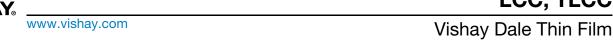
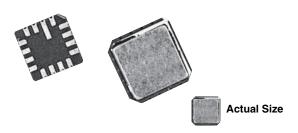
HALOGEN

FREE



Hermetic, 50 mil Pitch, Leadless Thin Film Chip Resistor, Surface Mount Network



Vishay Dale Thin Film offers a wide resistance range in 16, 20, and 24 terminal hermetic leadless chip carriers. The standard circuits in the ohmic ranges listed below will utilize the outstanding wraparound terminations developed for chip resistors. Should one of the standards not fit your application, consult the applications engineering group as we may be able to meet your requirements.

FEATURES

- High purity alumina substrate for high power dissipation
- Leach resistant terminations with nickel barrier
- 16, 20, 24 terminal gold plated wraparound true hermetic packaging
- Military/aerospace
- Hermetically sealed
- Isolated/bussed circuits
- Ideal for military/aerospace applications
- Material categorization: for definitions of compliance please see www.vishav.com/doc?99912

Note

This datasheet provides information about parts that are RoHS-compliant and / or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details.

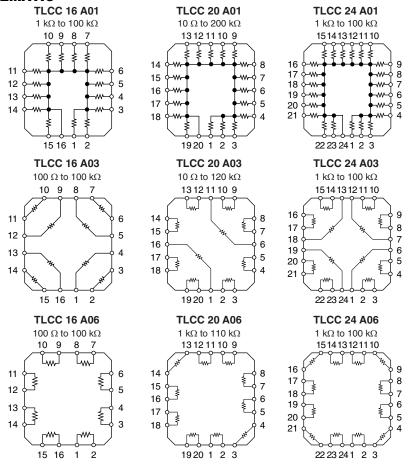
TYPICAL PERFORMANCE

	ABSOLUTE	TRACKING	
TCR	25	5	
	ABSOLUTE	RATIO	
TOL.	0.1	NA	

Note

· Resistance range: Noted on schematics.

SCHEMATIC



LCC 20A (10 Isolated Resistors) 10Ω to 250 k Ω 131211109

1920 1

LCC 20B

1920 1 2

Document Number: 60012

Revision: 14-Jul-16

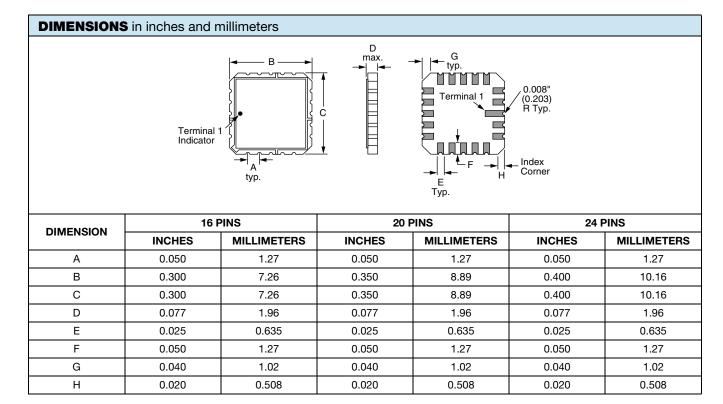


Vishay Dale Thin Film

STANDARD ELECTRICAL SPECIFICATIONS						
TEST	SPECIFICATIONS	CONDITIONS				
Material	Passivated nichrome	-				
Pin/Lead Number	16, 20, 24	-				
Resistance Range	10 Ω to 250 k Ω per resistor	-				
TCR: Absolute	± 25 ppm/°C to ± 300 ppm/°C	-55 °C to +125 °C				
TCR: Tracking	± 5 ppm/°C	-55 °C to +125 °C				
Tolerance: Absolute	± 0.1 % to ± 1.0 %	+25 °C				
Tolerance: Ratio	N/a	-				
Power Rating: Resistor	50 mW max. = common circuits 100 mW max. = isolated circuits	Maximum at +70 °C				
Power Rating: Package	500 mW	Maximum at +70 °C				
Stability: Absolute	ΔR ± 0.05 %	2000 h at +70 °C				
Stability: Ratio	-	-				
Voltage Coefficient	< 5 ppm/V (typical)	-				
Working Voltage	100 V max. not to exceed √P x R	-				
Operating Temperature Range	-55 °C to +125 °C	-				
Storage Temperature Range	-55 °C to +150 °C	-				
Noise	< -30 dB	-				
Thermal EMF	0.008 μV/°C	-				
Shelf Life Stability: Absolute	ΔR ± 0.01 %	1 year at + 25 °C				
Shelf Life Stability: Ratio	-	-				

Note

• Tantalum nitride film is custom, consult factory.





Vishay Dale Thin Film

MECHANICAL SPECIFICATIONS				
Resistive Element	Passivated nichrome			
Substrate Material	Alumina			
Body	Ceramic			
Terminals	Gold over nickel			
Marking Resistance to Solvents	Per MIL-PRF-83401			
Tin Lead Option	Sn63			
Lead (Pb)-free Option	96.5 % Sn, 3.0 % Ag, 0.5 % Cu			
Tin Lead and Lead (Pb)-free	Hot solder dip			

GLOBAL PART NUMBER INFORMATION								
New Global Part Numbering: TLCC20AE1002BUF								
T L C C 2 0 A E 1 0 0 2 B U F								
T L C C T 1 6 A 0 1 K 1 0 0 3 K U F								
GLOBAL MODEL (4 or 5 digits)	TERMINAL COUNT (1)	SCHEMATICS (4 or 5 digits)	TCR CHARACTERISTICS	RESISTANCE	TOLERANCE	PACKAGING		
LCC (Tin lead)	20	A = Isolated resistors B = Resistor to	E = 25 ppm/°C H = 50 ppm/°C K = 100 ppm/°C	First 3 digits are significant figures and the last digit	B = 0.1 % D = 0.5 % F = 1 %	TAPE AND REEL T0 = 100 min., 100 mult T1 = 1000 min., 1000 mult		
LCCT (Lead (Pb)-free) (e1)	20	common bus	M = 300 ppm/°C	specifies the number of zeros to follow.	G = 2 % J = 5 % K = 10 % S = Special	T3 = 300 min., 300 mult T5 = 500 min., 500 mult TF = Full reel 2000 TS = 100 min., 1 mult		
TLCC (Tin lead)	16 20 24	A01 = Resistor to common bus		Example: $10R0 = 10 \Omega$ $12R5 = 12.5 \Omega$		UF = TUBED		
(Lead (Pb)-free) (e1)	16 20 24	A03 = Isolated parallel resistor A06 = Isolated adjacent		$1000 = 100 \Omega 1001 = 1000 \Omega$				
resistor Historical Part Number example: LC20BK1003J (for reference purposes only)								
LC		20	В	K	1003	J		
SERIES		PINS	SCHEMATIC	TCR CHARACTERISTIC	RESISTANCE	TOLERANCE		

Note

(1) LCC or LCCT only available in 20 pin size.

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Vishay

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