

METAL FILM RESISTORS

GP SERIES *Standard*

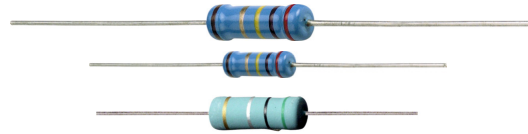
GPS SERIES *Small Size*

FP/FPS SERIES *Flameproof*



RoHS

RESISTOR



FEATURES

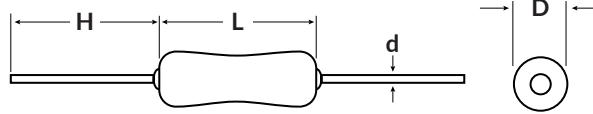
- ▶ Industry's widest range! 10 models, 1/8W to 2W, 1Ω to 22.1MΩ, 0.10% to 5%, 25ppm to 100ppm
- ▶ Miniature GPS Series enables significant space savings
- ▶ Flameproof FP & FPS version meet UL94V-0
- ▶ Wide selection available from stock

OPTIONS

- ▶ **Opt. P:** Increased Pulse Capability
- ▶ **Opt. ER:** 100-hour burn-in (full rated W_{25})
- ▶ **Opt. 48:** Short-time overload screening
- ▶ **Other:** Matched Sets, TCR Tracking, Cut & Formed Leads, Increased Voltage and Temperature Ratings, Non-Magnetic Construction, etc.

Precision performance, industry's lowest price!

RCD's GP metal film resistors and FP flameproof version are designed to provide high performance and reliability at low costs. Improved performance over industry standard is achieved via the use of high grade materials combined with stringent process controls. Unlike other manufacturers that lock users into a limited range of "standard products", RCD offers the industry's widest choice of design options, including non-standard resistance values.



RCD TYPE	WATT. @ 70°C (W)	MAX VOLTAGE RATING ¹ (V)	TC (ppm/°C)	STANDARD RES. RANGE (Custom Available)			DIMENSIONS In [mm]				STD. REEL QTY	
				0.10% & 0.25%	0.50%	1% - 5%	L ±0.020 [0.50] *	D ±0.016 [0.40] *	d ±0.004 [0.10]	H MIN **		
GP & FP SERIES (Standard Size)												
GP50 FP50	0.125	200	25 50 100	100Ω - 1M 30Ω - 1M 20Ω - 1M	50Ω - 1M 10Ω - 1M 10Ω - 1M	40Ω - 1M 10Ω - 1M 5Ω - 10M	0.134 [3.4]	0.067 [1.7]	0.018 [0.45]	0.98 [25]	5000	
GP55 FP55	0.250	250	25 50 100	51.1Ω - 1M 10Ω - 1M 1Ω - 5.1M	30Ω - 1M 10Ω - 1M 10Ω - 1M	30Ω - 1M 10Ω - 1M 1Ω - 22.1M	0.248 [6.3]	0.090 [2.3]	0.024 [0.60]	0.98 [25]	5000	
GP60 FP60	0.500	350	25 50 100	100Ω - 1M 10Ω - 1M 10Ω - 1M	50Ω - 1M 10Ω - 2.2M 10Ω - 2.2M	40Ω - 1M 10Ω - 5M 10Ω - 10M	0.353 [9.0]	0.138 [3.5]	0.026 [0.65]	0.98 [25]	2500	
GP65 FP65	1.0	400	25 50 100	100Ω - 1M 10Ω - 1M 10Ω - 1M	50Ω - 1M 10Ω - 3M 10Ω - 3M	50Ω - 1M 10Ω - 3M 10Ω - 3M	0.455 [11.5]	0.177 [4.5]	0.030 [0.75]	1.26 [32]	2000	
GP70 FP70	2.0	500	25 50 100	100Ω - 1M 10Ω - 1M 10Ω - 1M	50Ω - 1M 10Ω - 5M 10Ω - 5M	50Ω - 1M 10Ω - 5M 10Ω - 5M	0.590 [15.0]	0.195 [5.0]	0.031 [0.80]	1.26 [32]	1000	
GPS & FPS SERIES (Miniature Size)												
GP50S FP50S	0.25	200	25 50 100	100Ω - 1M 30Ω - 1M 20Ω - 1M	50Ω - 1M 10Ω - 1M 10Ω - 1M	40Ω - 1M 10Ω - 1M 5Ω - 10M	0.134 [3.4]	0.067 [1.7]	0.018 [0.45]	0.98 [25]	5000	
GP52S FP52S	0.40	200	25 50 100	100Ω - 1M 30Ω - 1M 20Ω - 1M	50Ω - 1M 10Ω - 1M 10Ω - 1M	40Ω - 1M 10Ω - 1M 10Ω - 2.4M	0.134 [3.4]	0.067 [1.7]	0.020 [0.50]	0.98 [25]	5000	
GP55S FP55S	0.50	250	25 50 100	51.1Ω - 1M 10Ω - 1M 1Ω - 5.1M	30Ω - 1M 10Ω - 1M 10Ω - 1M	30Ω - 1M 10Ω - 1M 1Ω - 22.1M	0.248 [6.3]	0.090 [2.3]	0.024 [0.60]	0.98 [25]	5000	
GP56S FP56S	0.60	250	25 50 100	51.1Ω - 1M 10Ω - 1M 1Ω - 5.1M	30Ω - 1M 10Ω - 1M 10Ω - 1M	30Ω - 1M 10Ω - 1M 1Ω - 22.1M	0.248 [6.3]	0.090 [2.3]	0.024 [0.60]	0.98 [25]	5000	
GP60S FP60S	1.0	350	25 50 100	100Ω - 1M 10Ω - 1M 10Ω - 1M	50Ω - 1M 10Ω - 2.2M 10Ω - 2.2M	40Ω - 1M 10Ω - 5M 10Ω - 10M	0.353 [9.0]	0.138 [3.5]	0.028 [0.70]	0.98 [25]	2500	

