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Vishay MCB

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 <u>www.vishay.com/doc?99912</u>

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

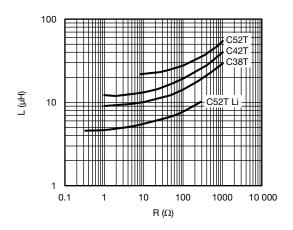
Note

⁽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	CTF version		
Collars outputs	CTN version		
Low inductance	Li version (with TF terminals only)		

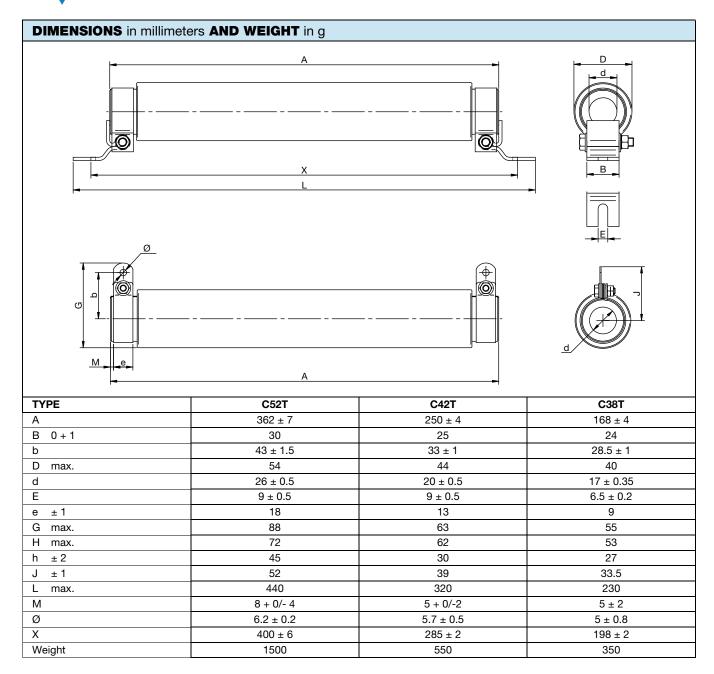
INDUCTANCE VALUE AS A FUNCTION OF R_n



Revision: 11-Jun-15 1 Document Number: 32501

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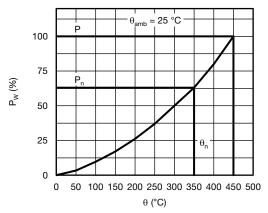
PERFORMANCES				
TESTS	CONDITIONS	REQUIREMENTS		TYPICAL VALUES
Overloads	10 P _n (temp. nom.), 5 s	± 2 %		10 P _n , 30 s, 1 %
Climatic	-55 °C, 5 cycles, +200 °C	3 % or 0.05 Ω ⁽¹⁾	Collar insulated N	1 %
Damp heat	56 days 95 % HR	2 % or 0.05 Ω ⁽¹⁾	$10^2~{ m M}\Omega$	0.1 %
Thermal shocks	P _n -55 °C	2 % or 0.05 Ω ⁽¹⁾		0.2 %
Shocks	Severity 50 A	0.5 % or	$0.05~\Omega^{~(1)}$	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

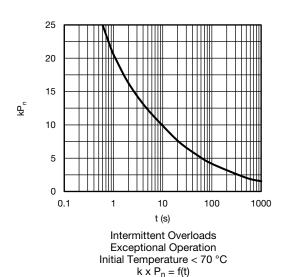


Power P_W as a Function of Surface Temperature P(W) = f (Temperature Surface)

100 0 0 50 100 150 200 250 300 350 400 450 500 θ_{amb} (°C)

Derating in Power as a Function of Ambient Temperature

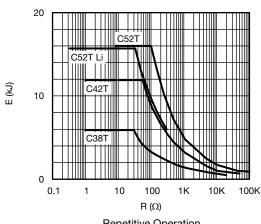
OVERLOADS



OPTIONS (Consult us)

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

PERMISSIBLE ENERGY



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

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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Revision: 02-Oct-12 Document Number: 91000