Reinforced Winding Wirewound Power Resistor

FEATURES

- Very high dissipation
- High energy absorption and high overloads
- Suitable for the most severe conditions
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

APPLICATIONS

- Filter
- Precharge
- Braking

STANDARD ELECTRICAL SPECIFICATIONS				
GLOBAL MODEL	POWER RATING W	RESISTANCE RANGE Ω	TOLERANCE (1) ± %	$U_{LIM.}$ V
C52T	900	8.2 to 100K	5, 10	4200
C52T Li	900	0.33 to 270	5, 10	4200
C42T	480	1.0 to 56K	5, 10	3000
C38T	270	1.0 to 27K	5, 10	1900

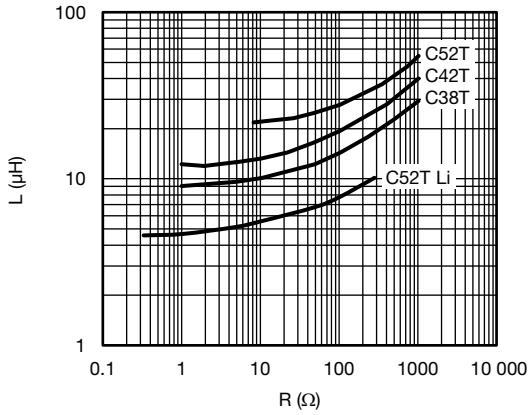
Note

(1) For $R_n < 3.3\ \Omega$

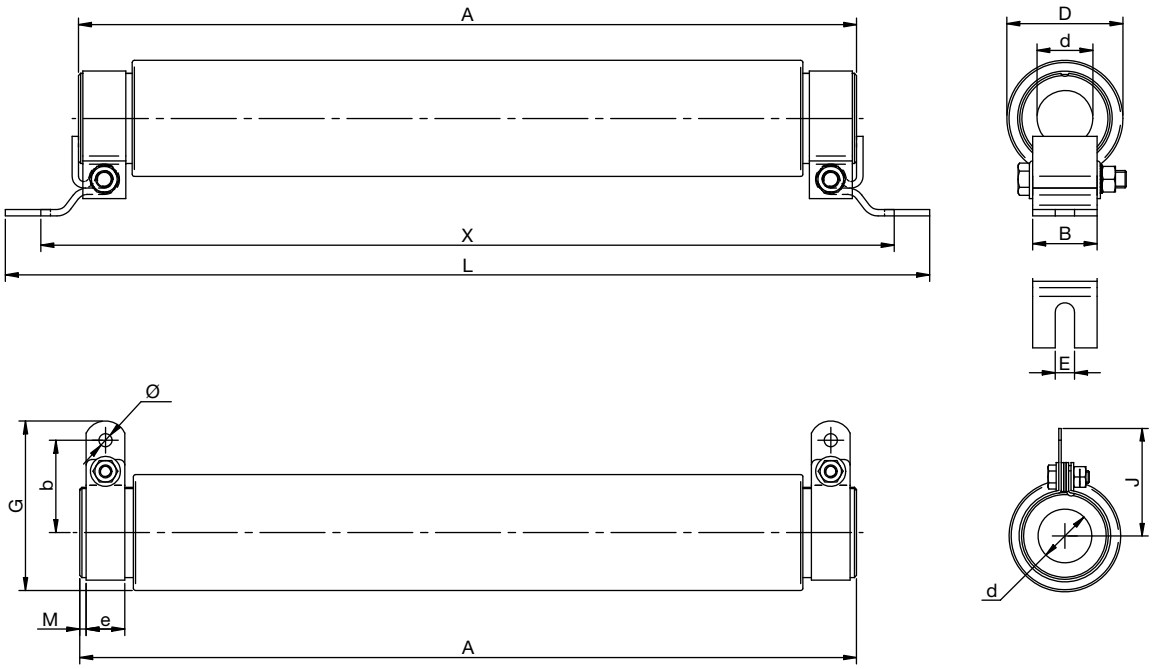
TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	RESISTOR CHARACTERISTICS
Temperature coefficient	ppm/°C	75 ppm/°C (typical)
Operating temperature range	°C	-55 to +450

GENERAL CHARACTERISTICS	
Core	Grooved ceramic
Winding	Double spiral, NiCr alloy
Coating	Special and vitreous
Ohmic values	E12
Traction lug outputs	C..TF version
Collars outputs	C..TN version
Low inductance	Li version (with TF terminals only)

INDUCTANCE VALUE AS A FUNCTION OF R_n



DIMENSIONS in millimeters AND WEIGHT in g



TYPE	C52T	C42T	C38T
A	362 ± 7	250 ± 4	168 ± 4
B 0 + 1	30	25	24
b	43 ± 1.5	33 ± 1	28.5 ± 1
D max.	54	44	40
d	26 ± 0.5	20 ± 0.5	17 ± 0.35
E	9 ± 0.5	9 ± 0.5	6.5 ± 0.2
e ± 1	18	13	9
G max.	88	63	55
H max.	72	62	53
h ± 2	45	30	27
J ± 1	52	39	33.5
L max.	440	320	230
M	8 + 0/- 4	5 + 0/-2	5 ± 2
Ø	6.2 ± 0.2	5.7 ± 0.5	5 ± 0.8
X	400 ± 6	285 ± 2	198 ± 2
Weight	1500	550	350

