | 0,1 N - 1,3 N |
|            | 0,1 N - 1,3 N |

Projection



2015-01-07

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Xixian New Area,Xi'an City, Shaanxi Province,China.  
Tel: +86-29-8868 5333  
Fax: +86-29-8868 0913

**FKS**  
Electronics



DESCRIPTION

**SMD Power Inductor**

Order.- No.

FKS784775133



SIZE

A4

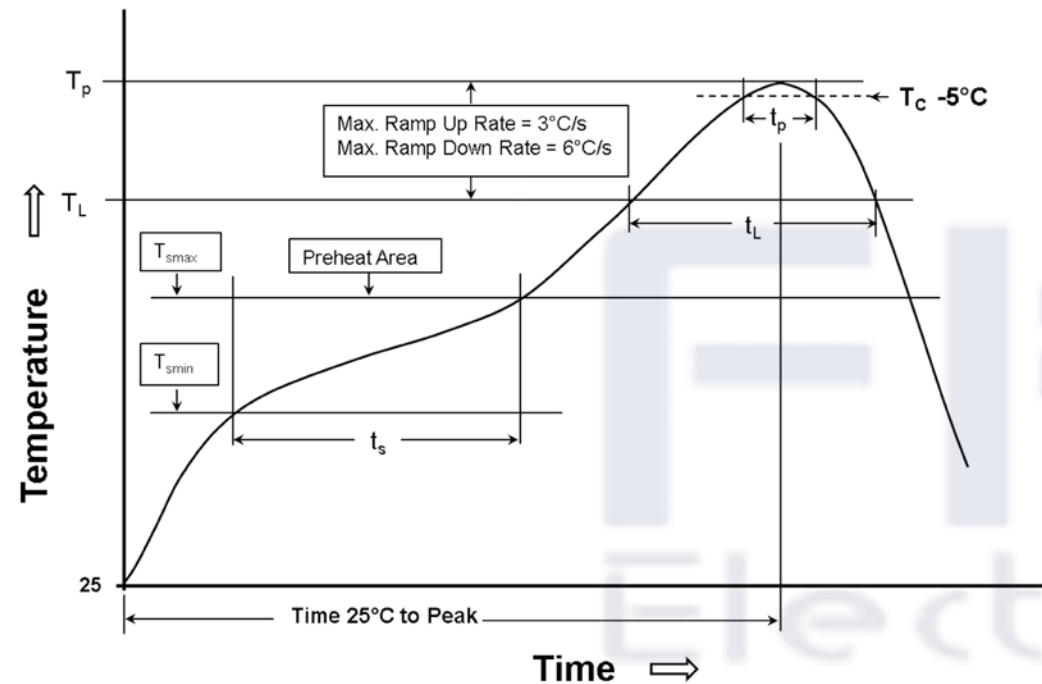
Size: 7850

DATE

H Soldering Specifications:



H1: Classification Reflow Profile for SMT components:



H2: Classification Reflow Profiles

| Profile Feature                                                                                                                                                                                                                             | Pb-Free Assembly                 | Sn-Pb Assembly                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------|
| Preheat <ul style="list-style-type: none"><li>- Temperature Min (<math>T_{smin}</math>)</li><li>- Temperature Max (<math>T_{smax}</math>)</li><li>- Time (<math>t_s</math>) from (<math>T_{smin}</math> to <math>T_{smax}</math>)</li></ul> | 150°C<br>200°C<br>60-120 seconds | 100°C<br>150°C<br>60-120 seconds |
| Ramp-up rate ( $T_L$ to $T_p$ )                                                                                                                                                                                                             | 3°C/ second max.                 | 3°C/ second max.                 |
| Liquidous temperature ( $T_L$ )<br>Time ( $t_L$ ) maintained above $T_L$                                                                                                                                                                    | 217°C<br>60-150 seconds          | 183°C<br>60-150 seconds          |
| Peak package body temperature ( $T_p$ )                                                                                                                                                                                                     | See Table H3                     | See table H3                     |
| Time within 5°C of actual peak temperature ( $t_p$ )                                                                                                                                                                                        | 30 seconds                       | 20 seconds                       |
| Ramp-down rate ( $T_p$ to $T_L$ )                                                                                                                                                                                                           | 6°C/ second max.                 | 6°C/ second max.                 |
| Time 25°C to peak temperature                                                                                                                                                                                                               | 8 minutes max.                   | 6 minutes max.                   |

refer to IPC/JEDEC J-STD-020D

H3: Package Classification Reflow Temperature

|                  | Package Thickness | Volume mm <sup>3</sup><br><350 | Volume mm <sup>3</sup><br>>350 | Volume mm <sup>3</sup><br>350 - 2000 | Volume mm <sup>3</sup><br>>2000 |
|------------------|-------------------|--------------------------------|--------------------------------|--------------------------------------|---------------------------------|
| PB-Free Assembly | < 1.6 mm          | 260°C                          |                                | 260°C                                | 260°C                           |
| PB-Free Assembly | 1.6 - 2.5 mm      | 260°C                          |                                | 250°C                                | 245°C                           |
| PB-Free Assembly | > 2.5 mm          | 250°C                          |                                | 245°C                                | 245°C                           |
| Sn-Pb Assembly   | < 2.5 mm          | 235°C                          | 220°C                          |                                      |                                 |
| Sn-Pb Assembly   | ≥ 2.5 mm          | 220°C                          | 220°C                          |                                      |                                 |

|  |            |  |  |                                                                                                                                                                                                                                                                            |                                              |                |
|--|------------|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|----------------|
|  |            |  |  | Projection<br>                                                                                                                                                                                                                                                             | DESCRIPTION<br><br><b>SMD Power Inductor</b> |                |
|  | 2015-01-07 |  |  |                                                                                                                                                                                                                                                                            |                                              |                |
|  |            |  |  |                                                                                                                                                                                                                                                                            |                                              |                |
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|  | DATE       |  |  |                                                                                                                                                                                                                                                                            | Size: 7850                                   |                |