¹ Working voltage = PR^{1/2}, voltage level not to exceed the maximum value listed. Increased rating available.
 * Tolerance is ±0.032 [0.80] on GP65, FP65, GP70, FP70 length, ±0.024 [0.60] on GP65, FP65, GP70, FP70, GP60S, FP60S body diameter.
 ** Lead length dimensions are for bulk packaged parts, taped parts may be short (refer to taping specs).

TYPICAL PERFORMANCE

	GP/FP (Standard)	GPS/FPS (Mini)
Operating Temperature	-55°C to +160°C	-55°C to +160°C
Short Time Overload	0.25%	0.50%
Resistance to Solder Heat	0.050%	0.050%
Moisture Resistance *	0.30% (standard) 0.60% (FP)	0.30% (standard) 0.60% (FPS)
Load Life (1000 hours)	0.50%	1.0%
Temperature Cycling	0.20%	0.20%
Low Temperature Operation	0.10%	0.10%
Noise	0.10μV/V	0.10μV/V
Voltage Coefficient	5ppm/V	5ppm/V
Derating	Derate W and V by 1.11%/°C above 70°C	
Flame Retardancy	GP = UL94V-1 FP = UL94V-0	GPS = UL94V-1 FPS = UL94V-0
Dielectric Strength	500V GP & FP50 = 300V	500V FPS50S & FPS2S = 300V

* To ensure the utmost reliability, care should be taken to avoid potential sources of ionic contamination.

PART NUMBER DERIVATION

GP55S - **1002** - **F** **T** **W**

RCD Type: (see table above for listing)

Options: P, ER, 48 (leave blank if standard)

Resistance Code (@25°C): 0.10% - 1%: 3 signif. digits & mult.
 ex: 1001 = 1K, 1004 = 1M, 1R00 = 1Ω, 10R0 = 10Ω, etc.
 2% - 5%: 2 signif. digits & mult.
 ex: 102 = 1K, 105 = 1M, 1R0 = 1Ω, 100 = 10Ω, etc.

Tolerance: J = ±5%, G = ±2%, F = ±1%, D = ±0.50%, C = ±0.25%, B = ±0.10%, A = ±0.05%

Packaging: B = Bulk, T = Tape & Reel

Temp. Coefficient: 50 = 50ppm, 25 = 25ppm (leave blank if standard) (100ppm 10Ω to 1M, 200ppm <10Ω or >1M)

Termination: W = RoHS, Q = Sn/Pb (leave blank if both are acceptable)