

# THIN FILM CHIP INDUCTORS

## T Y P E T F L

### FEATURES

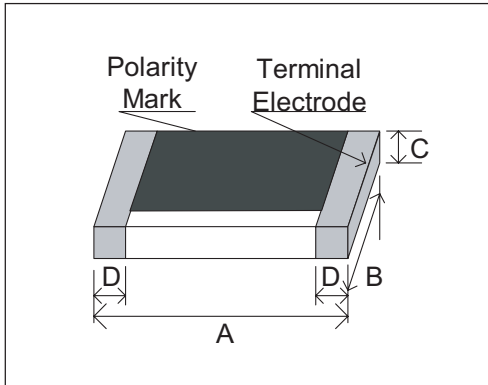
SMEC offers a product that utilizes a unique technology to provide a Surface Mount Chip Inductor, that is unlike any coil type inductor. This series inductor is a photo lithographically etched single layer ceramic chips. SMEC design provides high SRF, excellent Q and high temperature stability for critical applications.

Some of the features provided are:

- Tight Tolerances.
- Ideal application for Cellular/Wireless phones, Pagers, critical telecommunication appliances and RF circuits.
- Excellent solderability with all reflow techniques.

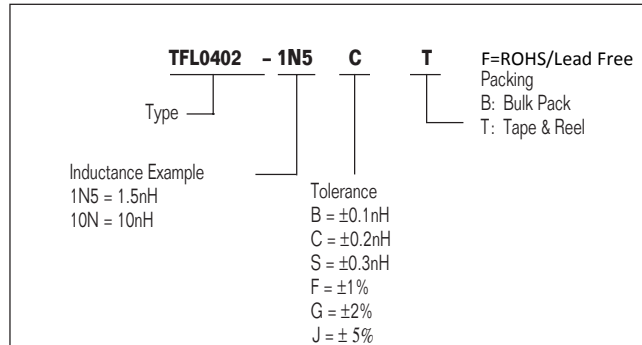
### DIMENSIONS

(mm)



Type	A	B	C	D	Termination
TFL 0402	1.0 ± 0.05	0.5 ± 0.05	0.35 ± 0.05	0.2 ± 0.1	Ni/Sn
TFL 0603	1.6 ± 0.1	0.8 ± 0.1	0.45 ± 0.1	0.3 ± 0.2	Ni/Sn

### ORDERING INFORMATION



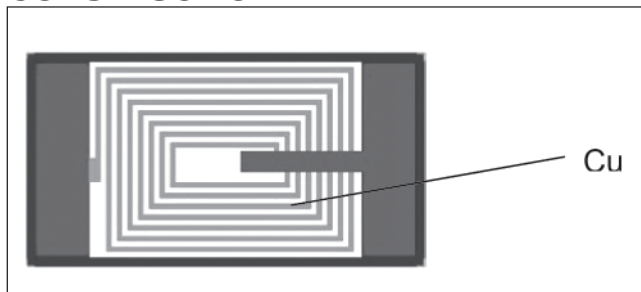
### TAPE PACKAGING

Type	Qty./Reel
TFL 0402	10,000
TFL 0603	5,000

### CHARACTERISTICS

Item	Specification	Test Method
Bending Test	$\Delta L \leq 10\%$	Speed of applying force: 1mm/sec, Deflection: 2mm, Hold duration: 30sec
Vibration	$\Delta L \leq 10\%$	Oscillation frequency: 10-55-10Hz for 1 min. Total amplitude: 1.5mm, Testing time: 2 hours for 3 directions
Resistance to Soldering Heat	$\Delta L \leq 10\%$	270±5°C, 10±1second
High Temperature Exposure	$\Delta L \leq 10\%$	+85±2°C, 1000 +48/-0 hours
Moisture Resistance	$\Delta L \leq 10\%$	40±2°C, 90-95%RH, 1000 +48/-0 hours
Low Temperature Storage	$\Delta L \leq 10\%$	+40±3°C, 1000 +48/-0 hours
Temperature Cycle	$\Delta L \leq 10\%$	-40/RT/85/RT, 10 cycles

