

Metal thin film chip resistors (the highest reliability and precision)

■ URG series

AEC-Q200 Compliant

Features

- The tightest resistance tolerance: +/-0.01%
- The smallest temperature coefficient of resistance: ±1ppm/°C
- Long term stability with inorganic passivation
- Thin film structure enabling low noise and anti-sulfur

Applications

- Industrial measurement, electrical scales
- High precision sensors, medical electronics



Thin film surface mount resistors



URG series

◆ Part numbering system

URG 2012 L - 102 - L - T1

Series code

Size: URG1608, URG2012,
URG3216, URG5025, URG6432

Temperature coefficient of resistance

Packaging quantity: T1(1,000pcs),
T05(500pcs), T01(100pcs)

Resistance tolerance

Nominal resistance value (E-24: 3 digit, E-96: 4 digit,
URG3216, URG5025, URG6432: all 4 digit)

◆ Electrical Specification

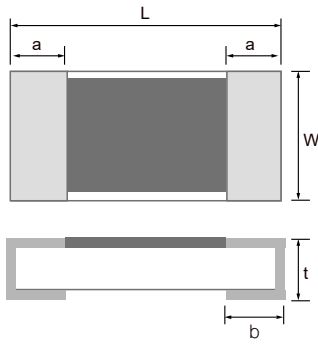
Type	Power ratings	Temperature coefficient of resistance	Resistance range(Ω) Resistance tolerance					Maximum voltage	Resistance value series	Operating temperature	Packaging quantity
			±0.01% (L)	±0.02% (P)	±0.05% (W)	±0.1% (B)	±0.5% (D)				
URG1608	1/16W	±1(K) *1	250 ≤R ≤7.5K	100 ≤R ≤7.5k			100V	E24, E96	-55°C ~ 155°C	T1	
		±2(L) *2									
URG2012	1/10W	±1(K) *1	250 ≤R ≤36K	100 ≤R ≤36k			150V	E24, E96	-55°C ~ 155°C	T1	
		±2(L) *2									
URG3216	1/4W	±1(K) *1	250 ≤R ≤68K	100 ≤R ≤68k			200V	E24, E96	-55°C ~ 155°C	T05	
		±2(L) *2									
URG5025	1/2W	±1(K) *1	250 ≤R ≤100K	100 ≤R ≤150k			300V	E24, E96	-55°C ~ 155°C	T01	
		±2(L) *2									
URG6432	3/4W	±1(K) *1	250 ≤R ≤100K	100 ≤R ≤200k			300V	E24, E96	-55°C ~ 155°C	T01	
		±2(L) *2									

*1: Applicable TCR K (±1.0) at temperature range 25°C~65°C
Applicable TCR K (±1.5) at temperature range -20°C~25°C, 65°C~125°C

*2: Applicable TCR L at temperature range -20°C~125°C

***Contact us for requirements not listed in above table.**

◆Dimensions



Type	Size (inch)	L	W	a	b	t
URG1608	0603	1.60±0.20	0.80+0.25/-0.20	0.30±0.20	0.30±0.20	0.40+0.15/-0.10
URG2012	0805	2.00±0.20	1.25+0.25/-0.20	0.40±0.20	0.40±0.20	0.40+0.15/-0.10
URG3216	1206	3.20±0.20	1.60±0.25	0.50±0.25	0.50±0.20	0.40+0.15/-0.10
URG5025	2010	5.00±0.20	2.50±0.25	0.60±0.25	0.60±0.25	0.45±0.10
URG6432	2512	6.40+0.20/-0.40	3.20±0.25	0.75±0.25	0.80±0.20	0.45±0.20

(unit : mm)

Thin film surface mount resistors

URG series

◆Reliability specification

Test items	Condition (test methods (MIL-PRF-55342/JIS C5201-1))	Standard
Short time overload	2.5 x rated voltage, *1 5seconds	±0.02%+0.01Ω
Life (biased)	70°C, rated voltage, *1 90min on 30min off, 2000hours	±0.02%+0.01Ω(R≥250Ω)
		±0.05%+0.01Ω(R<250Ω)
High temperature high humidity	85°C, 85%RH, 1/10 of rated power, 90min on 30min off, 1000hours	±0.05%+0.01Ω
Temperature shock	-65°C (15min) ~ 150°C (15min) 100cycles	±0.02%+0.01Ω
High temperature exposure	155°C, no bias, 1000hours	±0.05%+0.01Ω
Resistance to soldering heat	235±5°C, 30 seconds (reflow), (by MIL-PRF-55342)	±0.01%+0.01Ω

*1 Rated voltage is given by $E = \sqrt{R \times P}$

E= rated voltage (V), R=nominal resistance value(Ω), P=rated power(W)

If rated voltage exceeds maximum voltage /element, maximum voltage/element is the rated voltage.

