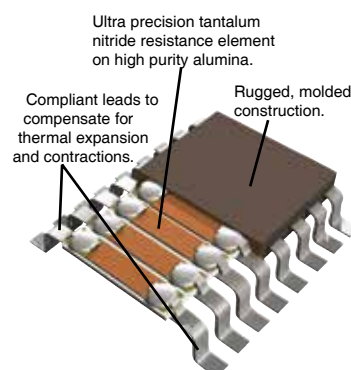


## TaNFilm® Small Outline Surface Mount Resistor Network

### GUB Series

**OBSOLETE**

- Thin-film on ceramic technology
- 0.22" and 0.33" sizes available
- RoHS compliant version available
- DESC 87012 and 87013 available
- Standard JEDEC packages for automatic placement equipment



 All Pb-free parts comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

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 stresses 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 characteristic H.

## Electrical Data

Resistance Range ( $\Omega$ )	GM Type	Schem A: 10 to 150K	Schem B: 10 to 75K
	GL Type	Schem A: 10 to 200K	Schem B: 10 to 100K
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/ $^{\circ}\text{C}$ )	$\pm 5$		
Operating Temperature Range	$-55^{\circ}\text{C}$ to $+125^{\circ}\text{C}$		
Noise	Less than -25 dB		
Substrate	High purity alumina substrate		

Custom circuits and special testing available.

### General Note

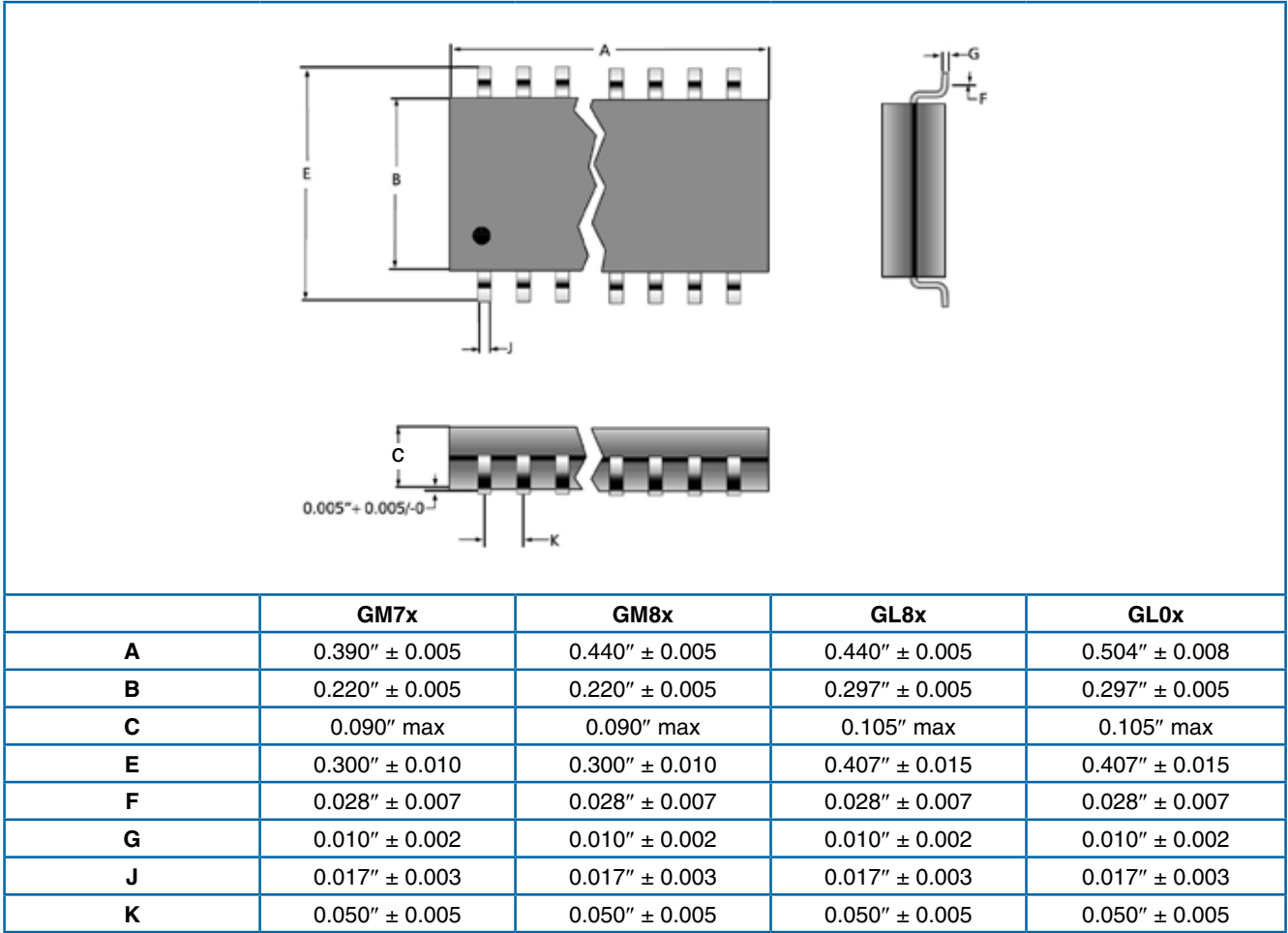
TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

