

Features

- Excellent anti-surge characteristic
- Suitable for medium to high working voltage
- Flameproof coating available
- Products meet RoHS requirements and do not contain substances of very high concern identified by European Chemicals Agency

Applications

- TV, CRT Display, LCD Backlight Supply
- Copy Machine, Laser Printer
- VTR
- Switching Power Supply, AC Adapter

DIMENSIONS

Type No.	Body Length (L, mm)	Body Diameter (D, mm)	Lead Wire Length (H, mm)	Lead Wire Diameter (d, mm)	Net Weight Per 1000Pcs
HDR20	3.20 ± 1.0	1.9 ± 0.2	28 ± 3.0	0.45 ± 0.02	145 Grams
HDR25	6.50 ± 1.0	2.6 ± 0.2	26 ± 3.0	0.55 ± 0.03	220 Grams
HDR51	8.80 ± 1.0	3.2 ± 0.2	26 ± 3.0	0.70 ± 0.03	340 Grams
HDR100	11.0 ± 1.0	4.0 ± 0.5	28 ± 3.0	0.70 ± 0.03	500 Grams
HDR200	13.5 ± 1.0	5.0 ± 0.5	30 ± 3.0	0.80 ± 0.03	1050 Grams

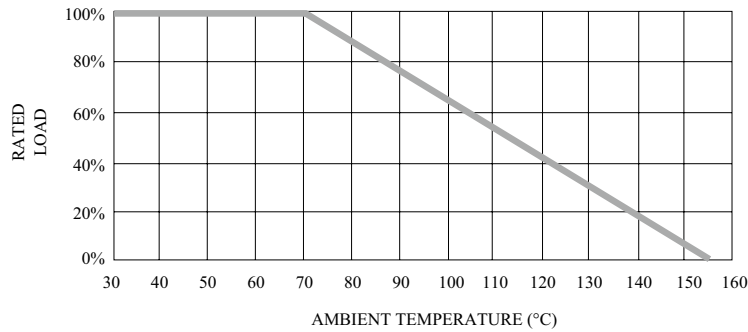
GENERAL SPECIFICATIONS

Type	Power Rating (at 70°C)	Maximum Working Voltage	Maximum Overload Voltage	Minimum Resistance	Maximum Resistance	Resistance Tolerance	Available Resistance Values
HDR20	1/4W	500V	1KV	100KΩ	5.1MΩ	±5%	E-24
HDR25	1/4W	DC1600V AC1150V	DC3200V AC2300V	100KΩ	33MΩ	±5%	E-24
HDR51	1/2W	2KV	4KV	100KΩ	33MΩ	±5%	E-24
HDR100	1W	4KV	8 KV	100KΩ	56MΩ	±5%	E-24
HDR200	2W	5KV	10KV	100KΩ	56MΩ	±5%	E-24

Special sizes, values, and specifications not listed available on special order.

Quality • Reliability
Cost-Down via Technology

POWER DERATING CURVE



PART NUMBER

Example: HDR25J100KTKZTB5K0

HDR25	J	100K	TKZ	TB5K0
Type	Tolerance	Resistance	TCR	Packaging
	J (5%)	100KΩ 4-character code containing - 3 significant digits 1 letter multiplier MULTIPLIER R = 1 K = 10 ³ M = 10 ⁶ G = 10 ⁹	3-character code TKZ = Default Product Temperature Coefficient. Information of typical product temperature coefficient can be found in the Technical Summary section of the datasheet.*	5-character code TB = Tape Box (pieces per box) HDR20 5K0 = 5,000 HDR25/51 2K0 = 2,000 HDR100 1K0 = 1,000 HDR200 500 = 500

* For the availabilities of non-default temperature coefficient, please check with us. Reference for TCR letter codes can be found in section (4) of Part Number Construction in the Appendices.

TECHNICAL SUMMARY

Characteristics	Limits
Dielectric Withstanding Voltage, VAC or DC	HDR20: 300 HDR25: 500 HDR51: 700 HDR100/HDR200: 1000
Temperature Coefficient, PPM/°C*	±300, ±750, ±1500
Operating Temperature Range, °C	-55 ~ +155 (-55~+200 for flameproof coating)
Insulation Resistance, MΩ	>10 ⁴
PCS/10 ⁹ device hours	<1

* Not applicable to all resistance values. Please check with us regarding the PPM of specific resistance value(s).

