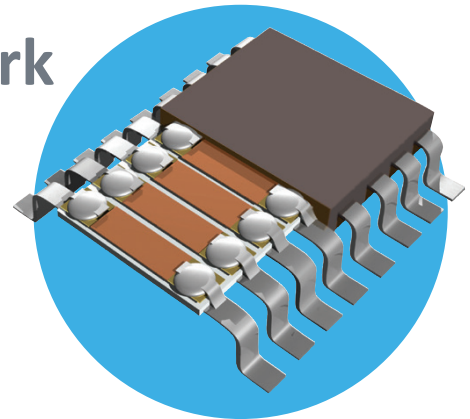


TaNFilm® Small Outline Surface Mount Resistor Network

GUB Series

- High stability and reliability
- High purity ceramic substrate
- High power dissipation for size
- Suitable for harsh environments
- Rugged all-welded construction
- Impervious lead free vitreous enamel coating
- Overload characteristics ideal for protection circuits



 All Pb-free parts comply with EU Directive 2011/65/EU (RoHS2)

IRC's TaNFilm®, Small Outline Integrated Circuit resistor networks are ideally suited for surface mounting. The 0.05 inch lead spacing provides higher lead density, increased component count, lower installed resistor cost, and better reliability. They are ideally suited for the latest surface mount assembly techniques, and each lead can be 100% visually inspected. The compliant leads relieve thermal expansion and contraction stressed created by soldering and temperature excursions.

The tantalum nitride film system provides precision tolerance, exceptional TCR tracking, and low noise. TaNFilm® provides stability, high reliability, and long life characteristics. Testing has demonstrated performance exceeding MIL-PRF-83401 characteristics H.

Electrical Data

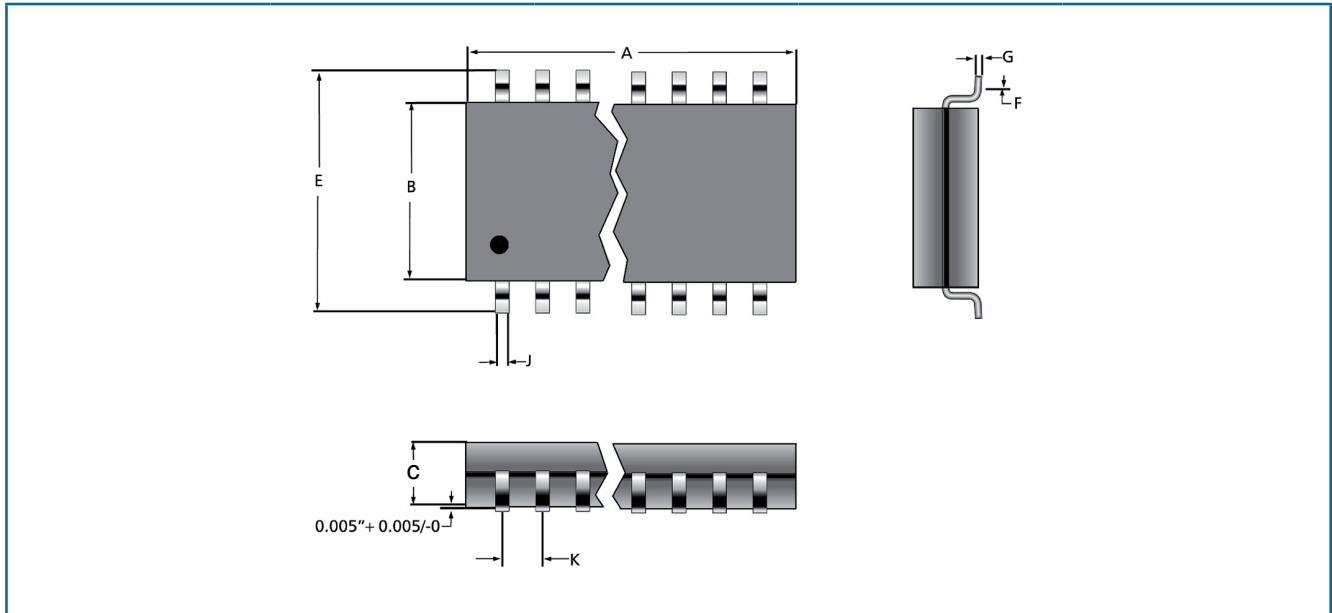
Resistance Range (Ω)	GM Type	Schem A: 10 to 150K	Schem B: 10 to 75K
	GL Type	Schem A: 10 to 200K	Schem B: 10 to 1000K
Absolute Tolerance	Available to $\pm 0.1\%$		
Ratio Tolerance To R1	Available to $\pm 0.05\%$		
TCR (ppm/ $^{\circ}\text{C}$)	$\pm 25, \pm 50, \pm 100$		
TCR Tracking To R1 (ppm/ $^{\circ}\text{C}$)	± 5		
Operating Temperature Range	-55°C to $+125^{\circ}\text{C}$		
Noise	Less than -25 dB		
Substrate	High purity alumina substrate		

Custom circuits and special testing available.