### CONSTRUCTION



# THIN FILM CHIP INDUCTORS — TYPE TFL

## TYPE 0402 ELECTRICAL SPECIFICATIONS

SMEC Part No.	Inductance (nH)	Q min.	L, Q Test Freq. (MHz)	SRF (GHz) Min.	DC Resistance (Ω) max.	Rated DC Current (mA) max.
TFL0402-1N0BT	1.0	13	500MHz	6	0.10	400
TFL0402-1N2BT	1.2	13	500MHz	6	0.10	390
TFL0402-1N5BT	1.5	13	500MHz	6	0.20	280
TFL0402-1N8BT	1.8	13	500MHz	6	0.20	280
TFL0402-2N2BT	2.2	13	500MHz	6	0.30	220
TFL0402-2N7BT	2.7	13	500MHz	6	0.30	220
TFL0402-3N3BT	3.3	13	500MHz	6	0.40	190
TFL0402-3N9BT	3.9	13	500MHz	6	0.50	170
TFL0402-4N7BT	4.7	13	500MHz	6	0.60	160
TFL0402-5N6BT	5.6	13	500MHz	6	0.70	140
TFL0402-6N8BT	6.8	13	500MHz	6	0.90	130
TFL0402-8N2BT	8.2	13	500MHz	5.5	1.10	110
TFL0402-10NFT	10	13	500MHz	4.5	1.30	100
TFL0402-12NFT	12	13	500MHz	3.7	1.60	90
TFL0402-15NFT	15	13	500MHz	3.3	1.80	90
TFL0402-18NFT	18	13	500MHz	3.1	2.00	80
TFL0402-22NFT	22	13	500MHz	2.8	2.60	70

Inductance and Q are measured with a Q-meter.  
 1.0nH to 8.2nH ± 0.1nH / ±0.2nH / ± 0.3nH tolerance available only  
 10nH to 22nH ±1% / ±2% / ±5% tolerance available only

## TYPE 0603 ELECTRICAL SPECIFICATIONS

SMEC Part No.	Inductance (nH)	Q min.	L, Q Test Freq. (MHz)	SRF (GHz) Min.	DC Resistance (Ω) max.	Rated DC Current (mA) max.
TFL0603-1N0BT	1.0	17	300MHz	6	0.20	800
TFL0603-1N2BT	1.2	17	300MHz	6	0.20	800
TFL0603-1N5BT	1.5	17	300MHz	6	0.20	800
TFL0603-1N8BT	1.8	17	300MHz	6	0.20	300
TFL0603-2N2BT	2.2	17	300MHz	6	0.20	300
TFL0603-2N7BT	2.7	17	300MHz	6	0.20	300
TFL0603-3N3BT	3.3	17	300MHz	6	0.20	300
TFL0603-3N9BT	3.9	17	300MHz	6	0.20	300
TFL0603-4N7BT	4.7	17	300MHz	5	0.20	300
TFL0603-5N6BT	5.6	17	300MHz	5	0.50	300
TFL0603-6N8BT	6.8	17	300MHz	5	0.50	300
TFL0603-8N2BT	8.2	17	300MHz	4	0.50	300
TFL0603-10NFT	10	15	300MHz	4	1.00	300
TFL0603-12NFT	12	15	300MHz	3	1.00	300
TFL0603-15NFT	15	15	300MHz	3	1.00	300
TFL0603-18NFT	18	15	300MHz	2	2.00	300
TFL0603-22NFT	22	15	300MHz	2	2.00	250
TFL0603-27NFT	27	15	300MHz	2	2.00	250
TFL0603-33NFT	33	15	300MHz	1.5	2.00	250
TFL0603-39NFT	39	15	300MHz	1.5	3.00	200
TFL0603-47NFT	47	15	300MHz	1.5	3.00	200
TFL0603-56NFT	56	15	300MHz	1	5.00	150
TFL0603-68NFT	68	15	300MHz	1	5.00	150

Inductance and Q are measured with a Q-meter.  
 1.0nH to 8.2nH ± 0.1nH / ±0.2nH / ±0.3nH tolerance available only  
 10nH to 68nH ±1% / ±2% / ±5% tolerance available only