

## Transponder coils TPL series (for automotive)



AEC-Q200

# TPL1183427, TPL1183525 type



### FEATURES

- Transponder coils that ensure high reliability suitable for automotive applications.
- It is fully resin-molded.
- Terminals are highly reliable with the spring structure. They show excellent quality especially in bending and drop resistance.
- Operating temperature: -40 to +125°C (including self-temperature rise)
- Compliant with AEC-Q200

### APPLICATION

- Mainly receiving LF antenna coils for the in-car devices shown below
  - Tire-pressure monitoring system (TPMS)
  - Keyless entry system
  - Immobilizer etc.
- Other electronic devices

### PART NUMBER CONSTRUCTION

TPL	1183427	-	722	J	-	720N
Series name	LxWxT dimensions (mm)	Inductance (mH)	Inductance tolerance (%)	Internal code		
	1183427   11.8x3.4x2.75					
	1183525   11.8x3.5x2.4					

### CHARACTERISTICS SPECIFICATION TABLE

L* [125kHz] (mH)	Tolerance	Q [125kHz] typ.	Self-resonant frequency (kHz) typ.	DC resistance (Ω) typ.	Part No.
7.20	±5%	66	690	50	<a href="#">TPL1183427-722J-720N</a>
2.61	±5%	50	650	26	<a href="#">TPL1183525-262J-261N</a>
2.36	±3%	53	1100	24	<a href="#">TPL1183525-242Y-236N</a>

\* This inductance value is an example of the current commercial product. If a different inductance is needed, please contact us.

#### Measurement equipment

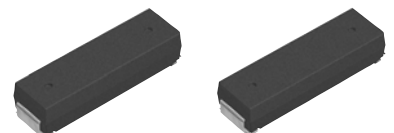
Measurement item	Product No.	Manufacturer
L, Q	4194A+16047E	Keysight Technologies
Self-resonant frequency	4194A+16047E	Keysight Technologies
DC resistance	AX-114N	ADEX

\* Equivalent measurement equipment may be used.

### TEMPERATURE RANGE, INDIVIDUAL WEIGHT, PACKAGE QUANTITY

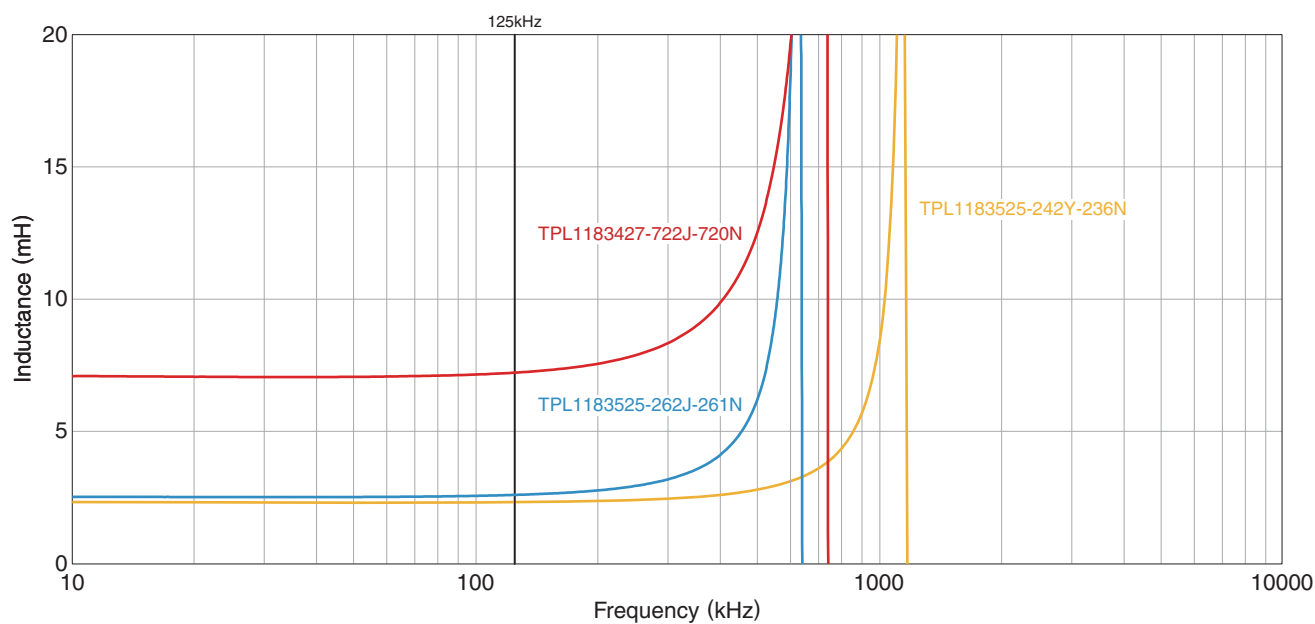
Type	Operating temperature range*	Storage temperature range	Individual weight	Package quantity
TPL1183427	-40 to +125°C	-40 to +125°C	3 mg	2500 pcs/reel
TPL1183525	-40 to +125°C	-40 to +125°C	4 mg	

