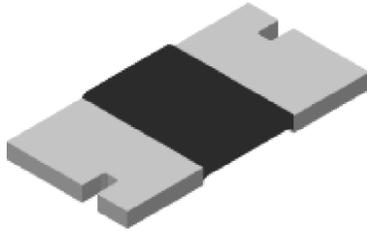


## Power Metal Strip<sup>®</sup> Resistors, Low Value (down to 0.001 Ω), Surface Mount, 4-Terminal



### FEATURES

- 4-Terminal design allows for 1 % tolerance down to 0.001 Ω and 0.5 % tolerance down to 0.003 Ω
- Ideal for all types of precision current sensing, voltage division and pulse applications including switching and linear power supplies, instruments, power amplifiers
- Proprietary processing technique produces extremely low resistance values (down to 0.001 Ω)
- All welded construction
- Solid metal Nickel-Chrome or Manganese-Copper alloy resistive element with low TCR (< 20 ppm/°C)
- Solderable terminations
- Very low inductance 0.5 nH to 5 nH
- Excellent frequency response to 50 MHz
- Lead (Pb)-free version is RoHS compliant



**RoHS\***  
COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS			
GLOBAL MODEL	POWER RATING $P_{70^{\circ}\text{C}}$ W	RESISTANCE RANGE Ω	
		± 0.5 %	± 1.0 %
WSK2512	1.0	0.003 - 0.025	0.001 - 0.025

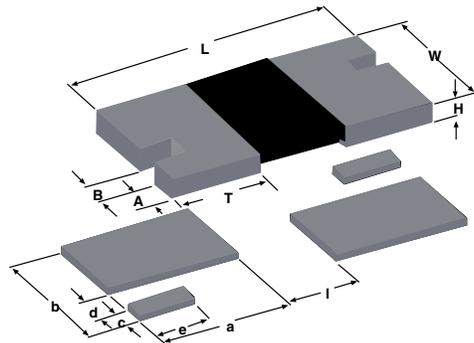
**Note**

- Part Marking: DALE, Value, Tolerance; due to resistor size limitations some resistance values will be marked with only the resistance value

TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	WSK2512
Temperature Coefficient	ppm/°C	0.001 Ω - 0.0029 Ω = ± 250 0.003 Ω - 0.0049 Ω = ± 75 0.005 Ω - 0.025 Ω = ± 35
Operating temperature range	°C	- 65/+ 170
Maximum Working Voltage	V	$(P \times R)^{1/2}$
Weight/1000 pieces	g	63.6

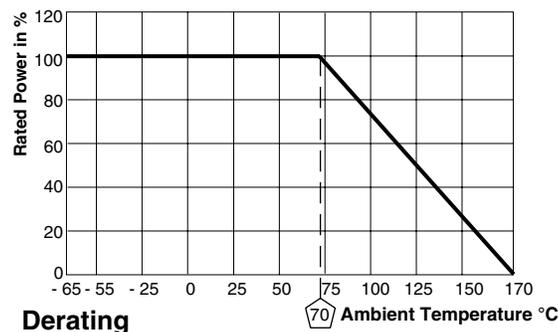
GLOBAL PART NUMBER INFORMATION				
New Global Part Numbering: WSK25125L000FTA (preferred part numbering format)				
W	S	K	2	5
1	2	5	L	0
0	0	0	F	T
A				
GLOBAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING CODE	SPECIAL
WSK2512	L = Milliohm* R = Decimal 5L000 = 0.005 Ω R0100 = 0.01 Ω * use "L" for resistance values < 0.01 Ω	D = ± 0.5 % F = ± 1.0 %	EA = Lead (Pb)-free, Tape/Reel EK = Lead (Pb)-free, Bulk  TA = Tin/Lead, Tape/Reel (R86) BA = Tin/Lead, Bulk (B43)	(Dash Number) (up to 2 digits) From 1 - 99 as applicable
Historical Part Numbering: WSK2512 0.005 Ω 1 % R86 (will continue to be accepted)				
WSK2512	0.005 Ω	1 %	R86	
HISTORICAL MODEL	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING	

\* Pb containing terminations are not RoHS compliant, exemptions may apply

**DIMENSIONS**


MODEL	DIMENSIONS in inches [millimeters]						
	RESISTANCE RANGE Ω	L	W	H	T	A	B
WSK2512	0.001 - 0.0049	0.250 ± 0.010 [6.35 ± 0.254]	0.125 ± 0.010 [3.18 ± 0.254]	0.025 ± 0.010 [0.635 ± 0.254]	0.087 ± 0.010 [2.21 ± 0.254]	0.030 ± 0.010 [0.762 ± 0.254]	0.020 ± 0.010 [0.508 ± 0.254]
	0.005 - 0.025	0.250 ± 0.010 [6.35 ± 0.254]	0.125 ± 0.010 [3.18 ± 0.254]	0.025 ± 0.010 [0.635 ± 0.254]	0.047 ± 0.010 [1.19 ± 0.254]	0.030 ± 0.010 [0.762 ± 0.254]	0.020 ± 0.010 [0.508 ± 0.254]

MODEL	SOLDER PAD DIMENSIONS in inches [millimeters]					
	a	b	c	d	e	l
WSK2512	0.125 [3.18]	0.130 [3.30]	0.030 [0.76]	0.020 [0.51]	0.055 [1.40]	0.065 [1.65]



PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST LIMITS
Thermal Shock	- 55 °C to + 150 °C, 1000 cycles, 15 minutes at each extreme	± (0.5 % + 0.0005 Ω) ΔR
Short Time Overload	5 x power for 5 seconds	± (0.5 % + 0.0005 Ω) ΔR
Low Temperature Storage	- 65 °C for 24 hours	± (0.5 % + 0.0005 Ω) ΔR
High Temperature Exposure	1000 hours at + 170 °C	± (1.0 % + 0.0005 Ω) ΔR
Bias Humidity	+ 85 °C, 85 % RH, 10 % Bias, 1000 hours	± (0.5 % + 0.0005 Ω) ΔR
Mechanical Shock	100 g's for 6 milliseconds, 5 pulses	± (0.5 % + 0.0005 Ω) ΔR
Vibration	Frequency varied 10 to 2000 Hz in one minute, 3 directions, 12 hours	± (0.5 % + 0.0005 Ω) ΔR
Load Life	1000 hours at rated power, + 70 °C, 1.5 hours "ON", 0.5 hours "OFF"	± (1.0 % + 0.0005 Ω) ΔR
Resistance to Solder Heat	+ 260 °C Solder, 10 - 12 second dwell, 25 mm/second emergence	± (0.5 % + 0.0005 Ω) ΔR
Moisture Resistance	MIL-STD-202 Method 106, 0 % power, 7a and 7b not required	± (0.5 % + 0.0005 Ω) ΔR

PACKAGING				
MODEL	REEL			
	TAPE WIDTH	DIAMETER	PIECES/REEL	CODE
WSK2512	12 mm/Embossed Plastic	178 mm/7"	2000	R86

**Note**

- Embossed carrier tape per EIA-481-1A



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