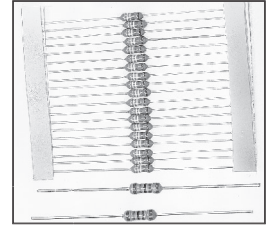


## FEATURES

- MEETS OR EXCEEDS MIL-R-10509E SPECIFICATIONS
- ULTRA-LOW NOISE WITH LOW TEMPERATURE COEFFICIENTS
- CLOSE TOLERANCE, PRECISION APPLICATIONS
- EIA COLOR CODING RESISTANT TO INDUSTRIAL SOLVENTS
- AVAILABLE ON TAPE AND REEL FOR AUTOMATIC INSERTION AND BULK PACK FOR SMALL PRODUCTION RUNS OR PROTOTYPES
- ECONOMICALLY PRICED



## RoHS Compliant

includes all homogeneous materials

\*See Part Number System for Details

## STANDARD TYPES, RATINGS AND AVAILABILITY

Type	NMR16	NMR25		NMR50	NMR100
Power Rating at 70°C	0.125W	0.25W		0.5W	1W
Max. Working Voltage at 70°C	150V	250V		350V	500V
Max. Overload Voltage at 70°C	300V	500V		700V	1000V
Resistance Tolerance	F ±1% (Std.)	(D) ±0.5% (Opt.)	(F) ±1% (Std)	(F) ±1% (Std)	(F) ±1% (Std)
Temperature Coefficient	±50ppm/°C	10Ω ~ 1MegΩ		10Ω ~ 1MegΩ	--
	±100ppm/°C	Less than 10Ω More than 1MegΩ	Less than 10Ω More than 1MegΩ	Less than 10Ω More than 1MegΩ	*10Ω ~ 1MegΩ
Resistance Value Availability	E-96	E-96		E-96	E-96

\* Extended resistance range available on request

## PERFORMANCE CHARACTERISTICS

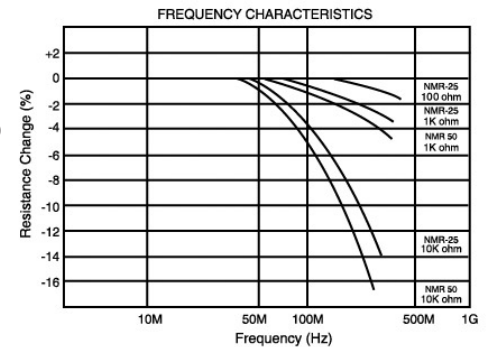
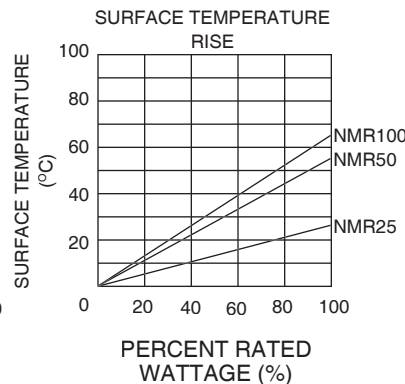
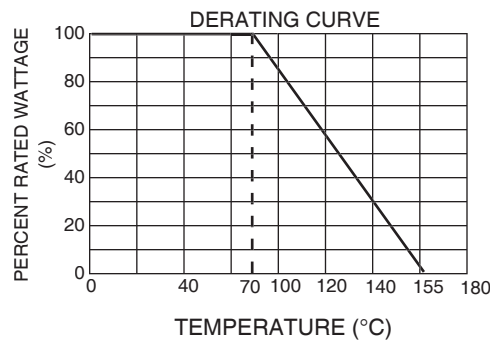
Requirements	Performance	Test Method MIL-R-10509F
Operating Temperature Range	-55 ~ +155°C	-
Temperature Coefficient	±50ppm, ±100ppm/°C	4.6.12
Temperature Cycling	$R < \pm(0.5\% + 0.05\Omega)$	4.6.6
Low Temperature Operation	$R < \pm(0.5\% + 0.05\Omega)$	4.6.5
Short Time Overload	$R < \pm(0.5\% + 0.05\Omega)$	4.6.6
Terminal Strength	$R < \pm(0.5\% + 0.05\Omega)$	4.6.7
Dielectric Withstanding Voltage	$R < \pm(0.5\% + 0.05\Omega)$	4.6.8
Insulation Resistance	10,000MΩ minimum	4.6.9
Soldering Effect	$R \leq \pm(0.5\% + 0.05\Omega)$	4.6.10
Moisture Resistance	$R \leq \pm(1\% + 0.05\Omega)$	(MIL-R_22684B, 4.6.10)
Load Life	$R \leq \pm(1\% + 0.05\Omega)$	4.6.13
Vibration	$R \leq \pm(0.5\% + 0.05\Omega)$	(MIL-R_22684B, 4.6.16)
Current Noise	0.2μV/V (-14dB)	(JIS C5202, 5.9 Method II)
Solvent Resistance	MIL-STD-202, Method 215, Trichloroethylene, Trichloroethane, Trichlorotri uoroethane	