BI Technologies IRC Welwyn

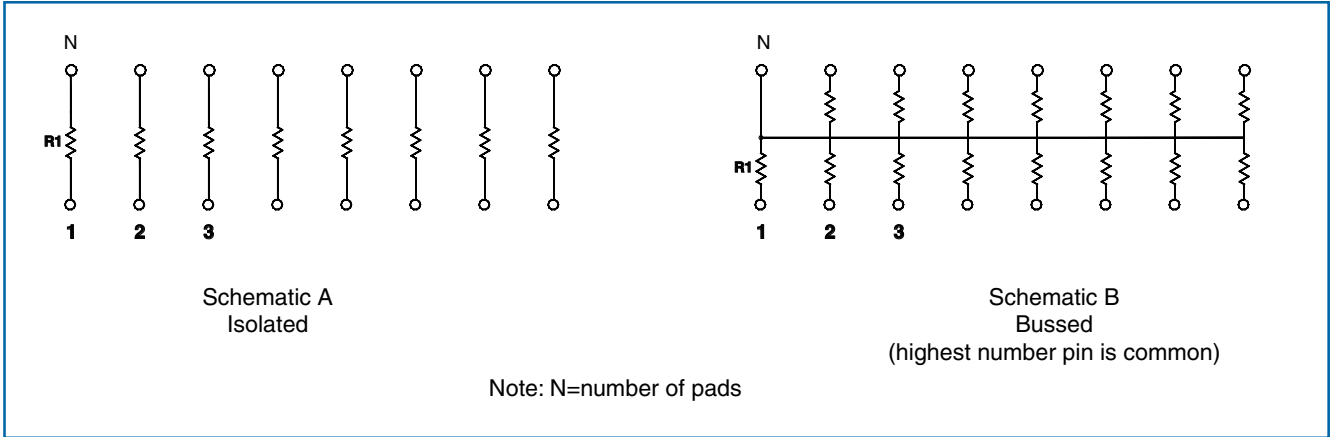
[www.ttelectronics.com/resistors](http://www.ttelectronics.com/resistors)

OBSOLETE

Physical Data



Standard Circuits

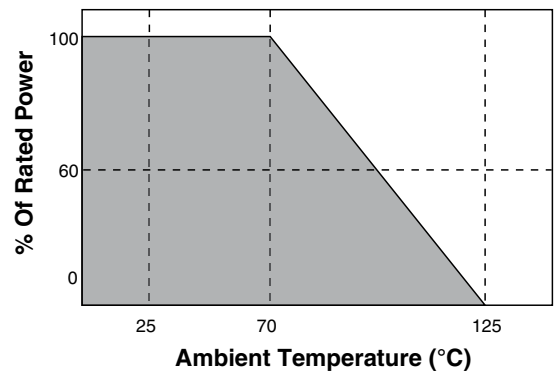


OBSOLETE

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.

BI Technologies IRC Welwyn

www.ttelectronics.com/resistors