\* Operating temperature range includes self-temperature rise.



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## L FREQUENCY CHARACTERISTICS

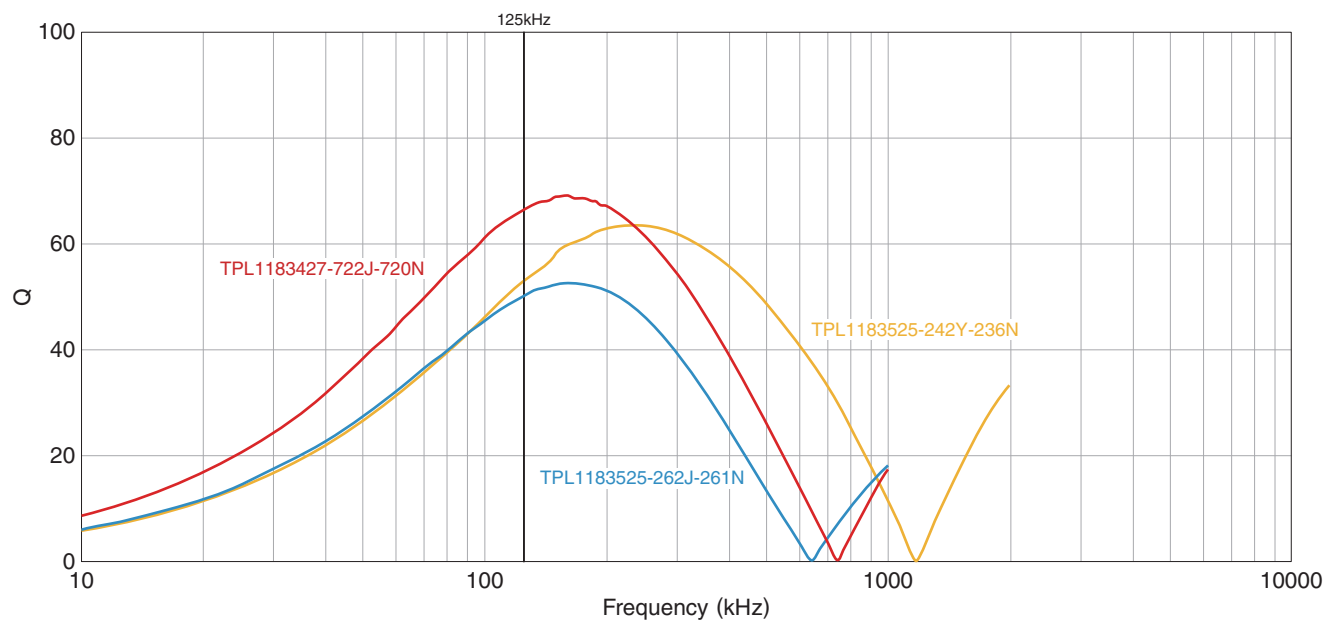


Measurement equipment

Product No.	Manufacturer
4194A+16047E	Keysight Technologies

\* Equivalent measurement equipment may be used.

## Q FREQUENCY CHARACTERISTICS



Measurement equipment

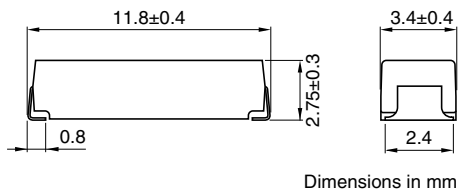
Product No.	Manufacturer
4194A+16047E	Keysight Technologies

\* Equivalent measurement equipment may be used.