\*\* - Maximum allowable continuous voltage (Vdc or rms) for all resistors is the lower of the two values: "MAXIMUM WORKING VOLTAGE" as specified

or

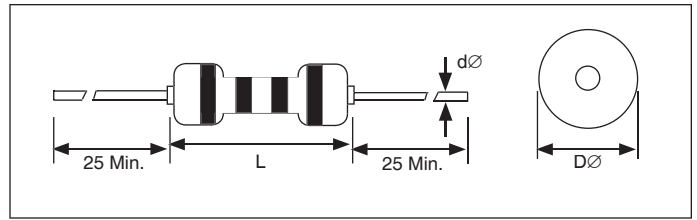
$$\sqrt{\text{Power rating (WATTS) x Value } (\Omega)}$$

## TYPICAL PERFORMANCES



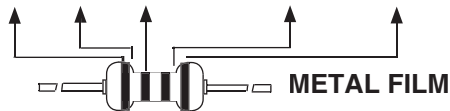
## DIMENSIONS (mm)

Type	D $\phi$	L	d $\phi$ $\pm$ 0.05
NMR16	1.7 $\pm$ 0.2	3.7 $\pm$ 0.4	0.45
NMR25	2.4 $\pm$ 0.4	6.4 $\pm$ 0.5	0.60
NMR50	3.2 $\pm$ 0.5	9.5 $\pm$ 0.5	0.65
NMR100	4.5 $\pm$ 0.5	11.0 $\pm$ 1.0	0.80



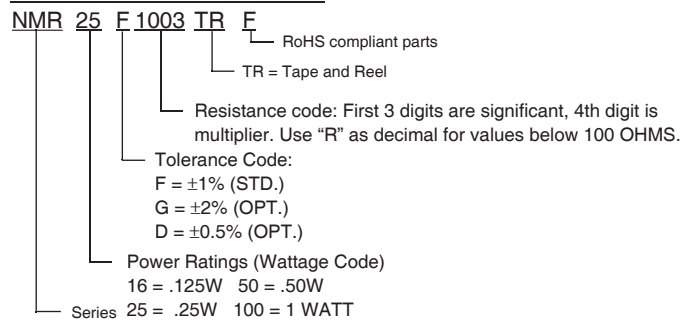
## COLOR CODING

Color	Significant Figure			Multiplier	Tolerance
	1st	2nd	3rd		
Black	0	0	0	1	-
Brown	1	1	1	10	F ( $\pm$ 1%)
Red	2	2	2	100	G ( $\pm$ 2%)
Orange	3	3	3	1,000	-
Yellow	4	4	4	10,000	-
Green	5	5	5	100,00	D ( $\pm$ 0.5%)
Blue	6	6	6	1,000,000	C ( $\pm$ 0.25%)
Violet	7	7	7	10,000,000	B ( $\pm$ 0.1%)
Grey	8	8	8	-	-
White	9	9	9	-	-
Gold	-	-	-	0.1	J ( $\pm$ 5%)
Silver	-	-	-	0.01	K ( $\pm$ 10%)



Significant Figures of Nominal Resistance Values (E-96 1% Tolerance)			
1.00	1.02	1.05	1.07
1.10	1.13	1.15	1.18
1.21	1.24	1.27	1.30
1.33	1.37	1.40	1.43
1.47	1.50	1.54	1.58
1.62	1.65	1.69	1.74
1.78	1.82	1.87	1.91
1.96	2.00	2.05	2.10
2.15	2.21	2.26	2.32
2.37	2.43	2.49	2.55
2.61	2.67	2.74	2.80
2.87	2.94	3.01	3.09
3.16	3.24	3.32	3.40
3.48	3.57	3.65	3.74
3.83	3.92	4.02	4.12
4.22	4.32	4.42	4.53
4.64	4.75	4.87	4.99
5.11	5.23	5.36	5.49
5.62	5.76	5.90	6.04
6.19	6.34	6.49	6.65
6.81	6.98	7.15	7.32
7.50	7.68	7.87	8.06
8.25	8.45	8.66	8.87
9.09	9.31	9.53	9.76

## PART NUMBER SYSTEM



## PACKAGING & REEL QUANTITIES

Tape and Reel - 5K NMR16 and 25  
 2.5K NMR50  
 2K NMR100