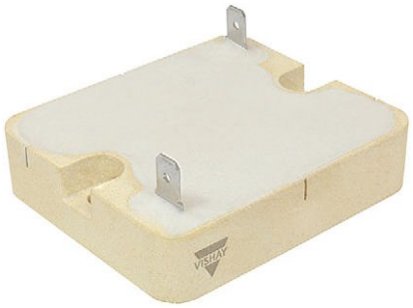
Charging Resistor for EV
Hybrid Wirewound Technology



RoHS COMPLIANT

FEATURES

- Technology: hybrid wirewound
- High energy / volume ratio
- Easy mounting (faston connection 6.35 [0.250"])
- Possibility to mount on heatsink
- AEC-Q200 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

APPLICATIONS

- Precharge
- Discharge
- Active discharge resistor

LINKS TO ADDITIONAL RESOURCES

3D Models

STANDARD ELECTRICAL SPECIFICATIONS				
GLOBAL MODEL	POWER RATING ON STAINLESS STEEL (1) W	POWER RATING ON PAMITHERM (1) W	RESISTANCE RANGE Ω	TOLERANCE ± %
HRHA	90	54	1 to 1K	5, 10

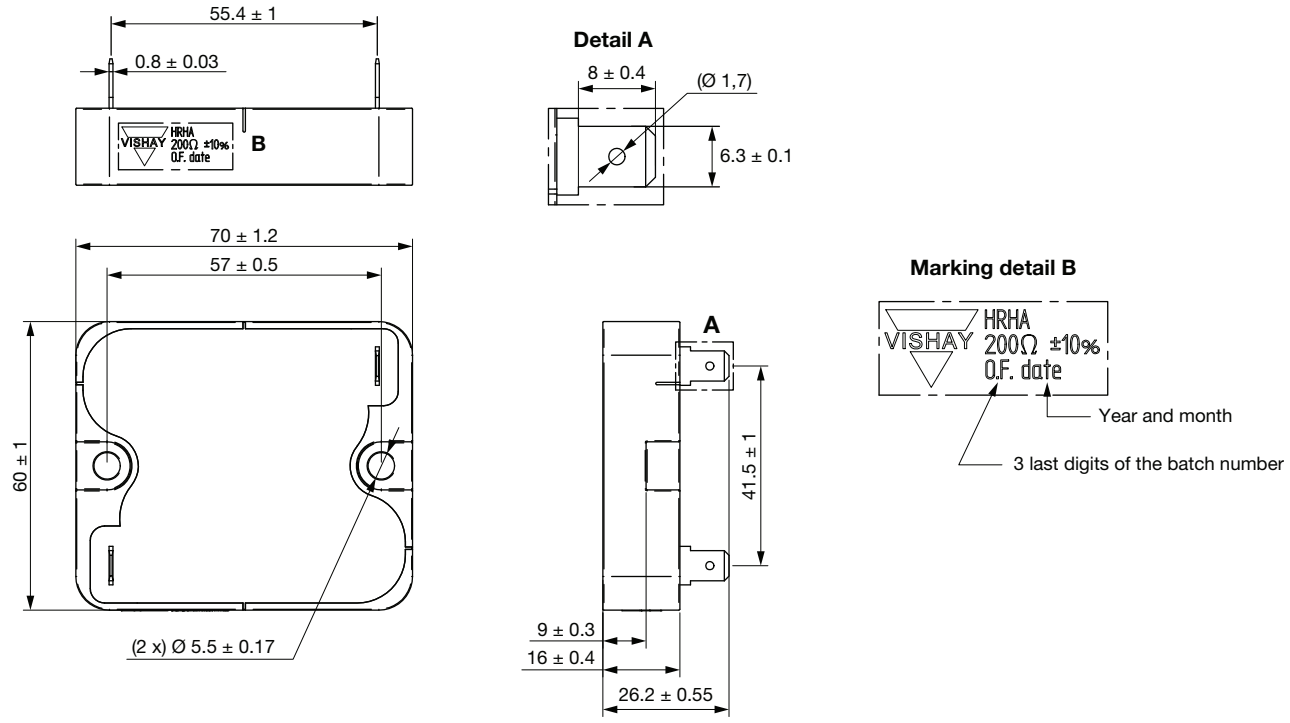
Note

(1) 6 mm thickness, see Fig. 2

TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/°C	± 100 (typical)
Operating temperature range	°C	-55 to +250

GENERAL CHARACTERISTICS	
Dielectric base	Ceramic
Resistive circuit	Hybrid wirewound
Terminals	Stainless steel
Ohmic values	E24 (other on request)
Maximum operating voltage between terminals (by design)	1000 V_{DC}
Dielectric voltage	3000 V_{RMS} (higher on request), 50 Hz, 1 min
Creepage distance	14 mm
Clearance distance	14 mm
Weight	160 g max.

