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

ADDITIONAL RESOURCES

3D Models

STANDARD ELECTRICAL SPECIFICATIONS				
GLOBAL MODEL	POWER RATING W	RESISTANCE RANGE Ω	TOLERANCE (1) ± %	$U_{LIM.}$ V
C64T	1200	15 to 100R	5	4200
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

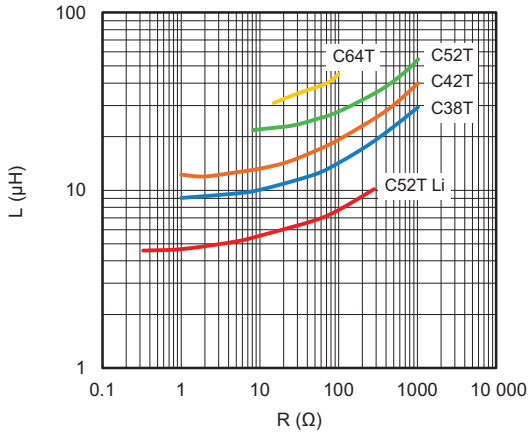
Note

(1) For $R_n < 3.3\ \Omega$, tolerance 10 %

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

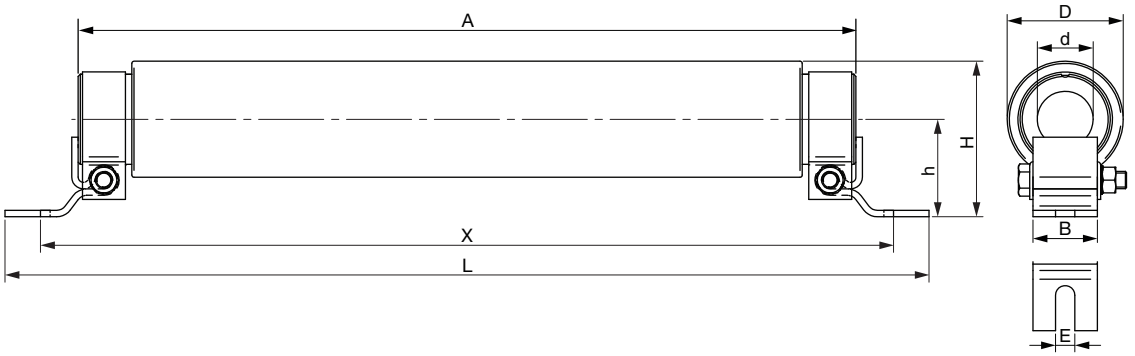
GENERAL CHARACTERISTICS	
Core	Grooved ceramic
Winding	Double spiral, NiCr alloy
Coating	Special and vitreous
Ohmic values	E12
Traction lug outputs	C..TF version
Collars outputs	C..TN version (except for C52T Li and C64T)
Low inductance	Li version (for C52TF only)