Metal thin film chip resistors (the highest reliability and precision)

URG series

Reliability test data

Biased life test



High temperature high humidity (biased)



Temperature shock



High temperature exposure



Thin film surface mount resistors

URG series

◆ Temperature coefficient of Resistance

○ URG2012



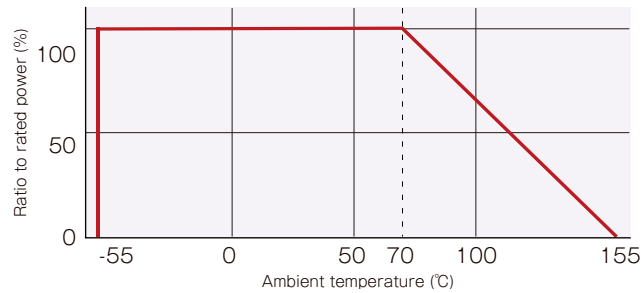
○ URG3216



Thin film surface mount resistors

URG series

◆ Derating Curve



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Susumu:

[URG3216L-152-L-T05](#) [URG3216L-221-L-T05](#) [URG3216L-681-L-T05](#) [URG3216L-333-L-T05](#) [URG2012L-331-L-T05](#)
[URG2012L-681-L-T05](#) [URG2012L-682-L-T05](#) [URG3216L-471-L-T05](#) [URG3216L-683-L-T05](#) [URG2012L-472-L-T05](#)
[URG1608L-221-L-T05](#) [URG3216L-331-L-T05](#) [URG3216L-101-L-T05](#) [URG3216L-223-L-T05](#) [URG2012L-103-L-T05](#)
[URG2012L-151-L-T05](#) [URG3216L-153-L-T05](#) [URG1608L-151-L-T05](#) [URG2012L-102-L-T05](#) [URG3216L-103-L-T05](#)
[URG1608L-472-L-T05](#) [URG1608L-682-L-T05](#) [URG1608L-101-L-T05](#) [URG3216L-472-L-T05](#) [URG3216L-222-L-T05](#)
[URG1608L-331-L-T05](#) [URG1608L-681-L-T05](#) [URG1608L-102-L-T05](#) [URG1608L-332-L-T05](#) [URG2012L-332-L-T05](#)
[URG1608L-152-L-T05](#) [URG3216L-102-L-T05](#) [URG3216L-473-L-T05](#) [URG2012L-101-L-T05](#) [URG2012L-152-L-T05](#)
[URG2012L-471-L-T05](#) [URG2012L-153-L-T05](#) [URG3216L-682-L-T05](#) [URG2012L-222-L-T05](#) [URG3216L-332-L-T05](#)
[URG2012L-221-L-T05](#) [URG1608L-471-L-T05](#) [URG1608L-222-L-T05](#) [URG3216L-151-L-T05](#) [URG2012L-223-L-T05](#)
[URG2012L-333-L-T05](#) [URG3216L-1782-L-T05](#) [URG3216L-1652-P-T05](#) [URG1608L-3741-L-T05](#) [URG3216L-302-P-T05](#)
[URG2012L-822-P-T05](#) [URG2012L-203-L-T05](#) [URG1608L-3240-P-T05](#) [URG2012L-302-L-T05](#) [URG1608L-3740-P-T05](#)
[URG1608L-1691-L-T05](#) [URG3216L-5232-P-T05](#) [URG3216L-472-P-T05](#) [URG2012L-121-L-T05](#) [URG2012L-351-L-T05](#)
[URG3216L-1200-L-T05](#) [URG3216L-3500-L-T05](#) [URG3216L-7151-P-T05](#) [URG1608L-1401-L-T05](#)
[URG2012L-3240-P-T05](#) [URG2012L-1822-L-T05](#) [URG3216L-433-L-T05](#) [URG2012L-7320-L-T05](#) [URG3216L-5360-L-T05](#)
[URG2012L-9311-L-T05](#) [URG2012L-3651-L-T05](#) [URG2012L-1652-L-T05](#) [URG2012L-6041-L-T05](#) [URG3216L-622-L-T05](#)
[URG2012L-4021-L-T05](#) [URG2012L-752-P-T05](#) [URG2012L-1912-P-T05](#) [URG2012L-5361-P-T05](#)
[URG1608L-4640-L-T05](#) [URG2012L-1181-P-T05](#) [URG2012L-1582-P-T05](#) [URG3216L-9531-P-T05](#) [URG2012L-1820-P-T05](#)
[URG2012L-2671-P-T05](#) [URG3216L-9090-L-T05](#) [URG2012L-2871-L-T05](#) [URG2012L-1871-L-T05](#) [URG3216L-4871-P-T05](#)
[URG2012L-6340-P-T05](#) [URG1608L-6190-P-T05](#) [URG3216L-1021-P-T05](#) [URG3216L-1741-P-T05](#)
[URG1608L-201-P-T05](#) [URG2012L-3321-L-T05](#) [URG3216L-1621-L-T05](#) [URG1608L-4531-P-T05](#) [URG2012L-4321-L-T05](#)
[URG3216L-7871-P-T05](#) [URG3216L-4020-P-T05](#) [URG2012L-681-P-T05](#)