DIMENSIONS in millimeters



MOUNTING

For soldering recommendations please see www.vishay.com/doc?32595

DISSIPATION

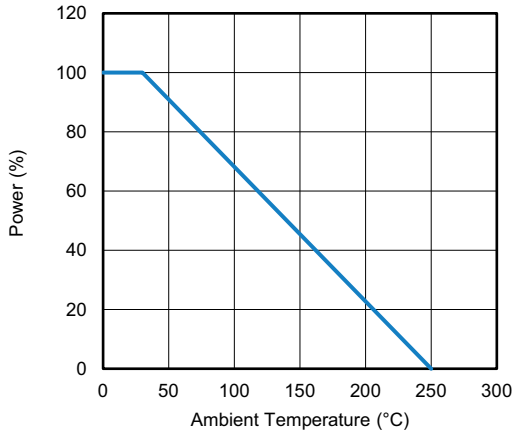


Fig. 1 - Permanent Applicable Power as a Function of Ambient Temperature

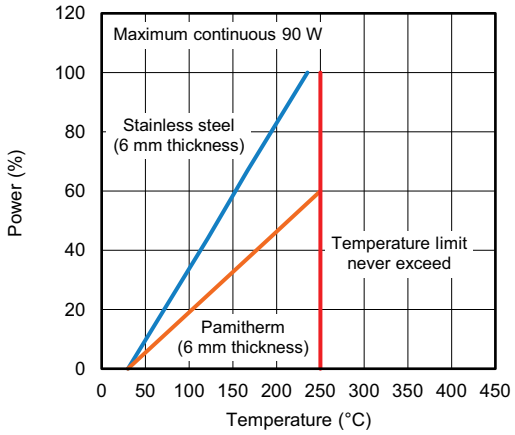


Fig. 2 - Bottom Case Temperature as a Function of the Power Applied at T_{amb} = 30 °C

ENERGY		
Energy mode at 30 °C room temperature	Stainless steel (6 mm thickness)	Pamitherm (6 mm thickness)
Refer to Fig. 2 for bottom case temperature vs. pulse number	PULSE – DURATION – WAIT (1)	PULSE – DURATION – WAIT (1)
Continuous cycle - short circuit wave (refer to Fig. 3)	9000 J - 1.8 s - 100 s	9000 J – 1.8 s – 167 s
Continuous cycle - RC discharge wave (refer to Fig. 4)	1850 J - 0.74 s - 30 s	1850 J - 0.74 s - 34 s

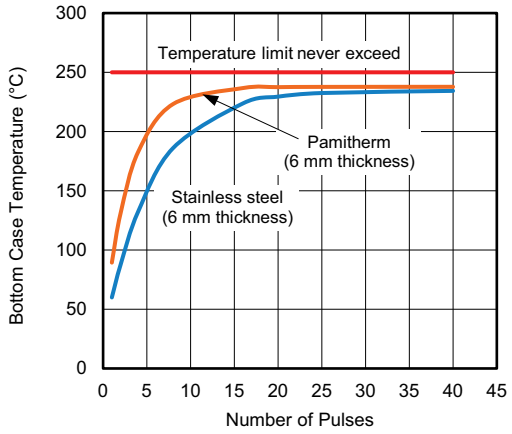


Fig. 3 - Bottom Case Temperature With Continuous Short Circuit Cycle 9000 J at T_{amb} = 30 °C

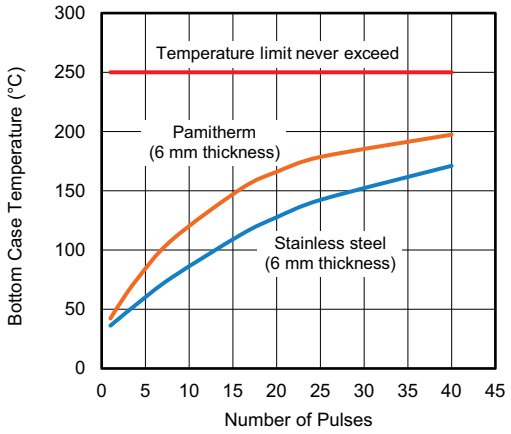


Fig. 4 - Bottom Case Temperature With Continuous RC Discharge Cycle 1850 J at T_{amb} = 30 °C

ORDERING INFORMATION

HRHA	F	N	22U	5 %	BO12
MODEL	TERMINATION	COATING	RESISTANCE VALUE	TOLERANCE	PACKAGING

GLOBAL PART NUMBER INFORMATION

H	R	H	A	F	C	2	0	0	0	J	B			
1				2	3	4				5	6	7		

1	2	3	4	5	6	7
PRODUCT TYPE	TERMINATION	COATING (if applicable)	RESISTANCE VALUE	TOLERANCE	PACKAGING	INDUSTRIALIZATION NUMBER
HRHA	**F = faston**	**C = coated N = not coated**	**The first three digits are significant figures and the last specifies the number of zeros to follow, R designates decimal point. 4702 = 47 kΩ 47R0 = 47 Ω**	**J = 5 % K = 10 %**	**B = box Box quantity depends of model and size**	**Specific digits for custom design (if applicable)**

EXAMPLES

MODEL	DESCRIPTION	PART NUMBER
HRHA	HRHAFN22R0JB	HRHA F N 22U 5 % BO12
HRHA	HRHAFC22R0JB	HRHA F C 22U 5 % BO12

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