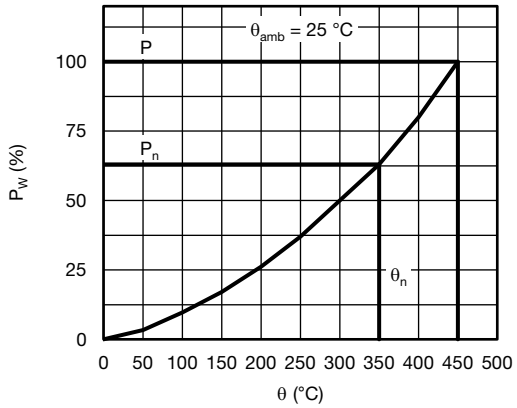
PERFORMANCES

TESTS	CONDITIONS	REQUIREMENTS		TYPICAL VALUES
Overloads	10 P_n (temp. nom.), 5 s	± 2 %		10 P_n, 30 s, 1 %
Climatic	-55 °C, 5 cycles, +200 °C	3 % or 0.05 Ω (1)	Collar insulated N 10^2 MΩ	1 %
Damp heat	56 days 95 % HR	2 % or 0.05 Ω (1)		0.1 %
Thermal shocks	P_n -55 °C	2 % or 0.05 Ω (1)		0.2 %
Shocks	Severity 50 A	0.5 % or 0.05 Ω (1)		0.5 %
Vibrations	Severity 55/10	0.5 % or 0.05 Ω (1)		0.5 %
Endurance	500 cycles P_n 90 min/30 min	5 %		1.5 %

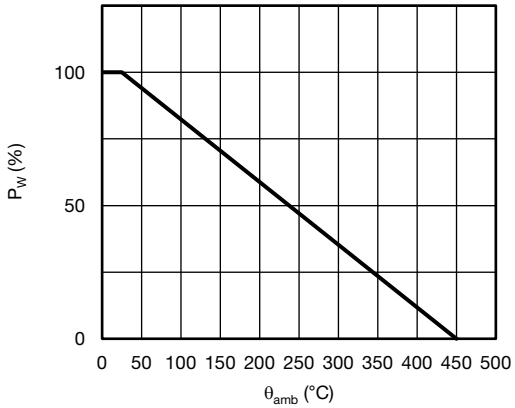
Note

(1) The higher of either value.

DISSIPATION

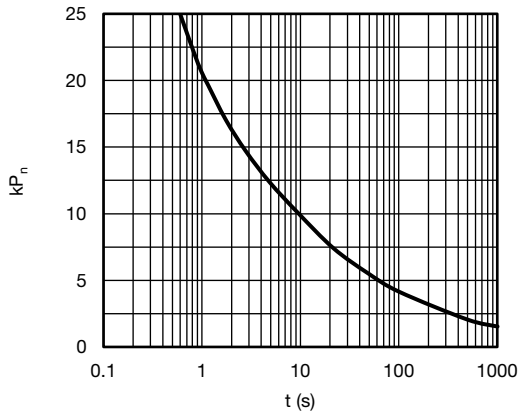


Power P_W as a Function of Surface Temperature
P(W) = f (Temperature Surface)



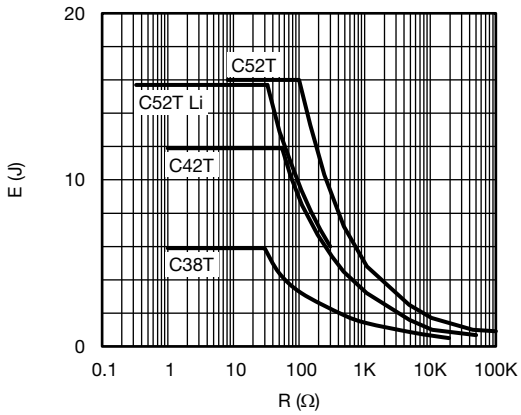
Derating in Power as a Function of Ambient Temperature

OVERLOADS



Intermittent Overloads
Exceptional Operation
Initial Temperature < 70 °C
k x P_n = f(t)

PERMISSIBLE ENERGY



Repetitive Operation
Energy as a Function of R_n
Pulse Duration < 100 ms
E = f(R)

OPTIONS (Consult us)

- Other values than E12 series
- Intermediate terminals
- Insulated mounting

PART NUMBER INFORMATION

C52T	F	10 Ω	10 %
MODEL	"TF" or "TN" TERMINALS (SEE DIMENSIONS)	VALUE (E12 SERIES) "LI" FOR REDUCED INDUCTANCE	TOLERANCE (± 5 % or ± 10 %)

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