



High Voltage Non-Inductive Resistors for HV Dividers, Precision HV circuits

3RLAB offers HS series for very low TCR, low VCR, high voltage-functional non-inductive divider Set and high voltage precision measurement systems.



HS Precision High Voltage Resistors, Non- Inductive Thick Film

Epoxy conformal full coating for excellent humidity protection.

Resistance tolerance: 0.5%, 1%, 2%, 5%

(0.1% special up to 100 Megohm)

- * Temperature Coefficient of Resistance: 75ppm/°C std.
(20ppm/°C, 35ppm/°C, 50ppm/°C, 60ppm/°C, 85ppm/°C as special)
- * Load Life Stability of 0.25% per 1,000 hours at rated power.
- * Resistance range : 100kΩ to 1GΩ, and extended to 100 Teraohm
- * Various Models related with Voltage Ratings from 2.5kV to 48kV in free air.
- * NCR: Non-contact resistance design between resistive parts and termination.



Model Nr.	Wattage	1) Wattage in Molded	2) Max. Working Volt[kV]	Impulse Voltage[kV] 1.2/50μS	Std. Resistance [ohm]		Dimensions in millimeters (inches)			SMD type
					Min.	Max.	A	B	C	
HS15	0.2	N/A	2.0	4	100K	500M	15.0+/-1.5 (0.590)	5+/-1.5 (0.197)	0.8	N/A
HS19	0.3	N/A	2.5	5	100K	500M	19.0+/-1.5 (0.748)	5+/-1.5 (0.197)	0.8	N/A
HS25	0.5	N/A	4.5	9	100K	500M	25.4+/-1.5 (0.984)	5+/-1.5 (0.197)	0.8	N/A
HS24	1.5	N/A	4.0	8	100K	500M	24.0+/-1.5 (0.940)	8+/-1.0 (0.314)	1.0	available
HS29	1.9	0.6	7.0	14	100K	500M	29.0+/-1.5 (1.141)	8+/-1.0 (0.314)	1.0	available
HS39	2.5	0.8	10.0	20	100K	1G	39.0+/-1.5 (1.535)	8+/-1.0 (0.314)	1.0	available
HS52	3.0	1.0	15.0	30	100K	1G	52.0+/-1.5 (2.047)	8+/-1.0 (0.314)	1.0	available
HS76	4.5	1.5	22.5	40	1M	1G	76.0+/-2.0 (2.992)	8+/-1.5 (0.314)	1.0	on request
HS102	6.0	2.0	32.0	50	1M	1G	102.0+/-2.0 (4.015)	9+/-1.0 (0.354)	1.0	N/A
HS117	7.0	2.3	35.0	60	1M	1G	117.0+/-2.0 (4.606)	9+/-1.0 (0.354)	1.0	N/A
HS127	7.5	2.5	37.0	65	1M	1G	127.0+/-2.0 (5.000)	9+/-1.0 (0.354)	1.0	N/A
HS137	8.0	2.7	40.0	70	1M	1G	137.0+/-2.0 (5.393)	9+/-1.0 (0.354)	1.0	N/A
HS152	9.0	3.0	48.0	77	1M	1G	152.0+/-2.0 (5.984)	9+/-1.0 (0.354)	1.0	N/A

+ Custom dimension & specification, ohmic values are available upon request.

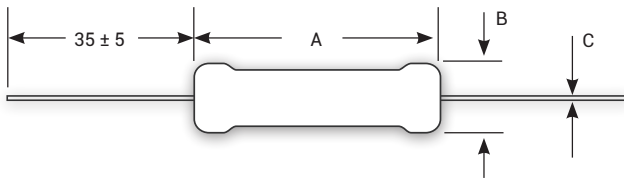
+ Voltage is restricted by rated power.

+ Above Electrical specification applicable for : From HS15 to HS24; 0.1MΩ to 200MΩ. From HS39 to HS152; 0.1MΩ to 1GΩ only.

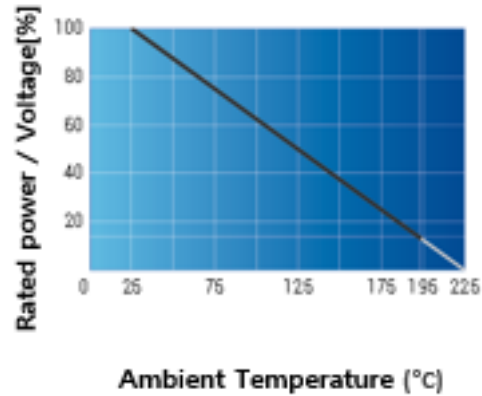
1) In fully epoxy/or silicone rubber-molded case conditions, precise high voltage dividers require very long life stability in harsh conditions.

2) Vdc, Vrms standard.

DIMENSIONS [mm]



DERATING CURVE



SPECIFICATIONS

RESISTANCE TOLERANCE	0.5%, 1%, 2%, 5%. And special tolerance (from 0.1MΩ to 100MΩ; 0.1%, 0.25% as special order available upon request)
HARSH ENVIRONMENT ENDURANCE (TEMPERATURE)	-55°C to +195°C, Max. Resistance breaks down at a temperature of 600°C. (for 70 mins.)
TEMPERATURE COEFFICIENT OF RESISTANCE	Std. 75ppm/°C referenced to 25°C, ΔR taken at -25°C and +70°C, Other special TCR on request (20ppm/°C, 35ppm/°C, 50ppm/°C, 60ppm/°C, 85ppm/°C)
OVERLOAD/VOLTAGE	5 times rated power with applied voltage not to exceed 1.5 times maximum continuous operating voltage for 5 seconds ΔR 0.2% max.
THERMAL SHOCK	Mil-Std-202, Method- 107, Cond. C, ΔR 0.2% max.
LOAD LIFE	1,000 hours at rated power ΔR 0.2% max.
MOISTURE RESISTANCE	Mil-Std-202, Method 106, ΔR 0.25% max.
LEAD MATERIAL	Tin-plated copper solderable semi-flexible axial wire
INSULATION RESISTANCE	10,000MΩ Min.
TERMINATION CAP OF MATERIAL	Tin cap
ENCAPSULATION	Epoxy conformal coating
RESISTIVE MATERIAL	Thick Film
CONTACT METHOD BETWEEN RESISTIVES AND TERMINATION CAPS	Individual Conductive Pads called "NCR" Non-contact resistance

HS

*Cylindrical High Voltage, Low TCR & VCR
Resistors, Thick film, Non-Inductive*



HS SERIES: APPLICATION GUIDE

- Automated Test (ATE)
- Medical (Imaging)
- Ion Source
- Chromatography (Gas)
- Medical (Radiation Therapy)
- Military, Radar, Laser ,Plasma
- Measurement (High Voltage)
- HV Capacitor Charging, Discharging
- Electric Power Transmission High Voltage
- Medical (Blood Analyzers)
- Corona Generators
- Multichannel Analyzers
- Ozone Generating
- Detectors
- Nuclear Instrumentation
- Electron Beam
- Pulse Generators
- Surface Analysis
- CT, MRI
- Electrophoresis
- Image Intensifier
- Surface Analysis
- Piezo. Focusing (Poling)
- High Voltage Dividers
- Stress Testing
- Agricultural Sensors
- Klystron, Magnetron, Microwave

cf.: The described specifications & dimensions subject to change without notice.