XV5 Series
High Power Pre-Charge Resistors



- Pre-charge & discharge resistors
- Slim 12mm profile aluminium housed
- AEC-Q200 Automotive grade*
- Power ratings from 100W to 500W
- Resistance ranges from 1Ω to 5KΩ
- Tolerances of 0.5%,1%, 5% 10%
- High voltage cable for EV, HEV & PHEV vehicles
- Compact design

RoHS Compliant ✓

Technical Data — Table 1

Type	XV5-100	XV5-150	XV5-200	XV5-250	XV5-300	XV5-400	XV5-500
Power rating▲	100W	150W	200W	250W	300W	400W	500W
Maximum voltage	850V	850V	850V	1000V	1000V	1500V	1500V
Resistance range	1Ω ~ 1KΩ	1Ω ~ 1KΩ	1Ω ~ 2KΩ	1Ω ~ 2.5KΩ	1Ω ~ 3KΩ	1Ω ~ 4KΩ	1Ω ~ 5KΩ
Resistance tolerance	± 0.5%, ± 1%, ± 5%, ± 10%						

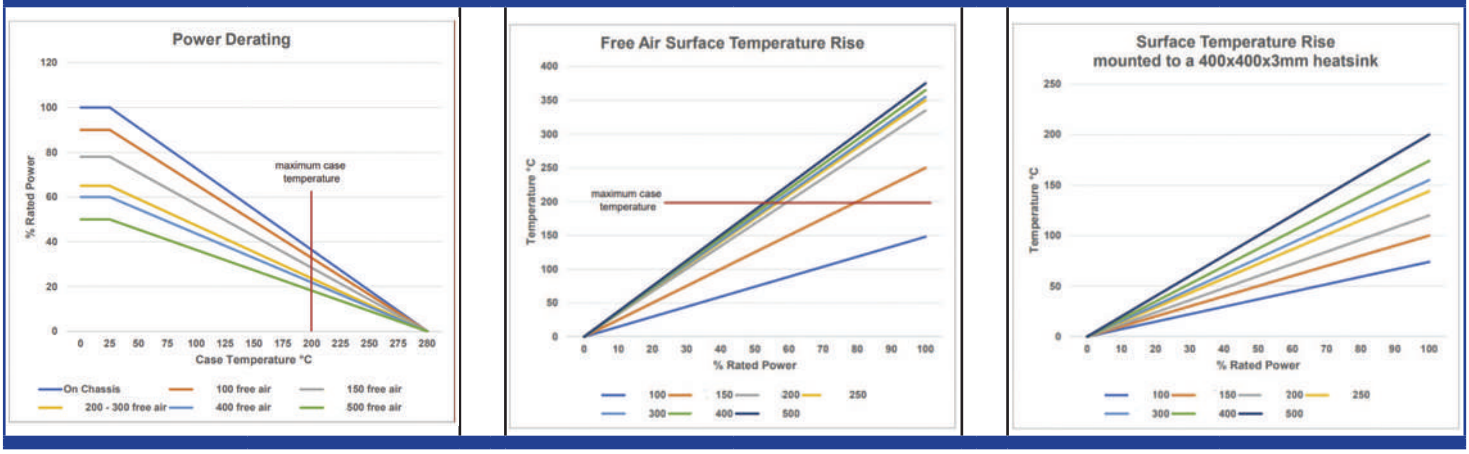
▲ Power rating dependent on resistor being fixed to a heat sink with enough mass to ensure resistor surface temperature does not exceed 200°C. Refer to Fig. 1 Surface Temperature Rise for more information.

