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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Carbon Film Resistors

Non-Inductive & Flame-Proof Type

Normal & Miniature Style [NCR Series]



INTRODUCTION

The NCR Series Carbon Film Non-Inductive & Flame-Proof Resistors are manufactured by coating a homogeneous film of pure carbon on high grade ceramic rods. Tinned connecting leads of electrolytic copper are welded to the end-caps. The inductance is $< 1 \mu\text{H}$.

The resistors are coated with layers of gray color lacquer for normal size & pink color lacquer for miniature size.

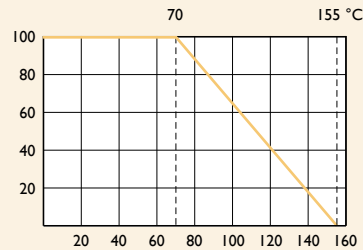
FEATURES

Power Rating	1/4W, 1/2W, 1W, 2W, 3W
Resistance Tolerance	$\pm 5\%$, $\pm 10\%$
T.C.R.	see Table I
Flameproof Multi-layer Coating Meets	UL-94V-0
Flameproof Feature Meets Overload Test	UL-1412

DERATING CURVE

For resistors operated in ambient temperatures above 70°C , power rating must be derated in accordance with the curve below.

Rated Load (%)



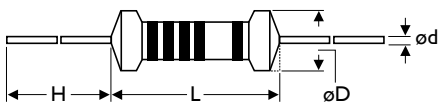
Ambient Temperature ($^\circ\text{C}$)

TABLE I TEMPERATURE COEFFICIENT

VALUE RANGE	TEMP. COEFFICIENT (ppm/ $^\circ\text{C}$)
Under $5\text{K}\Omega$	-500~0
$5\text{K} - 10\text{K}\Omega$	-800~0

DIMENSIONS

Unit: mm



5th color code: green

STYLE		DIMENSION			
Normal	Miniature	L	ϕD	H	ϕd
NCR-25	NCR50S	6.3 ± 0.5	2.4 ± 0.2	28 ± 2.0	0.55 ± 0.05
NCR-50	NCR1WS	9.0 ± 0.5	3.3 ± 0.3	26 ± 2.0	0.55 ± 0.05
NCR100	NCR2WS	11.5 ± 1.0	4.5 ± 0.5	35 ± 2.0	0.8 ± 0.05
NCR200	NCR3WS	15.5 ± 1.0	5.0 ± 0.5	33 ± 2.0	0.8 ± 0.05

Note:

ELECTRICAL CHARACTERISTICS

STYLE	NCR-25	NCR50S	NCR-50	NCRIWS	NCR100	NCR2WS	NCR200	NCR3WS
Power Rating at 70°C	1/4W	1/2W		1W		2W		3W
Maximum Working Voltage	\sqrt{PxR}							
Voltage Proof on Insulation	500V							
Resistance Range	2.2Ω - 10KΩ for E24 series value							
Operating Temp. Range	-55°C to +155°C							
Temperature Coefficient	see Table 1							

Note: Special value is available on request

ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD	APPRAISE
Short Time Overload	IEC 60115-1 4.13 2.5 times RCWV for 5 Sec.	±0.75%+0.05Ω for normal style ±2.0%+0.05Ω for miniature style
Voltage Proof on Insulation	IEC 60115-1 4.7 in V-block for 60 Sec., test voltage by type	By type
Temperature Coefficient	IEC 60115-1 4.8 -55°C to +155°C	By type
Insulation Resistance	IEC 60115-1 4.6 in V-block for 60 Sec.	>1,000MΩ
Solderability	IEC 60115-1 4.17 235±5°C for 3±0.5 Sec.	95% Min. coverage
Solvent Resistance of Marking	IEC 60115-1 4.30 IPA for 5±0.5 Min. with ultrasonic	No deterioration of coatings and markings
Robustness of Terminations	IEC 60115-1 4.16 Direct load for 10 Sec. in the direction of the terminal leads	≥2.5kg (24.5N)
Periodic-pulse Overload	IEC 60115-1 4.39 4 times RCWV 10,000 cycles (1 Sec. on, 25 Sec. off)	±1.0%+0.05Ω
Damp Heat Steady State	IEC 60115-1 4.24 40±2°C, 90-95% RH for 56 days, loaded with 0.1 times RCWV	±3.0%+0.05Ω
Endurance at 70°C	IEC 60115-1 4.25 70±2°C at RCWV for 1,000 Hr. (1.5 Hr. on, 0.5 Hr. off)	±3.0%+0.05Ω
Temperature Cycling	IEC 60115-1 4.19 -55°C ⇄ Room Temp. ⇄ +155°C ⇄ Room Temp. (5 cycles)	±1.0%+0.05Ω
Resistance to Soldering Heat	IEC 60115-1 4.18 260±3°C for 10±1 Sec., immersed to a point 3±0.5mm from the body	±1.0%+0.05Ω
Accidental Overload Test	IEC 60115-1 4.26 4 times RCWV for 1 Min.	No evidence of flaming or arcing

Note: RCWV(Rated Continuous Working Voltage) = $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$ or Max. working voltage listed above, whichever less.