General Note

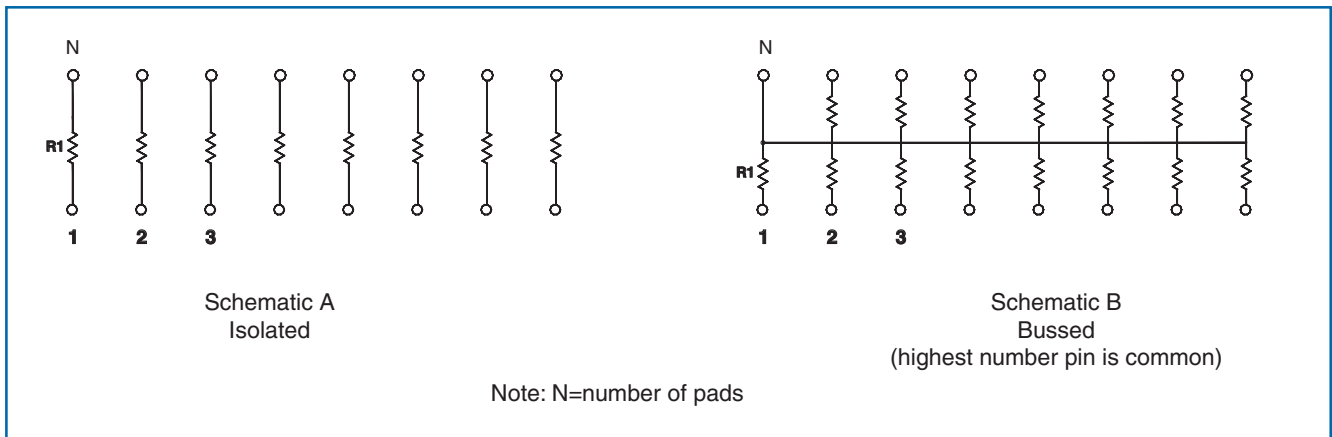
TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

Physical Data



	GM7x	GM8x	GL8x	GL0x
A	0.390" ± 0.005	0.440" ± 0.005	0.440" ± 0.005	0.504" ± 0.008
B	0.220" ± 0.005	0.220" ± 0.005	0.297" ± 0.005	0.297" ± 0.005
C	0.090" max	0.090" max	0.105" max	0.105" max
E	0.300" ± 0.010	0.300" ± 0.010	0.407" ± 0.015	0.407" ± 0.015
F	0.028" ± 0.007	0.028" ± 0.007	0.028" ± 0.007	0.028" ± 0.007
G	0.010" ± 0.002	0.010" ± 0.002	0.010" ± 0.002	0.010" ± 0.002
J	0.017" ± 0.003	0.017" ± 0.003	0.017" ± 0.003	0.017" ± 0.003
K	0.050" ± 0.005	0.050" ± 0.005	0.050" ± 0.005	0.050" ± 0.005

Standard Circuits



General Note

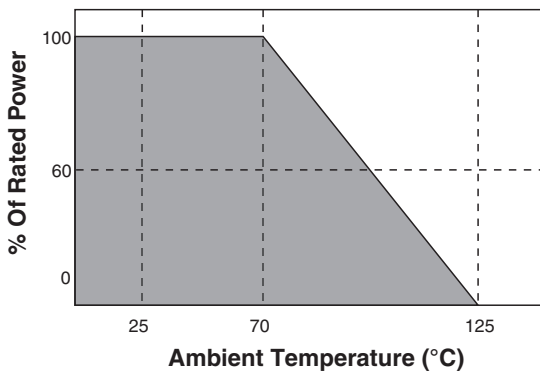
TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

GUB Series

Power Dissipation Data (watts @ 70°C)

	Schematic A		Schematic B	
	Per Resistor	Per Package	Per Resistor	Per Package
GM Series 14-pin	0.16W	1.0W	0.08W	1.0W
GM Series 16-pin	0.16W	1.2W	0.08W	1.2W
GL Series 16-pin	0.16W	1.2W	0.10W	1.2W
GI Series 20-pin	0.16W	1.5W	0.10W	1.5W

Power Derating Curve



Ordering Data

Prefix **GUB** - **GM8A** - **03** - **2001** - **B** - **A**

Model

- GM7A - 14-pin 0.220" wide body, schematic A, 60/40 Sn/Pb leads
- GM7ALF - 14-pin, 0.220" wide body, schematic A, RoHS compliant leads
- GM7B - 14-pin 0.220" wide body, schematic B, 60/40 Sn/Pb leads
- GM7BLF - 14-pin, 0.220" wide body, schematic B, RoHS compliant leads
- GM8A - 16-pin 0.220" wide body, schematic A, 60/40 Sn/Pb leads
- GM8ALF - 16-pin, 0.220" wide body, schematic A, RoHS compliant leads
- GM8B - 16-pin 0.220" wide body, schematic B, 60/40 Sn/Pb leads
- GM8BLF - 16-pin, 0.220" wide body, schematic B, RoHS compliant leads
- GL8A - 16-pin 0.300" wide body, schematic A, 60/40 Sn/Pb leads
- GL8ALF - 16-pin, 0.300" wide body, schematic A, RoHS compliant leads
- GL8B - 16-pin 0.300" wide body, schematic B, 60/40 Sn/Pb leads
- GL8BLF - 16-pin, 0.300" wide body, schematic B, RoHS compliant leads
- GL0A - 20-pin 0.300" wide body, schematic A, 60/40 Sn/Pb leads
- GL0ALF - 20-pin, 0.300" wide body, schematic A, RoHS compliant leads
- GL0B - 20-pin 0.300" wide body, schematic B, 60/40 Sn/Pb leads
- GL0BLF - 20-pin, 0.300" wide body, schematic B, RoHS compliant leads

TCR Code (ppm/°C)

01 = ±100; 02 = ±50; 03 = ±25

Resistance code

Standard MIL resistance code (e.g. 1002 = 10KΩ; 50R1=50.1Ω)

Absolute tolerance

J = ±5%; G = ±2%; F = ±1%; D = ±0.5%; C = ±0.25%; B = ± 0.10%

Ratio tolerance to R1 (if specified)

F = ±1%; D = ±0.5%; C = ±0.25%; B = ± 0.1%; A = ±0.05%

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.