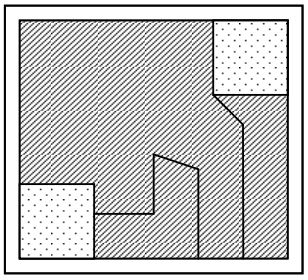
OnChip TL

Thin Film Resistor Series

OnChip Devices' TL series resistors offer the proven stability, low noise and excellent TCR of Tantalum Nitride. TL Series 20 mil resistor chips are available in resistance values from 10 ohms to one meg ohm and in tolerances as low as 0.5%.

Electrical Specifications			
Parameter	**Conditions**		
Temperature Coefficient of Resistance	-55°C to 125°C	±100ppm/°C	Max
Operating Voltage	-55°C to 125°C	100Vdc	Max
Power Rating (per resistor)	@ 70°C (Derate linearly to zero @ 150°C)	250mw	Max
Thermal Shock	Method 107 MIL-STD-202F	±0.5% @ΔR	Max
High Temperature Exposure	100 Hrs @ 150°C Ambient	±0.25% ΔR	Max
Moisture Resistance	Method 106 MIL-STD-202F	±0.5% ΔR	Max
Life	Method 108 MIL-STD-202F (125°C/1000 hr)	±0.5% ΔR	Max
Noise	Method 308 MIL-STD-202F upto 250 KΩ ≥250 KΩ	-35dB -20dB	Max
Insulation Resistance	@ 25°C	1 x 10^{12}Ω	Min



10Ω to 470Ω

Bonding Area

Laser Code Area

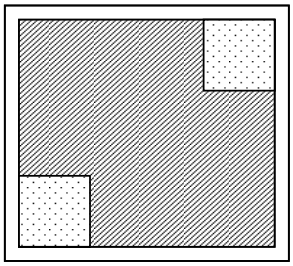
Formats

Die Size: 20±3 mils square

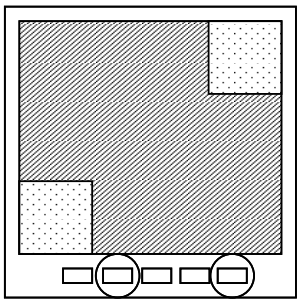
Bonding Pads: 4x4 mils typical

Values
From 10Ω to 1 meg Ω for each resistor.

Mechanical Specifications	
Substrate	Silicon 10±2 mils thick
Isolation Layer	SiO_2 10,000Å thick, min
Backing	Lapped (gold optional)
Metalization	Aluminium 10,000Å thick, min (15,000Å gold optional)



470Ω to 47KΩ



47KΩ to 1MΩ

Packaging
Two inch square trays of 400 chips maximum is standard.

Notes
1. Resistor pattern may vary from one value to another.

Part Number Designation					
TL	**1002**	**F**	**A**	**G**	**W**
Series	Value	Tolerance*	TCR	Bond Pads	Backing
	First 3 digits are	D = ±0.5%	No letter = ±100ppm>10Ω	G = Gold	W = Gold
	significant value.	F = ±1%	A = ±50ppm>100Ω	No Letter = Aluminium	L = Lapped
	Last digit	G = ±2%	B = ±25ppm>100Ω		No Letter = Either
	represents	J = ±5%			
	number of zeros.	K = ±10%			
	R indicates	M = ±20%			
	decimal point.				