Performance Data — Table 2

Design voltage	√(P x R)
Operating temperature range	-55°C ~ +200°C
TCR	1Ω: 1300ppm//°C | 1.1Ω to 5Ω: 500ppm/°C | 5.1Ω to 5KΩ: 260ppm/°C
Dielectric withstand voltage	2500VAC
Insulation resistance	20MΩ minimum
Short time overload	± 1% +0.05Ω / 5 times rated power for 5 seconds
Load life	± 5% +0.05Ω / 90 minutes rated power, 30 minutes off, 500hrs
Thermal shock	± 2% +0.05Ω / 30 minutes rated power, 15 minutes - 25°C
Moisture resistance	± 2% +0.05Ω / 40°C, 95% RH, 100VDC case to terminal, 500hrs
Moisture load life	± 2% +0.05Ω / 40°C, 95% RH, 90 minutes 10% rated load, 30 minutes off, 500hrs
Vibration	± 1% +0.05Ω / 10Hz - 55Hz - 10Hz (1 minute) 2 hours each direction
Terminations	Wire length 200mm ± 10mm. High voltage cable, Cu-R4XLPO-HV-3.0mm² (-40°C ~ +150°C / 3000hr)

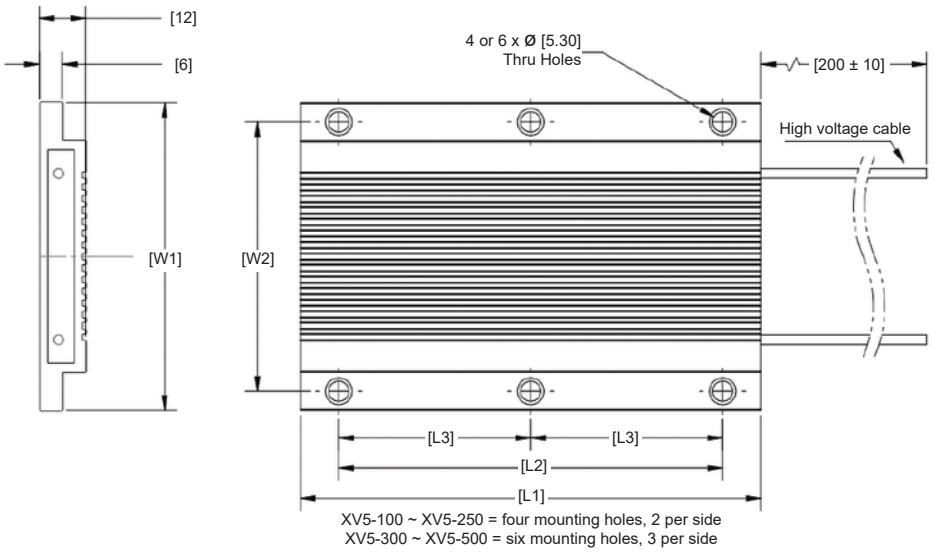
* This product has undergone rigorous AEC-Q200 testing and is certified in the 200W, 100ohm, +/-5% variant. If you need more detailed information around AEC-Q200 testing for specific resistance values, please contact our team of engineers.

Performance graphs — Fig. 1



Specifications are subject to change without notice. E&OE.

Dimensions (mm) — Fig. 2



XV5-100 ~ XV5-250 = four mounting holes, 2 per side
XV5-300 ~ XV5-500 = six mounting holes, 3 per side

Dimensions (mm) — Table 3

Type	L1 ± 1	L2 ± 1	L3 ± 1	W ± 1	W2 ± 1	Weight (approx.)
XV5-100	90	70	35	80	70	180g
XV5-150	120	100	50	80	70	240g
XV5-200	150	130	65	80	70	280g
XV5-250	180	160	80	80	70	330g
XV5-300	210	190	95	80	70	380g
XV5-400	270	250	125	80	70	486g
XV5-500	330	310	155	80	70	610g

Example Ordering Code

XV5 - 300 - 1800 - J - ☐☐☐

Series	Power rating (W)	Resistance Ω	Tolerance ± %	
XV5	100	1 ~ 1K	D ± 0.5	Reserved for custom modifications
	150	1 ~ 1K	F ± 1	
	200	1 ~ 2K	J ± 5	
	250	1 ~ 2.5K	K ± 10	
	300	1 ~ 3K		
	400	1 ~ 4K		
	500	1 ~ 5K		

Specifications are subject to change without notice. E&OE.