INDUCTANCE VALUE AS A FUNCTION OF R_n

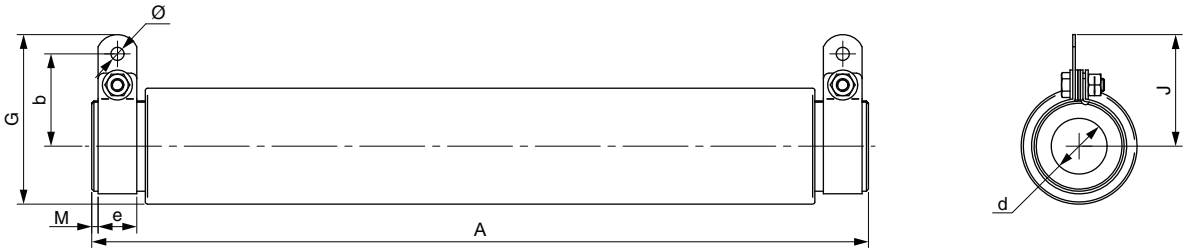


DIMENSIONS in millimeters AND WEIGHT in g

C38TF, C42TF, C52TF, C52TF Li, C64TF



C38TN, C42TN, C52TN



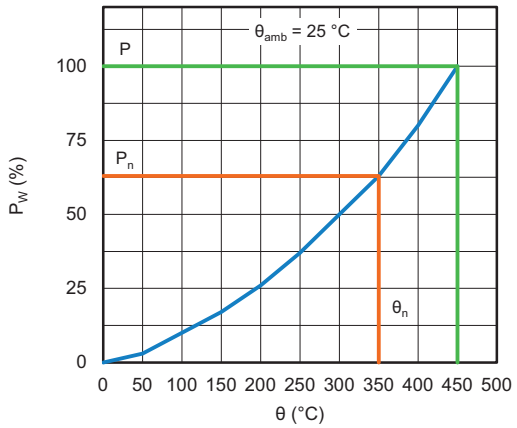
TYPE	C64T	C52T	C42T	C38T
A	367 ± 5.5	362 ± 7	250 ± 4	168 ± 4
B 0 + 1	30 ± 1	30	25	24
b	n/a	43 ± 1.5	33 ± 1	28.5 ± 1
D max.	64	54	44	40
d	36 ± 0.65	26 ± 0.5	20 ± 0.5	17 ± 0.35
E	9 ± 0.5	9 ± 0.5	9 ± 0.5	6.5 ± 0.2
e ± 1	20	18	13	9
G max.	n/a	88	63	55
H max.	85	72	62	53
h ± 2	53	45	30	27
J ± 1	n/a	52	39	33.5
L max.	451	440	320	230
M	n/a	8 + 0 / - 4	5 + 0 / - 2	5 ± 2
Ø	n/a	6.2 ± 0.2	5.7 ± 0.5	5 ± 0.8
X	415 ± 6	400 ± 6	285 ± 2	198 ± 2
Weight	1580	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 %

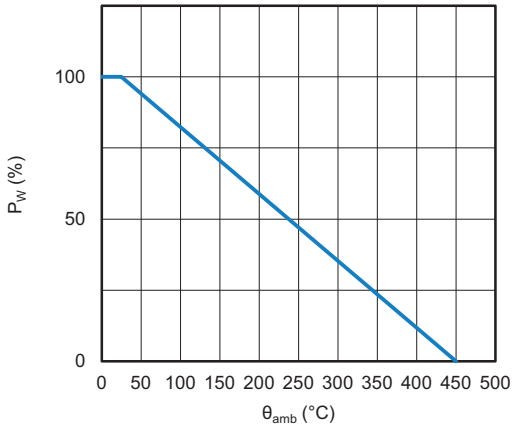
Note

(1) The higher of either value

DISSIPATION

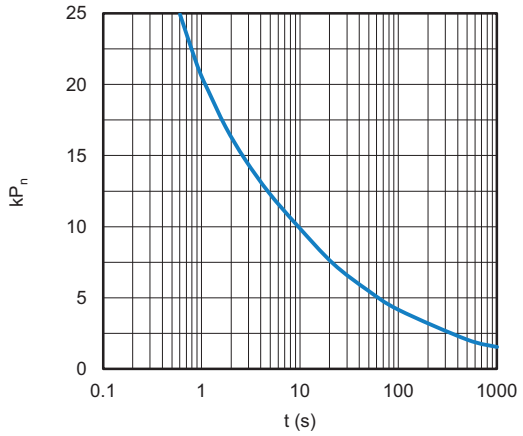


Power P_W as a Function of Surface Temperature
P(W) = f (Temperature Surface)



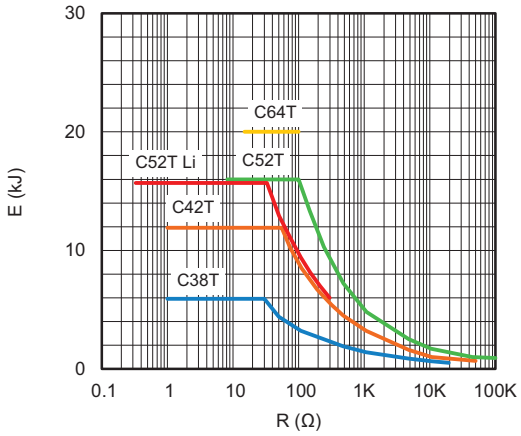
Derating in Power as a Function of Ambient Temperature

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

ORDERING INFORMATION

C52T	F	LI	10K	± 5 %	XXX	BO1
MODEL	CONNECTIONS	LOW INDUCTIVE WINDING	RESISTANCE VALUE	TOLERANCE	CUSTOM DESIGN	PACKAGING
		Optional		± 5 % ± 10 % Other on request	Optional On request: special value, tolerance shape, M5 terminals, etc.	

GLOBAL PART NUMBER INFORMATION

C	5	2	T	F	L	I	6	R	6	0	J	B	8	3	7
1				2	3		4				5	6	7		

1	2	3	4	5	6	7
PRODUCT TYPE	LEADS	OPTION (if applicable)	RESISTANCE VALUE	TOLERANCE	PACKAGING	INDUSTRIALIZATION NUMBER
C38T C42T C52T C64T	**F = traction lugs C64TF C52TF C52TFLI C42TF C38TF N = collars C52TN C42TN C38TN**	**LI (only for C52TF)**	**The first three digits are significant figures and the last specifies the number of zeros to follow, R designates decimal point. 4702 = 47 kΩ 4R7 = 4.7 Ω**	**J = 5 % K = 10 %**	**B = box Box quantity depends of model and size**	**3 specific digits (if applicable)**

EXAMPLES

MODEL	DESCRIPTION	PART NUMBER
C52TF	C 52 TF LI 6U6 5 % 837 BO1	C52TFLI6R60JB837
C42TF	C 42 TF 4U7 5 % BO14	C42TF4R70JB

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