



## ERN Series

### Normal & Miniature Style

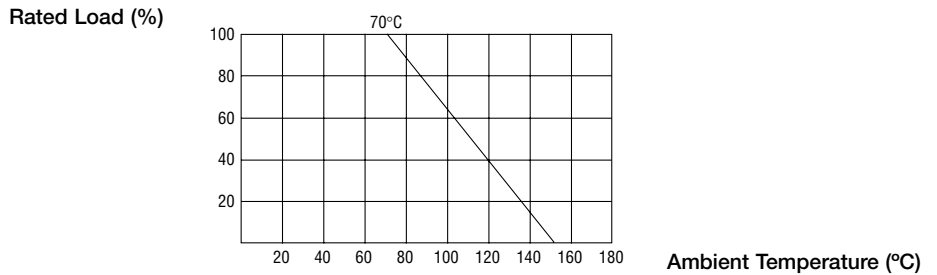
#### FEATURES

Power Rating	1/6W, 1/4W, 1/2W, 1W, 2W
Resistance Tolerance	±0.1%, ±0.25%, ±0.5%, ±1%
T.C.R.	±15ppm/°C, ±25ppm/°C, ±50ppm/°C, ±100ppm/°C

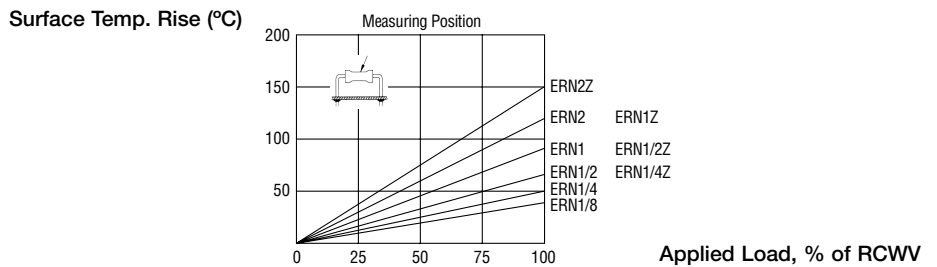
#### INTRODUCTION

The ERN Series Metal Film Resistors are manufactured using vacuum sputtering system to deposit multiple layers of mixed metals and passivative materials onto a carefully treated high grade ceramic substrate, the resistors are coated with layers of blue lacquer.

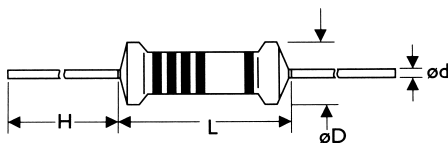
#### DERATING CURVE



#### HOT-SPOT TEMPERATURE



#### DIMENSIONS



Unit : mm

STYLE		DIMENSION			
Normal	Miniature	L	øD	H	ød
ERN1/8	ERN1/4Z	3.3±0.4	1.8±0.3	28±2.0	0.5±0.05
ERN1/4	ERN1/2Z	6.3±0.5	2.3±0.3	28±2.0	0.6±0.05
ERN1/2	ERN1Z	9.0±0.5	3.2±0.5	26±2.0	0.6±0.05
ERN1	ERN2Z	11.5±1.0	4.5±0.5	35±2.0	0.8±0.05
ERN2	-	15.5±1.0	5.0±0.5	33±2.0	0.8±0.05

# ERN Series

## ELECTRICAL CHARACTERISTICS

STYLE	ERN1/8	ERN1/4Z	ERN1/4	ERN1/2Z	ERN1/2	ERN1Z	ERN1	ERN2Z	ERN2
Power Rating at 70°C	1/6W	1/4W		1/2W		1W		2W	
Operating Temp. Range	-55°C to +155°C								
Maximum Working Voltage	200V	200V	250V	300V	350V	400V	500V	500V	500V
Maximum Overload Voltage	400V	400V	500V	600V	700V	800V	1000V	1000V	1000V
Dielectric Withstanding Voltage	300V	400V	500V	500V	500V	700V	1000V	1000V	1000V
Value Range ±0.5%, ±1%	10Ω~1MΩ								
Value Range ±0.1%, ±0.25%	100Ω~100KΩ								
Temperature Coefficient (by Type)	±15ppm/°C, ±25ppm/°C, ±50ppm/°C, ±100ppm/°C								

\* Resistance Range for standard resistance, below or over this resistance on request.

## ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD	APPRAISE
Short Time Overload	JIS-C-5202 5.5	2.5 Times RCWV for 5 Seconds ±(0.25%+0.05Ω)
Dielectric Withstanding Voltage	JIS-C-5202 5.7	in V-Block for 60 Seconds by Type
Temperature Coefficient of Resistance	JIS-C-5202 5.2	-55°C to +155°C by Type
Insulation Resistance	JIS-C-5202 5.6	in V-Block >10000MΩ
Solderability	JIS-C-5202 6.5	235°C for 5±0.5 Seconds 95% Min. Coverage
Resistance to Solvent	JIS-C-5202 6.9	Trichroethane for 1 Min. with Ultrasonic No Deterioration of Coatings and markings
Terminal Strength	Direct load for 10 Sec. in The Direction of The Terminal Leads ≥2.5kg (24.5N)	
Pulse Overload	JIS-C-5202 5.8	4 Times RCWV 10000 Cycles (1 Sec. on , 25 Sec. off) ±(2%+0.05Ω)
Load Life in Humidity	JIS-C-5202 7.9	40±2°C, 90-95% RH at RCWV for 1000 Hrs. (1.5 Hrs. on , 0.5 Hrs. off) ±(1.5%+0.05Ω)
Load Life	JIS-C-5202 7.10	70°C at RCWV for 1000 Hrs. (1.5 Hrs. on , 0.5 Hrs. off) ±(1.5%+0.05Ω)
Temperature Cycling	JIS-C-5202 7.4	-65°C·Room Temp.·150°C·Room Temp. for 5 Cycles ±(0.25%+0.05Ω)
Resistance to Soldering Heat	JIS-C-5202 6.4	350°C±10°C for 3±0.5 Seconds ±(0.25%+0.05Ω)

\* Rated Continuous Working Voltage (RCWV)=√Power Rating x Resistance Value