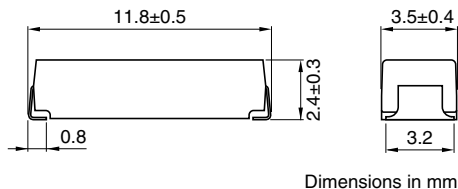
# TPL1183427, TPL1183525 type

## SHAPE & DIMENSIONS

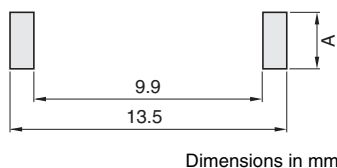
### TPL1183427



### TPL1183525



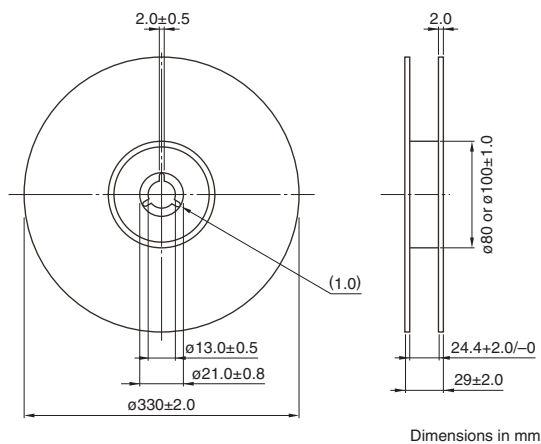
## RECOMMENDED LAND PATTERN



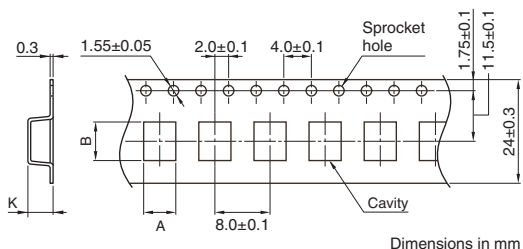
Type	A
TPL1183427	3.2
TPL1183525	2.8

## PACKAGING STYLE

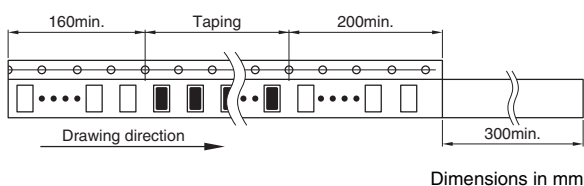
### REEL DIMENSIONS



### TAPE DIMENSIONS



Type	A	B	K
TPL1183427	3.7	12.1	3.2
TPL1183525	3.7	12.1	2.8



⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. (3/4)  
Please note that the contents may change without any prior notice due to reasons such as upgrading.

## REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

### SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using these products.

#### REMINDERS

- The storage period is less than 12 months. Be sure to follow the storage conditions (Temperature: 5 to 40°C, Humidity: 10 to 75% RH or less).  
If the storage period elapses, the soldering of the terminal electrodes may deteriorate.
- Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
- Before soldering, be sure to preheat components.  
The preheating temperature should be set so that the temperature difference between the solder temperature and chip temperature does not exceed 150°C.
- Soldering corrections after mounting should be within the range of the conditions determined in the specifications.  
If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
- When embedding a printed circuit board where a chip is mounted to a set, be sure that residual stress is not given to the chip due to the overall distortion of the printed circuit board and partial distortion such as at screw tightening portions.
- Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- Use a wrist band to discharge static electricity in your body through the grounding wire.
- Do not expose the products to magnets or magnetic fields.
- Do not use for a purpose outside of the contents regulated in the delivery specifications.
- If an ultrasonic process is used, thoroughly check the condition setting in order to prevent disconnection.
- Do not clean the products with solvents. If a potting resin or a moisture-proof coat containing a solvent such as acetone, toluene or xylene is used, consult with us in advance.
- The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.  
The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.  
If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us.

- (1) Aerospace/Aviation equipment
- (2) Transportation equipment (electric trains, ships, etc.)
- (3) Medical equipment
- (4) Power-generation control equipment
- (5) Atomic energy-related equipment
- (6) Seabed equipment
- (7) Transportation control equipment

- (8) Public information-processing equipment
- (9) Military equipment
- (10) Electric heating apparatus, burning equipment
- (11) Disaster prevention/crime prevention equipment
- (12) Safety equipment
- (13) Other applications that are not considered general-purpose applications

When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.