■ PERFORMANCE SPECIFICATIONS

Characteristics	Test Conditions	Limits		
Short Time Over Load	IEC 60115-1 4.13 5 seconds 2.5x rated voltage (not over max. overload voltage)	±2%		
Load Life In Humidity	IEC 60115-1 4.24 56 days rated load at (40±2)°C and (93±3)% relative humidity	±2%		
Load Life 1,000 hours	IEC 60115-1 4.25.1 Rated load with 1.5 hours ON, 0.5 hours OFF, at (70±2)°C	±2.5%		
Resistance To Soldering Heat	IEC 60115-1 4.18.2 Leads immersed till 3mm from the body in (260±5)°C solder for 10±1 seconds	±1%		
Solderability	IEC 60115-1 4.17.2 Solder area covered after (235±3)°C/(2±0.2) seconds with flux applied	95% Min.		
Vibration	IEC 60115-1 4.22 Six hours in each parallel and axial direction with a simple harmonic motion having an amplitude of 1.52mm and 10 to 2,000 Hz.	±1%		
Thermal Endurance	IEC 60115-1 4.25.3 1000 hours at 155°C without load	±1%		
Thermal Shock	IEC 60115-1 4.19 -55°C 30minutes, +155°C 30minutes, 5 cycles	±2%		
EN60065 (VDE0860) Test	Discharge test:10KV, 1000pF capacitor discharge pulse, 50 times (1 pulse/5 seconds maximum)	20%		
Surge Test	Surge Voltage = $\sqrt{(3600 \times P \times R)}$ DC P is power rating, R is resistance value, surge voltage is not more than listed at right. Surge spec = 1.2/50µs Period = 12 sec Number of surges = 50	HDR20	2.5KV	5%
		HDR25	3.5K V	
		HDR51	5KV	
		HDR100	7KV	
		HDR200	10KV	

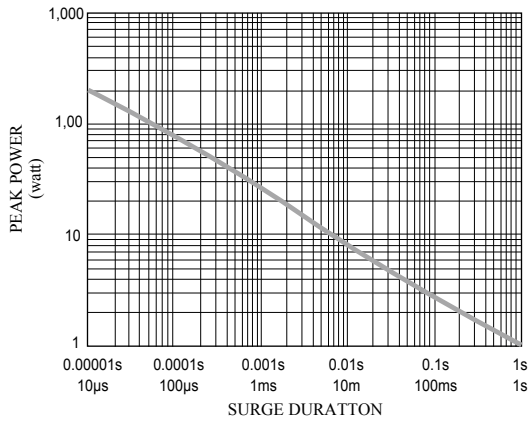
HDR High Voltage Discharge Resistor

Quality • Reliability
Cost-Down via Technology

HDR

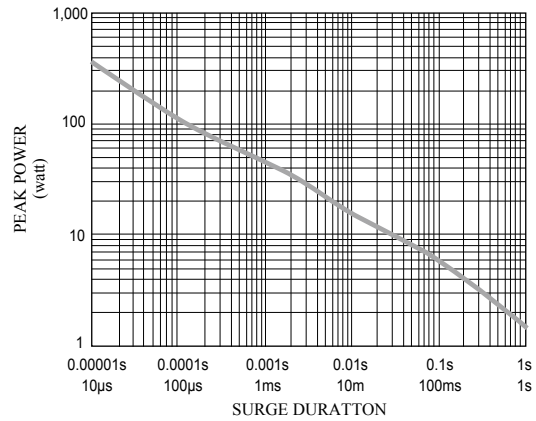
HDR20

SURGE PERFORMANCE



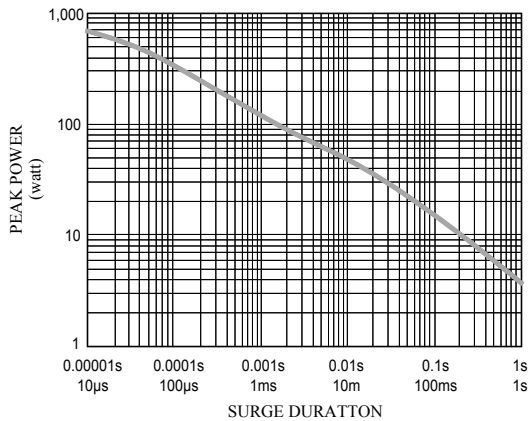
HDR25

SURGE PERFORMANCE



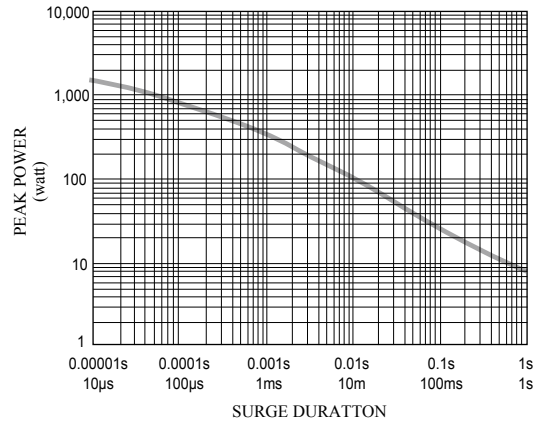
HDR51

SURGE PERFORMANCE



HDR100

SURGE PERFORMANCE



HDR200

SURGE PERFORMANCE

